

Free Basic Water Implementation in Selected Rural Areas of KwaZulu-Natal and the Eastern Cape

by

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ABSTRACT

Water is both a human right and a valuable commodity. Access to water for the rural poor is an international development concern that has been highlighted by the Millennium Development Goals adopted at the Millennium Summit in 2000 in Dublin, Ireland. South Africa's Free Basic Water policy is the government's response to assuring access to water for all – especially those who cannot pay. The policy, however, is required to work within an economic framework that promotes cost recovery and privatisation.

The Free Basic Water Policy was officially implemented in July 2001. The policy was rolled out in most urban areas on or near this date. However, in rural areas it has proven much more difficult, and there are many areas that have not yet seen the implementation of Free Basic Water (FBW). This is partly due to varying financial, technical, political and logistical problems at the local and district municipality level.

This research investigates the current situation in rural municipalities, looking specifically at FBW policy, institutional arrangements, operation and maintenance costs, cost per capita and affordability in relation to the Equitable Share allocations. Five case studies - compiled through interviews, document analyses, Participatory Rural Appraisal, and workshops – provide a broad scale research base from which to analyse the current implementation of FBW in rural municipalities and ascertain whether this policy is affordable at this level.

Water Service Authorities (WSA) are at varying levels of implementation, with few having a fully operational policy that is reaching rural areas. A costing exercise revealed that the service delivery price of water varies, but does follow a trend. From this trend a benchmark cost per capita of R5.84/month was determined. This price, although low, is not currently affordable in some municipalities due to insufficient government grants from National Treasury. These grants are fundamental to the sustainability of FBW and the situation must be resolved if FBW is to reach its target market – the poorest of the poor.

The mixed success in the implementation of Free Basic Water in rural areas of South Africa should not be taken as indicative of future trends. As the local government transition to newly devolved powers and functions is completed, the capacity at this level to resolve the challenges is more likely. Subject to the continued strength of the South African economy, this policy could be a solution to the historical failure of service delivery to rural areas.

Declaration

This dissertation was carried out in the Department of Geography, School of Applied Environmental Sciences, University of KwaZulu-Natal, Pietermaritzburg, under the supervision of Dr Trevor Hill, Mr David Still (Partners in Development) and Mrs Anne Stanton.

This dissertation is the original work of the author. Where the work of others has been used, this has been acknowledged in the text.

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Appendix 1: Nhlungwane community process

List of Acronyms

ANC	African National Congress
ANDM	Alfred Nzo District Municipality
APF	Anti-Privatisation Forum
BOTT	Build operate train and transfer
CBO	Community Based Organisation
CMIP	Consolidated Municipal Infrastructure Programme
CWSS	Community Water and Sanitation Strategy
DM	District municipality
DPLG	Department of Provincial and Local Government
DWAF	Department of Water Affairs and Forestry
ES	Equitable Share
FBE	Free Basic Electricity
FBS	Free Basic Services
FBW	Free Basic Water
FFC	Financial and Fiscal Commission
FY	Financial Year
GEAR	Growth, Employment and Redistribution
GIS	Geographic information system
HSRC	Human Science Research Council
I-Grant	Institutions Grant
IMF	International Monetary Fund
ISD	Institutional and social development
KL	Kilolitre
KZN	KwaZulu-Natal
LM	Local municipality
MDG	Millennium Development Goals
MSP	Municipal Services Project
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
PDG	Palmer Development Group
PRA	Participatory Rural Appraisal
PSP	Private sector participation
RDP	Reconstruction and Development Programme
S-Grant	Services Grant

SP2030	Strategic Plan 2030
SSA	Support Services Agent
TLC	Transitional Local Council
USAID	United States Aid
uTWP	uThukela Water Partnership
VWC	Village Water Committee
WISA	Water Institute of Southern Africa
WRC	Water Research Commission
WSA	Water Service Authority
WSDP	Water Services Development Plan
WSP	Water Service Provider

CHAPTER 1: INTRODUCTION

“One can live without the Internet, without oil, even without an investment fund or bank account. But... it is not possible to live without water” (Petrella, 2001 pg 7).

Water is essential for life and fulfills the fundamental human needs for drinking water, cooking, hygiene, and sanitation. Every human being requires between 20 and 50 litres of potable water per day to fulfil these needs (UN World Water Development Report, 2003). However, more than 1.4 billion people worldwide do not have access to potable water and if present trends are not reversed, by 2025 it is predicted that more than 4 billion people (half the world's population) will not have access to potable water (Petrella, 2001).

Water is a finite resource, and less than 1% of all water is actually available to humans. This scarcity is worsened by pollution, mis-management, and increased demand. However, scarcity is often not the primary reason for lack of access to potable water; rather, it is socio-political factors (www.unrisd.org, 2004). Access to sufficient potable water has been acknowledged globally as a basic human right. Because water is so essential, it is an important aspect of all the main themes in development: poverty alleviation; participatory development; environmental sustainability; private sector-led growth; and good governance (www.worldbank.org/watsan, 2004). Lack of access to clean water¹ is one of the worst effects of poverty, with poor people facing the daily risk of contamination. More than 2 million people die annually from water related diseases. Ironically, the poor often pay a much higher price for clean water if it is accessible, on average 12 times more per litre than those connected to municipal networks (www.righttowater.org.uk, 2004).

The rural water supply and sanitation sector emerged in the developing world in the 1960s and 1970s in the post-colonial struggle by governments to extend infrastructure to the wider population (Schouten and Moriarty, 2003). Water then became an international development priority with the International Drinking Water Supply and Sanitation Decade in the 1980s (Petrella, 2001). This Decade ensured that water and sanitation remained a development priority through the 1990s. In 2000 the United Nations adopted the The Millennium Development Goals, developed at the Millennium Summit (2000) in Dublin, Ireland. This summit confirmed the international priority of water provision by adopting a measurable goal to “reduce by half the proportion of people without access to safe drinking water by 2015”

¹ Water provision cannot be separated from sanitation, as one of the primary reasons for water contamination is inadequate sanitation facilities. This leads to a cycle of infection and contamination which is one of the primary causes of illness and death in the developing world. This connection is assumed as implicit throughout this research, but is not expanded upon as the topic is too extensive.

(www.righttowater.org.uk, 2004). This growing awareness that improved water and sanitation services are integral to poverty reduction prompted access to water being the focus of various international conventions: the International Conference of Financing for Development – Monterrey, the World Summit on Sustainable Development - Johannesburg and the Third World Forum – Kyoto (Petrella, 2001) to name a few.

In the 1980s the economic shift to free market economy and decentralisation heavily influenced the developing world through the World Bank and International Monetary Foundation's *structural adjustment programme*. With the increased focus on access to water and sanitation, the approaches and strategies in the water and sanitation sector were greatly affected by these changes in paradigms in the world system. Structural adjustment promoted decentralisation and the scaling down of government responsibility, due to the global problem with public sector inefficiencies. Local governments became responsible for the provision of basic services but lacked the capacity to do so. This lack of capacity, plus conditional donor investments, steered local government into privatisation of water services, changing the face of water provision in the developing world (Gutierrez *et al*, 2003).

Another paradigm shift that occurred at the time of the International Drinking Water Supply and Sanitation Decade was one from 'top down' supply-driven approach to water service delivery, to community managed demand-driven delivery. Analyses of continued failures in water projects versus the few success stories showed that community participation and management were key elements of success in rural projects (Njonjo and Lane 2002; Schouten and Moriarty, 2003; Brempong-Yeboah, 2004). This approach was adopted as 'best practice' by the end of the Decade, and has continued, to date, to be promoted as such (Schouten and Moriarty, 2003). These two dominant paradigms – privatisation and community management – are in many ways at odds with each other; yet continue to both be quoted as policy by major donors.

Access to water in rural areas in South Africa became a development priority in 1994 when the African National Congress (ANC) was voted into power in the first democratic election. Before this, skewed services had been provided by the Apartheid government, with 'white' suburbs receiving First World standards, and other areas receiving a range of levels and qualities of service. The ANC was voted into power on the strength of their Reconstruction and Development Programme (RDP) which was a people-centred and people-driven development programme. One of the five priorities of the RDP was the provision of water services to all, recognising water as a human right, and setting the basic minimum at 25l per capita per day (this translates to 6kl per household per month) as their initial goal. This target of 25l per capita per day has been central to water policy and practice in South Africa since

1994, and although the RDP has been phased out, 'RDP standards' are still the 'yardstick' today. The 1996 South African Constitution listed access to water in the Bill of Rights and the 1997 Water Services Act provided the legal basis to implement this right. In 2001, the government introduced Free Basic Water (FBW), which is the legislated right for every South African to have access to 25l per capita per day without cost.

At the time that FBW was announced the government was undergoing decentralisation and the responsibility for water provision was devolved to local government level. The 1997 Water Services Act distinguished between Water Service Authorities (WSA) and Water Service Providers (WSP): The WSA is the regulatory body, legally obliged to ensure that services are provided, and according to the local government powers and functions, this responsibility lies at district municipality level (there are exceptions to this). The WSP is the body actually responsible for providing the water service. The district municipality has the responsibility and authority to decide who the WSP is. This function may be kept in-house, or contracted to an external organisation. With all these responsibilities at district municipality level, the implementation of Free Basic Water also became a local government responsibility. Each district municipality is allocated grant funds from the National Treasury – the Equitable Share allocations - to subsidise all the poor households within their jurisdiction. These funds are to ensure that the municipalities can afford to fulfil their obligations of service delivery to all.

Despite huge resources being poured into providing everyone with potable water, after a decade 5 million people still do not have access to potable water (Kasrils, 2004) and only 55% of South Africa's poor have been served with Free Basic Water (www.dwaf.gov.za/freebasicwater/, 2004). Most of those not served are in rural areas. Consistent with worldwide trends, the poorest and those most in need of water are the last to benefit from development programmes. Some rural areas in South Africa that do have potable water are, however, still paying for their water, as low capacity local government struggles to meet all their responsibilities.

This research investigates the current situation in rural municipalities, looking specifically at FBW policy, institutional arrangements, operation and maintenance costs, cost per capita and affordability in relation to the Equitable Share allocations. Five case study areas were chosen: the uThukela Water Partnership (KwaZulu-Natal); the Alfred Nzo District Municipality (Eastern Cape); the Ngqushwa Local Municipality (Eastern Cape); the Vulindlela Water Scheme (KwaZulu-Natal) and the Nihungwane Community Scheme (Kwa Zulu Natal). Each of the case studies chosen, are in different municipalities, at different scales, at different stages of implementation and have differing strategies for service delivery. This broad scope

of investigation is important so as to investigate the variety of scenarios that characterise water provision in rural areas today, and to establish common factors that can be applied to FBW provision in general.

1.1 Motivation and rationale for the study

The Free Basic Policy was officially implemented from July 2001. This occurred on schedule in urban areas without much difficulty, as an adjustment of tariffs to cross-subsidise the minority poor was all that was necessary. However, rural areas were much more difficult, due to the logistics of large distances, small volumes and high overheads. To date there are many areas that have not yet seen the implementation of FBW as the financial, technical, political and logistical problems that local and district municipalities have been too great to overcome. Water Service Authorities (WSA) are at varying levels of implementation, with few having a fully operational policy that is reaching the rural areas. Some communities have not been informed about FBW and are still paying for all their water.

Progress to date varies greatly between municipalities, from full strategy-based implementation to random default implementation. There is a need for research to identify and share strategies, problems, lessons learnt and provide some clarity on possible ways forward for poorly resourced municipalities. Furthermore, it is essential that different stakeholders in the water and sanitation sector of South Africa are informed of the issues surrounding the implementation of FBW in rural areas so that structures and strategies can be put in place to ensure the sustainability of FBW in even the most challenged municipalities.

1.2 Aims and objectives

The aim of this research is to investigate the implementation of Free Basic Water in selected rural areas of South Africa and to ascertain whether they are sustainable (see Box below for definition) in the long term.

Defining sustainability:

A water and sanitation service is sustainable when:

- It is functioning and being used;
- It is able to deliver an appropriate level of benefits (quality, quantity, convenience, continuity, health) to all, including the poorest women and men;
- It continues to function over a prolonged period of time (which goes beyond the life span of the original equipment);
- Its management is institutionalised;
- Its operation, maintenance, administrative and replacement costs are covered at the local level;
- It can be operated and maintained at a local level with limited but feasible external support; and
- It does not affect the environment negatively.

(source: Brikke (2002) as cited in Cardone and Fonseca, 2003 pg 15)

This aim will be realised through the following objectives:

1. Investigate various emerging Free Basic Water institutional arrangements and implementation approaches, and the success thereof;
2. Suggest recommendations for suitable, cost-effective arrangements for FBW provision;
3. Assess the real costs of providing the water at project, support agency, and municipality level; and
4. Investigate the availability of funds and the channelling of those funds;
5. Put forward recommendations for the successful transfer process to FBW.

1.3 Structure of the dissertation

Chapter one establishes water as a global development priority by providing a brief history of its growing importance and current establishment as fundamental to poverty alleviation. Chapter two discusses the dominant paradigms influencing policy and practice within the water and sanitation sector. The discussion begins with the debate surrounding whether water is a human right, or an economic good which leads to the second section discussing whether service provision should be delegated to the public or private sector. These two issues then bring to the fore cost recovery versus subsidisation. Alongside all these debates, is community management which is acknowledged by all parties as 'best practice' and essential to sustainability. However, linking community management with privatisation has

not had broad success to date. These debates are all relevant in South Africa, and the Chapter concludes with the history of water in South Africa, and how the country's policies and programmes both align and deviate from global trends. Chapter three discusses the funding of Free Basic Water, first looking at the costs of water provision and then explaining the primary source of funding – the Equitable Share. Chapter four provides a theoretical background to the various methods used in this research, examining the academic and practical application of case studies, participatory rural appraisal, interviews, secondary data, and workshops. Chapter five introduces each case study and gives background to each area and its current situation. In each case study, the Free Basic Water policy; the income sources; and the institutional arrangement are outlined. Chapter six details the findings in each case study: experience to date in the implementation of FBW and the costs associated are explained. Chapter seven discusses the findings of Chapter six, first individually and then collates the case studies into a discussion on key findings and general trends in the research. Chapter eight draws conclusions from the findings and discussions and how these have fulfilled the aim and objectives of the research.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

“Water.. is a unique resource... to which human beings must have recourse in order to satisfy their basic individual and collective needs... Nothing can replace it” (Petrella, 2001 pg 55).

The focus of this thesis is to establish the sustainability of the South African Free Basic Water Policy in rural areas. This is achieved by analysing five case studies in the Eastern Cape and KwaZulu-Natal provinces. Each of these case studies is unique in its service provision and application of the policy. The approaches to service provision and the policy both follow and deviate from the global trends in access to water in the developing world. The key issue that provides the theoretical background to this research is the value of water. For all life, water is priceless, yet to supply all with water is costly. Unfortunately the universally accepted truth that water is a basic asset has not exempted the access to water from becoming an economic and political issue.

Public goods – goods that must be made available to all persons, and can be used by many persons simultaneously without causing a reduced value to any user (Gardiner, R and le Goulven, K, 2001).

Merit goods – goods and services that people are entitled to by birth right, regardless of whether they are able to pay or not. They are produced and paid for by either the public or the private sector. They should not necessarily be provided for equally via government taxes, but a basic service is a human right (Clemson University, 1998).

Private goods – subject to the laws of supply and demand. Competitive use where use by one person reduces its availability to others. (www.texaspolitics.laits.utexas.edu/glossary)

Central to the discussions around water is the public goods, merit goods and private goods debate. Water is internationally recognised as a public good (Gardiner, R and le Goulven, K, 2001) but is increasingly also being recognized as a merit good. Some of the issues that are still debated are: how much *free* water should be provided, whom should it be provided to and who should provide it? (Clemson University, 1998). In order to deal with these issues, this chapter begins by discussing water as both a right and an economic good, and proceeds to detail the privatisation debate, cost recovery and subsidisation. Community management, being the international development ‘best practice’ is discussed and related to the debates regarding privatisation. These issues are discussed at an international level and then related to the history

of water provision in South Africa. The chapter ends with a discussion on South Africa’s Free Basic Water policy.

2.1 A Human Right or an Economic good?

“The role of water—as a basic need, a merit good, and a social, economic, financial, and environmental resource—makes the selection of an appropriate set of prices exceptionally difficult. Further, the application of price-based instruments, once an appropriate value system has been agreed, is particularly difficult” (Perry, C.J.; Rock, M.; Seckler, D, 1997).

Water is essential to life and is therefore a human right that cannot be governed by economics. Further, water is a common resource that should not be owned by any individual or group, and if it is not owned, it cannot be sold. The primary objection to water being a marketable good is that access then becomes dependent on ability to pay, thus excluding the poorest of the poor (Gutierrez *et al*, 2003).

The starting point for water as an economic good is also that water is essential to life, and concludes that it is, therefore, valuable. However, this valuable resource is often treated as worthless, with people wasting water, polluting water and not thinking past the endless supply coming out of their taps. Making water an economic good provides water with an obvious value that helps people to appreciate the real cost of water supply. A price tag sends a message that informs decision making and consumption. In theory, placing water in the free market could result in a balancing of demand and supply which would achieve the greatest good for the largest number of people (Gutierrez *et al*, 2003).

The answer to these conflicting paradigms includes both points of view: “Water is an economic good, a social and environmental good, and a human right. These different aspects should not be mutually exclusive, and need to be balanced with priority given to human and environmental requirements, and without cost-recovery becoming a barrier to meeting basic human needs” (Gutierrez *et al*, 2003 pg10). However, theory has not provided practical solutions to date and this research does not intend to extensively debate the theory. Instead, an outline of global and local perspectives, coupled with practical examples aims to provide some possible solutions for those at the end of the access line – the rural poor.

2.2 Public versus Private

The debate surrounding privatization of water services often centres on whether these services should be a human right, or whether they are an economic good. These two view points are often presented as polar, but in effect, they are inter-related. Water is essential for

life and, as international law states, access should therefore be guaranteed. Water is an environmental good, as it is essential for the functioning of ecosystems. Water is also an economic good as it is essential for the production of goods and services. All these *essentials* place a high value on water and result in much money spent on conserving, cleaning, distributing and subsidising water (Gutierrez *et al* 2003). However, all the need in the world has not yet resulted in successful policy or practice that ensures access to clean water for all of mankind.

Until the late 1980s, water supply in developing countries was managed by public companies. However, these companies failed to supply a reliable source or to expand infrastructure to supply for all, neglecting poorer areas (www.unrisd.org, 2004). Reasons for these failures are complex and varied, but general trends of low government capacity can be noted: low priority; lack of funds; poor financial management; inexperienced staff; politics; and lack of regulation (Gutierrez *et al*, 2003). Thus, the early 1990s saw the start of commercialisation, bringing with it cost recovery and profit making (www.unrisd.org, 2004).

Power has always been connected to ownership of basic resources. Over time these basic resources have changed from resources such as land, livestock, and energy, to information, money and water. The latter may seem out of place, but water is the key to life - organic and industrial. The power of water will sharpen as the resource becomes scarcer and polluted, with governments competing for access and control (Petrella, 2001) and rural people demanding a better supply.

Until recently, water was one of the few goods and services that had not become privatised, but there is a growing trend in major cities of underdeveloped countries to privatise water. This is probably the result of water being viewed as an economic asset, and therefore subject to market laws (Petrella, 2001).

In the 1980s economic theorists challenged the idea that development should be led by governments, promoting private action instead – arguing that it would promote economic development. This became known as the neo-liberal agenda and dominated development policy in the 1980s (Wuyts *et al*, 1992). The neo-liberal paradigm is focussed on balancing budgets, fiscal restraint, market discipline and privatisation (McDonald, 2002a) and is characterized by national governments shifting responsibility to municipalities and decreasing their funding transfers (Nyar, 2002). Its influence spread from industry to agriculture and then to social policy and administration, resulting in the language of markets, competition and business being adopted into the worlds of welfare and government. Along side this policy change, the provision of direct state welfare became less popular, as it was argued that this

tended to be wasteful, inefficient and inequitable (Wuyts *et al*, 1992). This argument was entrenched in less developed countries by the IMF's *structural adjustment* programme (Picard and Garrity, 1994) and the increasing conditionality of international funding from the IMF, the World Bank and other funders. These institutions would provide aid and grant funding only to countries committed to increasing the role of markets and private enterprises and improving the efficiency of the public sector (Killik, 1989). "Policy reform became the prerogative of the World Bank, with long-term structural transformation of the economy as its main goal. Working in conjunction with the IMF, loans were 'conditional' upon the debtor countries agreeing to carry out such reforms as reducing the size of government and reducing its impact on the market place" (Picard and Garrity, 1994 pg 3). In 1995 Ismail Serageldin, the then Vice President for Environmentally and Socially Sustainable Development at the World Bank, concluded that privatised construction, ownership and management of water resources will be more efficient and profitable and therefore in the general interest of the people. The state is synonymous with inefficiency, bureaucracy, and lethargy. He suggested that in areas where the public authorities have been incapable of providing a good quality water supply, privatisation would provide access to the greatest number of people at the lowest cost (Petrella, 2001).

In many countries, the management of water services has been shifting from government to the multinational companies and NGOs, with the government remaining as a regulator (OECD, 1999). Water supply systems tend to remain publicly owned, but service management is delegated to private operators. This approach is seen as a way to overcome governments' lack of expertise and/or financial resources. This is being achieved in France, Czech Republic, Spain, Portugal, Hungary, Poland (OECD, 1999), Niger, Chad, Mali, Mozambique, and South Africa (Bayliss, 2002). Much of the debate surrounding privatization is concentrated on the involvement of multinational companies. In reality, these companies supply only 5% of the world's population with water. Privatisation is much more extensive than multinationals, and has a lengthy history of water delivery ranging from small water vendors, to church groups, to large corporates. These suppliers were originally found serving the poor and remote areas, but with increased inefficiencies in public service, contracts have become mainstream. These smaller suppliers are also spreading in the developing world with community water supply being replaced by formal local businesses (Gutierrez *et al*, 2003). Examples of this change are found in South Africa, and more specifically in this research, with the Alfred Nzo District Municipality contracting local businesses as Water Service Providers and the uThukela Water Partnership forming to serve three district municipalities in KwaZulu-Natal.

In a 1997 study of water systems in the Organisation for Economic Co-operation and Development (OECD) countries, the major trends in these systems were summarized in the OECD publication *The Price of Water* (1997). These trends are not limited to OECD countries, but are found worldwide:

- Governments are moving away from being primary service providers, to regulators, and overall managers of water supply. They are in charge of setting tariffs and regulating standards of provision;
- Increasingly water is being delivered by groupings of municipalities in the recognition that this improves efficiencies;
- Local water utilities are being given more autonomy by government;
- Increasingly, countries are experimenting with private management of water provision. This is particularly suited to decentralised governments, as it is a useful way to overcome lack of expertise and resources in the municipalities; and
- There is also a trend that allows municipalities to decide for themselves whether they manage their water supply systems or whether they contract to the private sector.

These changes brought by private sector involvement have reshaped relationships between governments, business, and citizens in both the developed and developing world (Gutierrez *et al*, 2003).

This current trend to public/private partnerships in areas that were previously considered the public sector is not unopposed: large segments of society oppose the notion that water is purely a commodity; users object to the water fee increases; and the significant impact of disproportionately high fees on the poor has caused much uproar – sometimes violent (www.unrisd.org, 2004). Trade unions, international NGOs and socialist networks are against the change, causing a rift between them and the World Trade Organisation and northern donors (Gutierrez *et al*, 2003). Petrella (2001) argues that in motivating for this partnership, the public sector has been devalued by the focus on its failures and need for reformation, whilst the private sector has been glorified for its efficiency, flexibility and ability to make a profit. Petrella (2001) fears that water will end up being one of the primary sources of profit and accumulation of private capital. Instead he advocates that ownership rights be transferred from the state to grass roots level, with villages, communities and local organisations managing their own water supplies. "Water.. is a unique resource... to which human beings must have recourse in order to satisfy their basic individual and collective needs... Nothing can replace it. Yet one of the distinctive principles for properly functioning market mechanisms is that it should be possible to replace certain goods... with other goods... The very fact that it cannot be replaced with anything else makes water a *basic asset* that cannot be subordinated to a single sectoral principle of regulation, legitimation and

valorisation; it comes under the principles of the functioning of society as a whole” (Petrella, 2001 pg 55).

Extensive research in Africa has exposed problems caused by privatization, including poor regulation, small markets, corruption and unaffordable tariffs (Mushayavanhu *et al*, 2003). Other systems in the developing world have faced similar problems, resulting in multinational companies withdrawing from concession agreements. For example Suez Lyonnaise des Eaux that supplies the greater Buenos Aires area, announced it was leaving; the Mayniland consortium ceased to operate in Manila; and privatization projects in Cochabamba (Bolivia) and Tucuman (Argentina) were stopped due to civil unrest and consumer dissatisfaction (www.unrisd.org, 2004). Despite these problems not being resolved privatisation is on the increase, raising the question as to whether it may be undermining human rights (Mushayavanhu *et al*, 2003). “With this in mind we are opposed to donors pressuring developing countries to accept public sector participation in water services as a condition of aid, trade or debt relief. To promote a policy regardless of specific contexts increases the likelihood of failure especially when the likelihood of success of that policy is intensely contested. Furthermore, the enforcement of public sector participation (PSP) as the central reform policy limits the options available to governments and civil society to improvise and innovate using the best possible arrangements. We believe, rather, that policies should be used to ensure that in any reform process the poor will be protected, their access to service increased, and the process itself will be transparent and actively seek out the opinion of civil society” (Gutierrez *et al*, 2003 pg 11).

A water sector reform is badly needed, but it appears that privatization may not be a sustainable answer in developing countries, and it is yet to prove its ability to provide universal, equitable access to water (www.unrisd.org, 2004).

2.2.1 Privatisation in Sub-Saharan Africa

Water supply in rural areas of Africa in the 1980s was very poor, with coverage between 20-40%. Political leaders saw service provision as a state responsibility, and established large, centrally managed systems that supplied water at no cost to the people. However, time showed that the conventional engineering solutions were expensive and beyond government budgets. They were also too advanced for local people to maintain. The systems fell into disrepair and few new projects were initiated (Brempong-Yeboah, 2004). International intervention came as a result of the Decade of Drinking Water Supply and Sanitation (1980-1990), and various approaches have been tried to provide access to water for all. To date there has been both success and failure, but millions still have no potable water supply.

Sub-Saharan Africa still has the lowest percentage coverage for improved water sources in the world, and its rural areas are particularly unserved, with approximately 30% of the rural population without access to clean water, and only 4% with piped house connections. Although progress has been impressive, with coverage up from 49% in 1990, to 70% in 2004, this rate is still not sufficient to meet the Millennium Development Goal (WHO/UNICEF, 2004).

In much of the region, the water sector is in disrepair due to lack of investment from struggling governments. Institutional structure of the public sector is weak, and this coupled with conditional aid has pushed many countries to privatise water supply. Privatisation is on the increase with the World Bank assisting the process in many countries, but it is proving difficult in many countries where currency fluctuations, political instability, civil opposition, weak governmental capacity hinder the securing of contracts (Bayliss, 2002).

The involvement of multinational companies is limited due to fragile economies and poor investment climate, and the few that are involved are contracted for the operation and maintenance aspects only, while government remains responsible for ownership and capital investment. Staff of one such French multinational, Vivendi admitted that the company can only invest where either consumers or government can pay enough to generate profit (Bayliss, 2002). A few examples of these existing contracts are in Table 2-1 below (Bayliss, 2002):

Table 2–1: Examples of existing Multinational water contracts in Sub-Saharan Africa

<i>Date</i>	<i>Country</i>	<i>Company</i>
2002	Congo	Biwater
2001	Niger and Burkina Faso	Vivendi
2001	South Africa	Suez
2000	Chad	Vivendi
2000	Mali	Saur
1999	Mocambique	Agas de Portugal
1999	South Africa	Biwater/NUON

Sub-Saharan Africa, the poorest and most in need of investment, ironically receives less than one percent of total private investment in the water and sanitation sector. This is because of the high risk of investment due to regional poverty and instability (Gutierrez *et al*, 2003).

Rural areas within sub-Saharan Africa are the worst off, having been historically neglected in water provision, by both the public and private sectors. There is little consensus as to whether or not PSP has a role to play in these rural areas. Most agree that lack of economies of scale and possibility of cross-subsidisation means that conventional multinational Private Sector Participation (PSP) and cost recovery are not possible and that public financing and subsidies are mandatory if service delivery is to be sustainable and affordable. However, this does not exclude the private sector completely: African stakeholders have noted that local and national private operators could have a significant role to play in rural areas. Some domestic private sector companies have proved to be responsive to local needs and flexible in their implementation and policy, and therefore cannot be ruled out (Urqhart and Moore, 2004).

There has been a mixture of success and failure with privatisation in Sub-Saharan Africa, with this *often correlating to the state of the water sector before privatisation* – those in disarray, failed, and those relatively well managed, succeeded. Thus, the success of privatisation seems to depend on the initial state of the enterprise, and has brought about little change in the sector (Bayliss, 2002).

This lack of change in Africa's development is not restricted to the water sector, but is evident across all sectors. It appears that the efforts of the international community to help Sub-Saharan Africa have been fruitless. A statement by the UN in 1999 highlights this: "seventy countries – all aid recipients – are now poorer than they were in 1980. An incredible forty-three were worse off than 1970" (*The Washington Post*, November 25 1999; p.A31 as quoted in Ayittey 2002 pg 69). The spread of markets was intended to be the best way to reduce poverty and to increase sustainable access to water for the poor. However, it did not necessarily bring a decrease in deprivation; rather it came with a changing pattern of vulnerability to poverty, associated with economic risk (Wuyts *et al*, 1992). As the markets spread through rural areas, it resulted in individuals becoming increasingly dependent on the workings of the market for survival i.e. buying and selling of goods and labour. Markets tend to break people away from their traditional sources of security leaving them dependent on wage labour, as a household without jobs or assets is in trouble and can only be saved by non-market interventions. So, ironically, it was the privatised market economy promoting freedom, independence and choice that generated the need for new security for the poor in the form of government subsidies such as social security grants, food coupons, basic health care and basic education (Wuyts *et al*, 1992).

2.3 Cost recovery

“Cost recovery refers to the practice of charging consumers the full (or near full) costs of providing services such as water and electricity. In direct contrast to the long-standing practice of subsidizing these services, where the state absorbs some or all of the costs of provision, service users around the world are increasingly expected to pay for the full costs of service delivery themselves” (McDonald, 2002 pg 1).

Globally, there is growing importance being placed on Human Rights. Few would argue against the basic human right to have access to potable water. However, along side this right, there is a responsibility to conserve and ensure sustainability – which includes payment for services (McDonald, 2002). Regardless of the debates on water as a right or an economic good, water services are expensive to provide. For water services to be sustainable, the costs must be paid for either by the consumer or the taxpayer.

It is argued that free services or low tariff services that do not cover the real costs of provision result in the undervaluing of the resource and promote wastage and irresponsibility. In order to accommodate social equity alongside the need for cost recovery, rising block tariffs are promoted (McDonald, 2002a). This is a means to conserve water, as steep prices causes customers to use less (Yepes, 1999), while providing a lifeline supply at minimal cost that is affordable to the poor

Recovering costs from low-income areas reduces the need for cross-subsidisation from high users (industry and more wealthy households). As the World Bank states, this results in an attractive place for investment. It also results in competition between countries and municipalities, especially those that are struggling financially with their responsibilities. Unfortunately, the reality in struggling municipalities is that they are 'forced' to subsidise big businesses in their payment of services in order to maintain their investment. As a result, industry and business often pay below cost tariffs for services and are not subjected to cut-offs if bills are not paid (McDonald, 2002a).

Linked to cost recovery are 'willingness to pay' and 'ability to pay'. Comparisons in willingness to pay are calculated according to the different amounts customers will pay for water. The problem with this is that comparisons in income are often not taken into account. A middle income family may be willing to pay five times more than a low income family, but the percentage of household income paid to water is considerably higher for the poor family. The bookkeepers may classify this poorer customer (and all others like them) with a low

willingness to pay. This illustration raises the problem of distinguishing between 'willingness' and 'ability' to pay, and this is the crux of the cost recovery issue.

If everyone is forced to pay for water, regardless of their economic standing, research shows that poorer households *will* pay for water at the expense of sacrificing what they would have spent on health care, food, or education. From a moral standpoint, governments have to question whether this sacrifice is a breach of human rights. At some point, government needs to forgo cost recovery to preserve quality of human life for the poor (Gutierrez *et al*, 2003).

Cost recovery is an important element of the provision of water services and must be pursued where it is affordable. However, when cost recovery denies people access to water, other means have to be found so that the poor need not be forced to pay (Gutierrez *et al*, 2003).

2.4 Subsidisation

There is a general trend towards countries attempting to reach full cost recovery where all infrastructure, operations, and environmental costs are included in water tariffs. This will still take time to phase in due to the history of considerable subsidisation of water costs. Subsidies are decreasing and becoming more transparent and targeted. Subsidies for social welfare are acknowledged as important, but whereas before these were administered as universal free water allowances, there is now a trend towards increasing block tariffs and target group subsidies. Due to the realisation that some economic and social goals were harmed through universal subsidies, and that general reductions in prices also lower the understanding of the value of water as a scarce resource that should be conserved (OECD, 1999). In the 1994 World Development Report, the World Bank endorsed a lifeline supply of water through the use of rising block tariffs. A very low tariff for 25-50litres per person per day, and then higher tariffs for additional water. This is a fairly effective means of reaching the poor, and also limits the subsidy, thus encouraging water conservation (Muruvan, 2002).

There are three ways to subsidize water for social reasons:

- *Tariff choices* - offering different packages to suit different consumption levels, and income brackets. It is important that an option aimed at aiding low-income groups is restricted to special characteristics. If all consumers are allowed to benefit, this may result in the need for significant tariff increases that will decrease overall consumption and therefore revenue. This is implemented in England and Wales;

- *Target Groups* - pensioners, the poor etc. Households have to apply for concessions or rebates and prove their qualification for the aid. Examples of this in practice are found in Australia and the USA (OECD, 1999); and
- *Increasing block tariffs* – This provides a basic allowance at a very low rate, and then with increased consumption, the rate rises to reflect the full cost of water provision.

The subsidy trend has been changing worldwide in order to try and fulfil both the right to water and the need to recover costs. Examples of this are discussed below.

Until the late 1980s the Australian government provided large volumes of free water to all citizens so in effect, few customers had to pay. This has been rapidly reformed since then with meters being installed and block tariffs implemented so that low usage is charged at a very low rate (to help poor families) so that everyone pays something for their water and then the tariffs increase with consumption to recover costs and encourage conservation (OECD, 1999).

In the Flanders region of Belgium, a free allowance of water per person has been allocated since 1997, based on the Rio Declaration of 1992 that a person needs a minimum of 40 litres of water a day. It was expected that this amount was enough to be politically acceptable, but not too much to affect pricing structures greatly. Preliminary results (1999) show that the price of water had to increase by 40% in order to match the level of cost recovery before free water (OECD, 1999). Price increases have shown to cause a reduction of water usage which then forced companies to further increase prices, thus becoming a repetitive cycle that causes customers and water utilities significant problems (Yepes, 1999).

The NGO Forum in Katmandu suggested a two-tier water tariff that subsidises the poor but also ensures cost recovery. They have suggested that the first 6kl of water per household per month is priced at 3% of the mean income of poor households. This covers basic operation and maintenance costs, but is at a rate that is affordable, and provides a lifeline supply of water. Any consumption over 6kl is then charged at full cost (capital, cross-subsidising, regulation, maintenance) (Gutierrez *et al*, 2003).

2.5 Community Management

Community involvement and management of water supply systems emerged during the International Drinking Water Supply and Sanitation Decade as an alternative to state supply-driven models. This new approach was motivated as a low-cost alternative that would be more affordable to poor people who provided input, labour, and/or cash to contribute to the cost of the system. Community participation became the accepted model of the Decade. This developed into community management as practice revealed that involving the community in the labour aspect was insufficient and that the community needed to be involved in decision making. Robert Chambers of the Institute of Development Studies was a key practitioner who documented and disseminated this model with his series of books on community development (Schouten and Moriarty, 2003).

Three main reasons why community participation models became so popular were: the realisation that development could not come from the 'top'; conventional water supply programmes were not achieving the goals set for the Decade; and it provided a body to fill the gap left by government due to the Structural Adjustment Programmes of the IMF (Schouten and Moriarty, 2003).

The Decade did not reach its goal of *Water and sanitation for all* but made a significant contribution by raising global awareness of the shortage of clean water supplies in poor countries, proving the importance of appropriate technology and providing 1.2 billion people with new water supplies and 770 million with sanitation. However, this success was marred - despite the effort and the revolution in approach, many of the constructed systems broke down soon after implementation due to poor management and lack of maintenance (Schouten and Moriarty, 2003).

In 1990 global conferences were held to consolidate achievements and lessons learnt from the Decade. The resulting New Delhi Statement endorsed community management as a guiding principle. This was partly as a result of the lack of sustainability mentioned above which highlighted the need for communities to feel responsible for their systems. Other principles adopted were: '*some for all rather than all for some*'; an integrated approach to institutional reform; sound financial practices. These principles provided the objectives that were adopted in the Agenda 21 strategy that came out of the Earth Summit 1992. From 1992 until 2000, numerous conventions, councils, working groups, pilot programmes, world forums and governments focussed on community management. This culminated in the World Water Vision in 2000 that aims to provide water for all by 2025, with the main vehicle being community management. The global buy-in included many different parties with very different

motivations: governments were attracted by the reduction in the demand for their resources; donors could bypass corrupt, inefficient governments; NGOs became increasingly important in delivery; and the World Bank and IMF used it to promote their policy of reduced government involvement and increased privatisation. South Africa was one of the countries that implemented community management on a large scale, alongside Ghana, Uganda, India, Tanzania (Schouten and Moriarty, 2003), Ethiopia, Malawi and Kenya (Njonjo and Lane, 2002). Details of the implementation for Ethiopia and Malawi are discussed below.

In Ethiopia, extensive gravity-fed piped water systems distribute water to tap-stands. The systems are designed to supply 20l per capita per day. These systems were designed as per community requests, and 20% of the capital cost was contributed by the community in the form of cash and labour. During construction, a committee comprising community members, government staff, and NGO staff were responsible for planning, supervision, monitoring and conflict resolution. After completion, community management committees were elected and trained to manage the infrastructure. Local people are paid to administer and maintain the system. Local government is called upon to undertake water quality testing and specialised maintenance. All taps are metered and consumers pay per bucket. There is very little problem with non-payment. Tariffs are set by the government and are kept low, but exceed running costs, but would not cover extension or asset replacement. Some of these community managed schemes have been operating successfully for over a decade. Social cohesion, good financial discipline, and good maintenance are all factors in its success. Except for a major breakdown, this system is sustainable at community level. The government remains key in long term sustainability, providing expertise and capital input (Njonjo and Lane, 2002).

Malawi also has a nationwide rural gravity-flow water system that is managed at community level. The country has over 80 piped schemes serving nearly two million people. This was a government-led national programme that ran from the 1960s - '1990s. Community members contributed their labour, as well as construction supervision and took over the responsibility to help maintain the systems. The government employed monitoring assistants and supervisors stationed in the rural areas to aid the committees and repair teams. Engineers were made available for specialised problems. The system worked well for a number of years until a change of government in 1994. The new government followed the international principle that communities must finance their own operation and maintenance, and reduced their involvement, removing the support agents. The promises made by the previous government have not been kept, resulting in communities unwilling to pay for water and even not wanting to keep up with operation and maintenance. Systems that were once well run have fallen into disrepair. A study in 1997 showed that operational schemes had declined to

less than 50%. The cause of this failure is attributed to two issues: the first is the size of the schemes; some are very large and serve a number of tribes/ethnic groups. This results in low social cohesion and co-operation. Secondly, the full financial burden of aging water systems was placed at community level and the poor communities could not afford the repairs forcing them to return to alternative sources. It is clear that without consistent government support, these community systems are not sustainable (Njonjo and Lane, 2002).

From these examples the following keys to successful community managed water schemes can be extracted (Njonjo and Lane, 2002):

- A cohesive community;
- Financial management and authority;
- Payment of staff that administers and maintain the systems;
- Training; and
- External support.

Community managed water supply has become the leading paradigm over the past decades, starting with simple community participation and developing into the greater responsibility of management. Service provision has moved from government to the people. This has happened within varying theoretical frameworks, ranging from neoliberal reduction in state involvement, to empowerment, to water as an economic good. However, as stated in Schouten and Moriarty (2003 pg 17) "community management may be at the heart of donor policies and even national policies and legislation; it is often not in the hearts of government officials and politicians who still see public services as something that should be supplied by the state".

2.6 Privatisation and community management – an unlikely pair

Two dominant paradigms pervade in the water and sanitation sector – privatisation and community management. Both emerged in the 1980s during the global change in both the development and economic worlds. Research and policy trends shows that those in favour of privatisation, such as the World Bank, also have community management as a policy, but organisations that are primarily advocates of community management are not necessarily advocates of privatisation. Why?

Privatisation has had varying success in the rural areas of developing countries, as discussed in 2.2.1, due to factors such as economies of scale, and poor investment climate.

Community participation and management on the other hand have been identified as a key element in the success of any rural development, and although it does not ensure success, its absence almost always results in poor long-term sustainability. The World Bank, and other influential donors promoting structural adjustment cannot refute the evidence of global studies and support many community managed projects. These studies show a marriage of structural adjustment philosophy with the community management model, creating a hybrid that satisfied both approaches (see Katz and Sara, 1998; and www.worldbank.org/watsan/rural). Community management promotes the involvement of the local people at every level of a project, and the community ultimately takes over all responsibility for the project. This tied in well with the problem of privatisation not being a viable option in rural areas, as it provided a way for government to hand over responsibility and not have to maintain costly rural schemes. Cost recovery by local government from dispersed rural settlements is rarely implemented, as the costs of sending bills and collecting payments is higher than the total revenue collected. However, with local communities policing payment, the schemes could (in theory) sustain themselves. Just like privatisation, the operation, maintenance and management of water is 'contracted out' of local government who remain the monitors and regulators.

This approach has developed into the demand-responsive approach. At the 1992 International Conference on Water and the Environment (in Dublin), a set of principles was developed advocating water as both an economic good and a social good that should be managed at the lowest level. These 'Dublin Principles' explained that demand should guide investment, and users should be involved in the selection of technology and service with a clear understanding of the costs and responsibilities (Katz and Sara, 1998). This approach was further endorsed in 1999 at a regional East and Southern Africa conference *on Financing of Community Water and Sanitation Services* in what is referred to as the Mpumalanga Statement in which the right to water; decentralisation; demand response and community management; partnerships between government, civil society and the private sector; and cost recovery were all listed as essential to success and sustainability of water supply (Mpumalanga Statement, 1999).

A concern has been raised by stakeholders in Sub-Saharan Africa that senior officials and politicians have found it convenient to shift responsibility to communities due to widespread failure of service provision. The problem with this is that genuine community management will not be achieved without genuine political will (Abrams, 1996). Privatisation mixed with token community management predicts an unhealthy situation of neglect where communities rely on local government (who have insufficient capacity) and on the private sector

(motivated by profit, and not empowerment), resulting in the continued problem of disrepair that has characterised water provision in rural Africa for decades.

2.7 Getting the balance right

The balance between government responsibility, private sector expertise and civil society participation is difficult, but not elusive. There appears to be a lack of source materials on successful privatisation and community management, suggesting that this is frontier ground. Ghana is an African example of a government committed to reform and progress that has managed to get the balance right. Below is a short description of the changes that have occurred in Ghana over the last decade.

At the beginning of the 1990s the Ghanaian government was responsible for planning, construction and maintenance of water, and most of their resources were focussed on urban areas. They could not keep up with demand, and at any time only 40% of hand-pumps were working, and piped systems faced frequent supply interruptions. Cost recovery was very low (Kleemeier, 2002). In 2000 the government changed to a regulator, facilitating the different roles played by local government, the private sector, and communities. Ownership of rural schemes was legally transferred to communities and local government (Kleemeier, 2002). Government and communities plan together, communities operate and maintain their own services, and the private sector helps to provide goods and services. Operation and maintenance costs are paid for by the users at tariffs set by the community and approved by local government (Brempong-Yeboah, 2004). The system is not without challenges, but has proved instrumental in accelerating the progress to meet the MDGs. The keys to success learnt from this example are: "strong and sustained political leadership, augmented by clear legislation, devolution of authority allied to community empowerment, and carefully targeted donor support" (Brempong-Yeboah, 2004 pg 2-3).

South African municipalities are also exploring the combination of private, public and community collaboration. This research discusses such partnerships in two of the case studies, namely the Alfred Nzo District Municipality (ANDM) and the Nhlungwane community project. The ANDM has had a successful programme running for the past 3 years where private consultants as service providers support community committees and staff to operate and maintain rural water systems. The Nhlungwane community case study is an example of successful community management, but with imminent changes in the local government water supply programme, the community desires to negotiate a management contract with the local government and contracted water service provider.

To summarize, the role of the private sector in water provision is increasing alongside government decentralisation. In order for a reliable water source for all to be reached with these changes, there is a need to address the following issues: capacity building; community participation; financing; and institutional reform. If these issues are glossed over in the hope that the private sector can and will provide all the solutions, then the same historical problems of unsustainable, inequitable supply of water services will continue.

If governments do decide to involve the private sector, they must ensure that this does not undermine the capacity of the government authorities. Government must continue capacity building to enable them to regulate the private sector, and take over delivery if the PSP fails or the contract ends. Government must avoid dependence on the private sector for what is essentially their responsibility. Local government must also resist the pressure from donors to force privatisation in areas where it is inappropriate. Decisions to privatise must be made based on careful research and planning, not on the lure of a donor cheque (Gutierrez *et al*, 2003).

The involvement of the people at grassroots level has been proved repeatedly as a prerequisite for sustainable development. However, with PSP, this vital component is often ignored as it is time consuming and decisions are made for the people. This occurs partly because "the policy of promoting and institutionalising PSP does not adequately encourage a participatory decision-making process and merely treats the poor as mere recipients, rather than active participants, of growth "(Gutierrez, 2003 pg 11). This has been a problem long before privatisation, but this is one of the problems that led to the previous failures and unfortunately will continue to be one of the underlying causes of lack of access to water. A community-based approach allows for appropriate, tailored options that build a sense of ownership. This takes time and money, and often does not form a part of the business contract. It is thus important that government retain this responsibility, ensuring that community involvement remains central (Gutierrez *et al*, 2003).

All these suggestions, paradigms and programmes must however fall within an overarching governmental reform in Africa. Development at a local scale is doomed to fail without an enabling political and economic environment. This is summarized emotively by Ayittey (2002 pg 64): " To turn Africa around, the abominable political and economic systems established by its post-colonial leaders must be dismantled and replaced by systems based on market economy and free trade. Moreover, the traditional African system of governance is of participatory democracy, as evidenced by the fabled village meeting. The importance of retuning to and building upon Africa's own institutions has been subsumed in the new mantra 'African Renaissance'. But in spite of the rhetoric, the commitment to reform is trenchantly

lacking. The ruling elite are simply not interested in real reform because they are unwilling to give up power. They undertake only the minimal cosmetic reforms need to keep World Bank loans and Western aid dollars flowing”.

2.8 Access to water in South Africa

South Africa's history of water service provision has mirrored the economic structure of the society as a whole. Apartheid policies ensured that 'white' areas had water piped to their houses and businesses at world class standards and at very low cost to ensure they were able to maintain their lifestyle and/or profit margin. In contrast, 'black' areas had inconsistent standards of supply that were poorly maintained, if they had service at all. As a result, at the time of the 1994 elections, approximately 12 million South Africans were without access to clean water (Pape, 2000).

During the Apartheid era the government had a 'statist' approach to service delivery with government taking responsibility for the provision of essential services. Municipal services were paid for by consumers, but at heavily subsidised rates. This was due to the willing subsidisation of white suburbs and industry, as well as both the formal subsidisation of township services and the default subsidisation through unopposed boycotts (McDonald, 2002a). The Homeland system fragmented South Africa – there was no national institution to ensuring equitable and sustainable access to water supply or sanitation services and no structured national legislation to regulate the provision of these services. Water services were dealt with in a fragmented and inconsistent way at provincial level (Kasrils, 2003b).

When the African National Congress (ANC) won the majority vote in 1994, the people gave them the power and the mandate to ensure that basic services would become accessible to all, regardless of race or class. The ANC's plans were detailed in their proposed Reconstruction and Development Programme (RDP) which was a key element in their election campaign. The RDP had five key programmes, with Meeting Basic Needs as the first. “In Meeting Basic Needs, our people should... help to decide where infrastructure is located, be employed in its construction, and be empowered to participate in the management and administration of large-scale developments” (RSA, 1994b section 1.4.3). Alongside this empowerment policy, the RDP recognised water as a public good that should not be commoditised, as this would result in availability being skewed against the poor. It set a short term minimum standard of a free lifeline supply of 25-30l per capita per day within 200m of each household which was to be increased to 50-60l in the medium term (RSA,

1994b). These figures were guided by the World Health Organisation's recommendations for the *basic* and *intermediate* requirements for domestic use. The two standards acknowledge that the 25l level is the minimum that should be supplied, but that the more desirable level of 50l per capita per day is a more sufficient level to supply adequately for all domestic needs (WHO, 1985). This mandate was then confirmed in South Africa's Constitution: "everyone has the right to have access to sufficient water". The government also joined the International Covenant on Economic, Social and Cultural Rights in their statement that "water is a public good fundamental for life and health... the human right to water is indispensable for leading a life of human dignity" (RSA, 1996 pg 191) The ANC made it clear to all that their mandate was focussed on the rights of all, especially the previously disadvantaged who had been denied even the basic necessity of water (McKinley, 2003). By the time of the second democratic elections in 1999, the ANC could claim 3million households had gained access to water since 1994 at RDP standard or higher (Pape, 2000). The ANC was elected once again and continued in their efforts to reduce the backlog, and in this second term of office provided a further 7 million with access to water (Kasrils, 2004).

However, despite all the focus on social equity, there were apparent contradictions in the ANC's new policies. The lifeline supply remained a policy theme but it was overshadowed by a paradigm shift to commoditisation of water and other services. The change was one from water as a irrefutable right, to one where people were provided with what they could afford (Pape, 2000). Even the RDP message was confusing, with the declaration of water as a good that should not be commoditised but also stating that service costs must be borne by the users (RSA, 1994b). In 1994 the ANC introduced water policy in the Water and Sanitation Paper stating that water was to be provided on condition that there was full cost recovery of all recurring operation, maintenance and asset replacement costs. Then, in 1996, the GEAR (Growth, Employment and Redistribution) policy placed water and other basic services within an economic framework that labelled them as commodities to be bought and sold, promoting privatisation and profit making. This drastic shift followed the advice of the World Bank, the IMF and the growing trend in many Western countries (McKinley, 2003). Notably, USAID has pushed cost recovery policies in South Africa by making it a prerequisite for any funding to service providers (Nyar, 2002). Excerpts from the RDP White Paper (RSA, 1994b) and the Rural Development Framework (1997) illustrate the paradigm shift:

The government's borrowing strategy will consciously avoid taking on debt for development projects that do not generate short-term cash-flows. Borrowing will be increased and rationalised for projects (such as housing, electrification,

water among others) for which full or partial cost-recovery can be generated (RSA, 1994b Section 4.2).

The stability of government services depends on the regular payment of user charges.... The issue of affordable tariffs, targeted subsidies and targeted welfare delivery must be resolved as a matter of urgency (RSA, 1994b Conclusion).

South Africa needs to reduce its budget deficit. Government funding for all times of infrastructural development will therefore be scarce...Rural areas are characterised by relatively high logistical costs, high per capita service costs, and poorly developed local government structures. Where services are provided, the recurrent costs of all but the most basic services must be met by those who use them. This in turn requires a viable local economy. Beyond the essential expenditure for meeting basic needs, investment must be justifiable on the grounds of its potential to raise productivity and incomes, and to generate the income to pay for services (Dept. of Land Affairs, 1997 pg 7 1.5.1).

Similar policies have been included in the National Sanitation Policy White Paper (1996) the White Paper on Water Policy (1997), the Draft White Paper on Energy Policy (1998) and the Municipal Systems Act (2000). Cost recovery is marketed as 'pro-poor' as it provides the finances to improve and extend services, enabling municipalities to reach the poor who are not serviced adequately. Without the revenue generated from service payments, these poor may never be reached (McDonald, 2002a). This view was expressed in the Water Supply and Sanitation Policy White Paper (RSA, 1994a pg 23) by stating that it was "not equitable for any community to expect not to have to pay for the recurring costs of their services. It is not the Government who is paying for their free services, but the unserved". This paradigmatic shift was supported by other political parties in both their policies and their lack of opposition to the new ANC legislations (McDonald, 2002a).

The contradictions in policy filtered down to ground level with local governments unable to clarify what was free and what must be paid for: "A key problem in sustaining many of the rural projects appeared to be affordability and the definition of a 'lifeline' amount of water to be provided to consumers. Whereas the RDP mandated cross subsidies... and a lifeline supply (albeit with confused wording as to urban/rural payment expectation in relation to the operating and maintenance costs of water systems), the definition adopted in the *Water*

Supply and Sanitation Policy White Paper and the 1996 *National Sanitation Policy White Paper* was that the lifeline charge (for 25 litres) must be high enough to pay for operating and maintenance costs. In contrast, when the national water reserve was defined in the 1997 *White Paper on a National Water Policy for South Africa*, the word 'free' was associated with the need for national redistribution in order to support local lifeline services (although the 1997 *Rural Development Framework* still insisted that national water cross-subsidies were impossible" (Bond and Khosa, 1999 pg 14).

The shift to commercialisation has not been complete. Each of these policy documents named above includes equity clauses in the form of indigence allowances, progressive block tariffs and differential tariffs. For example, the *White Paper on Water Policy* (1997) states that in order to provide for the poor, some or all charges can be waived, and the *National Water Act* (1998) states that tariffs can be differentiated on the basis of indigence. Most notable of all is the introduction of the *Free Basic Water Policy* in 2001 that echoes the initial RDP short-term goal. Thus, although South African government is following international trends towards full cost recovery for municipal services, it has also deviated from the orthodox by including explicit equity clauses.

2.9 SA water sector 1994 – 2000

"Sustainability starts with ensuring that all people have access to basic services. These basic services are the building blocks which will reduce poverty and promote sustainable economic development" (Muruvan, 2002 pg1).

With the coming to power of the ANC in 1994 they began to actively provide services to marginalised communities. All the various development programmes emphasised community participation (decision making) and cost recovery (contribution to operation and maintenance costs) (RSA, 1994a, 1997a, 1997b, 1998). Projects wholly initiated, managed and funded externally were not supported as they did not align with the people-centred development that defined the RDP and jeopardised long-term sustainability. People-centred development also meant that state-driven water projects were avoided (supported by documented failures in the developing world in the 1970s and 1980s) and that even poor communities would be required to pay something (supported by field work studies). This approach was taken after much discussion and research into lessons learnt in international development history, and was in line with 'international best practice' (Louw, 2004).

Unfortunately, the policy did not succeed significantly and by 2000 many community based schemes were in disrepair or bankrupt (Louw, 2004). Ronnie Kasrils, then Minister of Water Affairs and Forestry, in a Parliamentary Media Briefing in September 2003 quoted a study by the Human Science Research Commission (HSRC) in KwaZulu-Natal in which 23 community managed water schemes were visited to investigate their sustainability - 17 were operating, one did not have a pump, 3 had no water because diesel/electricity had not been paid for, and 2 had internal conflicts over the scheme. This presents a fairly positive picture, but of the 17 operating, only 10 were at RDP level, reducing the success rate to only 44%. This 44% could be viewed as an achievement, as the poorest in the country have been able to bear the operational costs and management of their water systems with very little assistance from outside their community (Hemson, 2003). However, 44% is not enough!

The cost recovery policies provided the stepping-stones to privatisation of basic services. As a consequence, many local governments are implementing partial privatisation of water services, in the form of partnerships. The government retains ownership of assets, and a regulatory role, whilst outsourcing day-to-day operation and maintenance of water infrastructure. Privatisation requires cost recovery in order for it to be sustainable. Due to large poor populations and historically low cost recovery, forcing people to pay has been achieved through, disconnection, removal of infrastructure, legal action, and even eviction. All these means are politically sensitive and can be difficult to enforce, thus increasing the attractiveness of prepaid services for service providers. Prepaid meters collect payment in advance and earn interest for the service provider. The consumer cannot default payment, so no punishment for non-payment needs to be instituted (McDonald, 2002a). This is very attractive for private service providers who are driven by profit. However, South Africa's history of politically motivated non-payment of services, coupled with the ANC's promise of delivery of services even for those who could not pay, has meant that pre-paid technology has been met with considerable opposition. Perhaps this rising civil discontent with the enforced cost recovery policy, prompted the ANC to make a drastic change in 2000 during the run-up to local government elections with the announcement that government intended to provide free basic water to all citizens.

2.10 The introduction of Free Basic Water

On the 19th September 2000 Mr Ronnie Kasrils, the then Minister of Water Affairs and Forestry issued a press statement announcing a Free Basic Water Policy. Five months later, on February 14 2001, he explained what the policy would mean and announced that 6kl per

household per month would be free. This would be funded by using equitable share allocations from the national treasury, and by using cross-subsidisation. The date for implementation was given as 1 July 2001, coinciding with the first financial year of the new local municipalities. This was qualified by the statement that although this was the official date, water users would need to continue paying until they were informed by their local council of the actual implementation in their area. The policy was duly implemented in urban areas without much difficulty. However, rural areas were much more difficult, and to date there are many areas that have not yet seen the implementation of Free Basic Water (FBW). This is due to varying financial, technical, political and logistical problems that local and district municipalities have not had the capacity to overcome.

As part of the focus on capacitating local government, a total of 237 local authorities attended workshops across the country. From these studies and workshops the Department of Water Affairs and Forestry (DWAF) published *Free Basic Water Initiatives: Guidelines for Local Authorities* (2001) and the Palmer Development Group published the *Free Basic Water: Implementation Strategy Document* (March, 2002). Furthermore, in August 2002 the Department of Water and Forestry (DWAF) published a document that was prepared by Partners in Development titled: *The Implementation of Free Basic Water in Remote Rural Communities: Strategy and Guidelines*.

It soon became evident that the complexities of local government establishment and functioning brought significant problems, and that new municipalities were unable to cope with the implementation of FBW. As a result Provincial Support Units were established to help these struggling municipalities (Muruvan, 2002) by providing financial modelling, technical assistance, and reports on the progress in different municipalities (Kasrils, 2001).

2.11 Free Basic Water + Cost recovery = sustainability?

The implementation of FBW has not stopped the increase of privatisation or the emphasis on cost recovery. The policy has provided a mechanism for all to receive their lifeline supply, which is paid for by the taxpayers. All consumption above the lifeline allowance is billed to the consumer to recover costs (and make a profit if the water is supplied by the private sector), and if payment is not received, the customer is forcibly restricted to only the free quota.

Each municipality implements the policy in varying ways that include block tariffs, target subsidies and indigence policies, but increasingly municipalities and private sector suppliers

are installing pre-paid systems that dispense the free basic allowance and then automatically cut off unless payment is made, or restrictive meters that dispense a low pressure supply that totals 6kl per month.

Privatisation and pre-paid systems have been met with considerable resistance. The largest and most publicised being the partial privatization of water supplies is IGOLI2002, the plan to privatise Johannesburg's water supply. A French multi-national company, under the banner of Johannesburg Water Management (Jowam) was contracted to manage the water supply whilst the ANC city council retained ownership. This privatisation resulted in an initial 55% tariff increase, which has been followed by further increases. The latest tariff rates for 2003/2004 show that low end users (the poor) have received a 30% tariff increase, whilst high-end users have received only a 10% increase (McKinley, 2003). These increases have affected the poor communities substantially, and there has been much public debate over water disconnections and house evictions linked to unpaid utility bills. This example highlights a concern that the current system of cost recovery in South Africa is affecting the townships and rural areas more than the established suburban areas. Due to the skewed service provision during Apartheid, the then "white" areas were provided with a high level of services without having to bear the cost thereof. As these areas are well maintained and fully functioning, the costs are low and suburbanites pay, on average, less per kl of water than their less developed counterparts, living in areas discriminated against during Apartheid, and thus either have poor quality, leaking systems in constant need of repair, or have to bear the costs of new development (McDonald, 2002a).

At the forefront of the resistance to privatisation of water in South Africa are the South African Municipal Workers Union (Samwu), the Anti-Privatisation Forum (APF) and the Municipal Services Project (MSP). For example, the APF has attempted to mobilise poor communities to resist privatisation and the enforcement of payment by by-passing meters and restrictive systems. This resistance has not been met favourably by government, and resulted in a crackdown against dissidents. This culminated in the arrest and imprisonment of many activists in August 2002 at the time of the World Summit on Sustainable Development (McDonald, 2002a). The Forum sees the FBW policy as the government's response to public pressure, but does not see the 6000 l as adequate (McKinley, 2003). McKinley (2003 pg 5) of the APF states that the "introduction of pre-paid meters (is) another means to affect 'cost recovery' and limit the already minimal availability and access to water for the poor. Indeed, intensified community resistance... have effectively forced both ANC politicians and the corporate water barons to turn to pre-paid technology in a desperate attempt to keep the basic needs privatisation bandwagon rolling".

The MSP published a very controversial study that claimed 10 million South Africans have had their water cut off due to non-payment of bills. In August 2003, following an article in the *New York Times* on the MSP/HSRC findings, the then Minister of Water Affairs and Forestry replied to the report in the *Sunday Independent* (06 August, 2003) criticising the MSP/HSRC report stating that the statistics were exaggerated, and attacking the credibility of the authors. He stated that approximately 250 000 (figures obtained from HSRC after they retracted the published figure of 10 million) had had their water flow restricted due to non-payment. He stated further that it was unconstitutional to disconnect completely, and that municipalities were not permitted to do so. He also responded to the accusations that the installation of prepaid meters was causing cholera, stating that most cholera cases were reported where people had unmetered water supplies (Kasrils, 2003).

The Municipal Services Project (MSP) and the South African Human Rights Commission found, in a study in 2001, that non-payment is linked to ability to pay. David McDonald, a geography professor at Queens University in Canada, and the director of the MSP stated "People [in South Africa] are making choices between food, school and clothes, and whether or not to pay their water and electricity" (cited in Weinberg, 2004 pg 1). It was found that 17% of the population can only pay for water if they reduce spending on food and other essentials, and for 18% the services were beyond their means. It is these factors that have made some question the installation of pre-paid meters, as it may deprive families who are not able to pay for their water in advance. DWAF responded to the findings of this report by reminding South Africans that the aim of FBW is to reach the rural poor who do not have baths to fill or flush toilets, and thus use less than the 6000 litre free allocation which is dispensed each month by the pre-paid meters (Carroy, 2003).

The debate continues, with occasional headline news in different parts of the country. Meanwhile, in the deep rural areas, the poorest of the poor have not yet been reached. Some have not heard of Free Basic Water or the responsibility of local government to supply, and continue to pay (and in some cases manage) for their water supply, others still have no clean water supply at all.

2.12 Conclusion

In summary, privatisation and community management are the dominant approaches to service delivery in the developing world. South Africa is following the global trend to privatise and treat water as an economic good. Government is remaining the regulator and capital

owner, but operation and maintenance is increasingly being contracted to the private sector. Until a few years ago, South Africa was also following the trend of community management of water supply in rural areas with their Community Water and Sanitation Strategy (CWSS). However, with the widespread failure of these stand-alone projects, responsibility for service delivery has been placed on local government. This responsibility was cemented by the Free Basic Water policy which provides the constitutional right to all citizens of 6kl of water per household at no cost. For rural municipalities, the FBW policy translates into zero cost recovery from most rural schemes. Community management systems that had been operating – collecting tariffs, paying salaries and fixing daily problems – have in many cases been made redundant, as communities now depend on local government to operate and maintain their water systems. This top-down approach is contradictory to the demand-driven, bottom-up approach that characterised the CWSS programme in South Africa and still characterises rural water supply in the rest of the developing world.

CHAPTER 3: Financing Rural Water for Sustainability

3.0 Introduction

“Few countries have realistic policies, operational strategies or plans for cost recovery and sustainable financing for increased service delivery, particularly for the poor. Due to the lack of ... systematic knowledge, strategies for cost recovery are typically short sighted, address only part of the issue of sustainability, and result in degradation of systems and failure to deliver reliable water supply” (Fonseca, 2003 pg1).

Cost recovery has been a controversial subject since the International Drinking Water Supply and Sanitation Decade (1980s). One side of the debate argues that until the unserved are provided with services, they will not be able to afford anything, as the provision of services is a prerequisite for income generation and poverty alleviation. Once services are provided, willingness- and ability-to-pay will follow. The economists however maintain that affordability and willingness-to-pay are prerequisites for successful services (Cardone and Fonseca, 2003). Regardless of the debates, cost recovery *is* one of the major obstacles to sustainable drinking water. The financial challenge is particularly great in developing countries where management capacity at local levels is limited. Development trends of community management of rural water systems place financial management at community level. The costs recovered generally cover only operation and maintenance, whilst strategies for full cost recovery are lacking (Fonseca, 2003).

However, the cost recovery challenges for South Africa are different from most international examples as most South African rural schemes have zero cost recovery as usage is covered by the Free Basic Water subsidy. Free Basic Water funding is available from three sources: national government grant allocations (the Equitable Share); local government taxes and levies; and cross subsidisation between users. In rural areas, the revenue from cross-subsidies is effectively zero due to low consumption levels, so finances for FBW must come from local taxes or national government. Rural municipalities are generally financially stretched, and most are reliant on the Equitable Share (Still, 2002).

This chapter discusses the issue of financial sustainability of water and the costs of providing water in rural areas, showing how municipalities should decide on the allocation of funds. The second section of the chapter provides the necessary background for understanding the Equitable Share grants as this is the government’s chosen vehicle for subsidising Free Basic Water.

3.1 Financial sustainability of water resources

Cost recovery: recovering all of the costs associated with a water programme or service to ensure long-term sustainability (Cardone and Fonseca, 2003).

Financial sustainability: Identifying and covering all costs (institutional, technical, human) related to providing and maintaining the water service (see Figure 3-1) (Fonseca, 2003)

Cost recovery traditionally includes financial costs such as operations and maintenance; capital costs and asset replacement. National policy in each country then determines how these costs are recovered. Broader perspectives include environmental costs and broader community impact of water resources, for example improved health and income generation. However, neither of these includes other essential costs such as: capacitating local government for regulation; developing financial management systems; policy development; and field workers helping and researching at community level (Cardone and Fonseca, 2003). In order for water systems in rural areas to become financially sustainable, all these 'hidden' costs need to be accounted for. The International Water and Sanitation Centre (IRC) have a broad approach which is a bench mark for all who have the responsibility to supply water:

"The IRC's approach to cost recovery broadens what are usually considered financial and economic costs. It aims to look beyond the individual water system, its users and the three-year horizon of most projects or programmes financed by support agencies. It considers not only the construction, but the lifetime, rehabilitation and extension of water supply systems and all the elements that are necessary to providing longer-term support to users in poor rural communities and peri-urban neighbourhoods, while guaranteeing equitable access and use of water services taking into account opportunity and environmental costs" (Cardone and Fonseca, 2003 pg 17).

This approach is illustrated by Figure 3-1 below (Fonseca, 2003 pg 2):



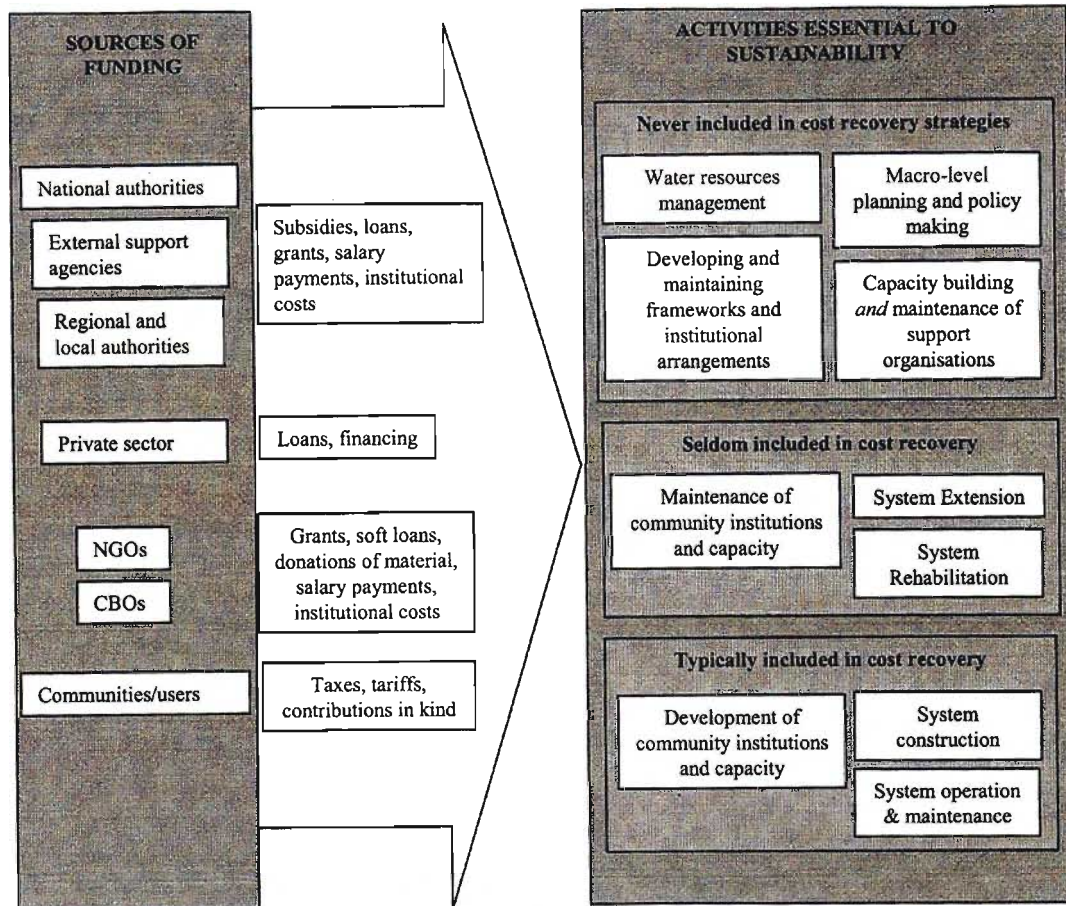


Figure 3–1: All costs related to sustainable water services

This figure shows how all sources of funding (government, private sector, NGOs and communities) should together be covering all the costs of water provision, including the hidden management, capacity building, planning and asset replacement costs that are often neglected.

This approach raises many questions on how full cost recovery can be achieved (Fonseca, 2003):

- Who should pay? How much of the costs should come from government, and how much from consumers?
- How are these costs determined?
- What policies are needed to ensure all costs are accounted for?

The answers, yet to be discovered, need to include both the economic and social aspects of water provision.

Due to the complexities of implementing this full cost recovery approach, the researcher suggests that this benchmark is viewed as the end goal in a step-by-step process of improved financial sustainability. In relation to the present South African rural water supply situation, it would be appropriate for rural municipalities to focus on those aspects in Figure 3-1 that are 'typically' and 'seldom' included in cost recovery. The inclusion of these aspects would significantly improve the sustainability of municipal water provision and Free Basic Water in rural areas.

3.2 The cost of water provision in rural areas of South Africa

The Constitution of South Africa states that local government is obliged to provide everyone with access to water. However, legislation also stipulates that municipalities are not allowed to make commitments that they cannot afford. Therefore, although the recommended FBW allowance is 6kl per household per month, it is at the discretion of the responsible municipality to decide whether this is affordable. In order to make this decision, municipalities need to calculate the cost of providing water to their constituency and then align the costs with the available budget. These costs include: the Water Service Authority, the Water Service Provider; maintenance of basic supplies; asset replacement and monthly operation and maintenance (Still, 2002).

3.2.1 The Water Service Authority and Water Service Provider

The roles of regulation and support are the most important budget priority. Local government must assess its capacity, and if necessary contract out any functions it is not able to perform. Performance needs to be regulated, monitored and audited to ensure that a quality service is provided. A study by the Palmer Development Group (2001) showed that the average costs at this level to be approximately R20 per household per month (this figure includes only the time, travel and disbursement costs, not operation and maintenance). These costs must be provided for before a basic water supply is subsidised.

3.2.2 Maintenance of basic water supplies

Many rural areas do not have fully reticulated supplies, but instead rely on sparsely located standpipes, hand-pumps and springs. To extend the reticulation to all households is costly and realistically beyond the budgets of many rural municipalities. Municipalities need to assess their current infrastructure and ascertain what the minimum requirements are to meet basic coverage to all. These supply points then need to be maintained until such a time as reticulated supply at the minimum RDP standard can be built. Approximate costs for maintaining hand pumps is R2 000 per annum, whilst installing a pump is approximately R9 300 (prices calculated to 2004 value) (Still, 2002).

3.2.3 Asset replacement

Long-term sustainability of water supplies is ensured by municipalities putting aside savings each month in order to build up a reserve in case of failure of equipment. The amount that is needed can be determined through an infrastructure audit, accounting for value and age of equipment (Still, 2002).

3.2.4 Operation and maintenance

These costs are scheme and site specific, typically including operators, an administrator and an energy bill. A study in 1999 and 2000 showed the mean operating costs ranging from R4 to R10 per household per month (WRC, 2002). Escalated to 2004 (8% per annum), this translates to R5.50 to R13.80 per household per month. The people at community level are crucial to the sustainability of the water supply, yet often tend to be paid at rates that do not reflect their importance. Experience shows that if wages are too low, community employees will take any other opportunity that may arise to earn a better living. This results in a high staff turnover, which often leads to failure of small water schemes (Still, 2002).

3.2.5 Free Basic Water

Only if there are remaining funds after the aforementioned costs should a municipality provide a basic allowance of water for free. This would ideally be at least 6kl per household per month, but if this is beyond the municipal budget, then a lower allowance is permissible. This is essentially a political decision, as it is determined by how high a priority water provision is to the municipality (Still, 2002). It should be noted that if a Free Basic Water policy is intended to target those with rudimentary and standpipe supplies, then a lower limit is acceptable, as users at this service level typically use less than 4kl per household per month (WRC, 2002).

Free Basic Water is officially intended for poor South Africans. A municipality with limited funds can also, therefore implement an indigence policy or a service-level policy which limits the allocation of FBW. If an indigence policy is applied, then only those who register as indigents can receive the subsidy. If a service-level level policy is applied, then only those with, for example, RDP level supply or below receive FBW. These policies can be difficult to administer and can be discriminatory, thus many municipalities have chosen to implement block tariffs which provide all customers with a free allowance and then recover the costs through cross-subsidisation. However, this generally only works in the urban centres where higher income and business customers are paying for large amounts of water. In rural areas, most water is free, and costs must thus be covered by the Equitable Share.

3.3 Understanding the Equitable Share

“Local government and each province is entitled to an equitable share of revenue raised nationally to enable it to provide basic services and perform the functions allocated to it” (RSA, 1996 Section 227(1)).

The South African Constitution of 1996 requires that national government divide South African tax revenue between the three spheres of government – national, provincial and local. This is referred to as the *vertical* division of revenue. Recommendations for the *horizontal* division of revenue were published by the Financial and Fiscal Commission (FFC) in 1997, proposing that local governments use their allocations for the provision of basic services to poorer households, thus directing national government to allocate funds according to the poor population in each municipality. This report directed National Treasury and the Department of Provincial and Local Government (DPLG) in their formulation of exactly *how* to divide up the national revenue among the municipalities. National Treasury decided to introduce an entirely new formula-based system for the horizontal distribution of revenue, as the then existent method was inequitable and unpredictable. The aim of this new system was to introduce greater predictability and consistency into municipal revenues, thus improving their capacity to budget (Hazelton, 2004). This formula-based system, the Equitable Share, was introduced in 1998 and is defined as “the sum of all the unconditional transfers made from national to local government... to help local government cover all the recurrent operating costs of providing basic services to *poorer households*” (Hazelton, 2004 pg 2).

Although the Constitution states that the Equitable Share is an ‘unconditional’ grant - received in full regardless of circumstances – it also stipulates that local government is responsible for the provision of basic services. This suggests that local government has the obligation to use at least enough of the grant funds necessary to provide services at the Reconstruction and Development Programme (RDP) standard (this also implies that national government has the obligation to transfer sufficient funds to meet these standards). National and provincial governments have the power to intervene if local government neglects their duties (RSA, 1996 Sections 100 and 139).

With the introduction of the new formula system in 1998, the total non-capital transfers decreased almost 30% from the year before. Only in the 2003/2004 year did the levels rise enough in real terms to exceed the 1997 level (refer to Figure 3-2 below). It is thus not surprising that municipalities serving poor areas struggled to perform, especially with the increased responsibility post-demarcation in 2000. However, the 2003-2004 budget grew

45% and the 2004/2005 budget a further 18%, making the transfers significantly higher than they have ever been before. The formula-based Equitable Share is a significant improvement on the previous inequitable system. Transparency and accountability still need to be improved (as discovered when trying to access information and figures for this research), but with the major allocation increases since 2003/2004, municipalities now have the resources to supply basic services to the poorer households within their jurisdiction.

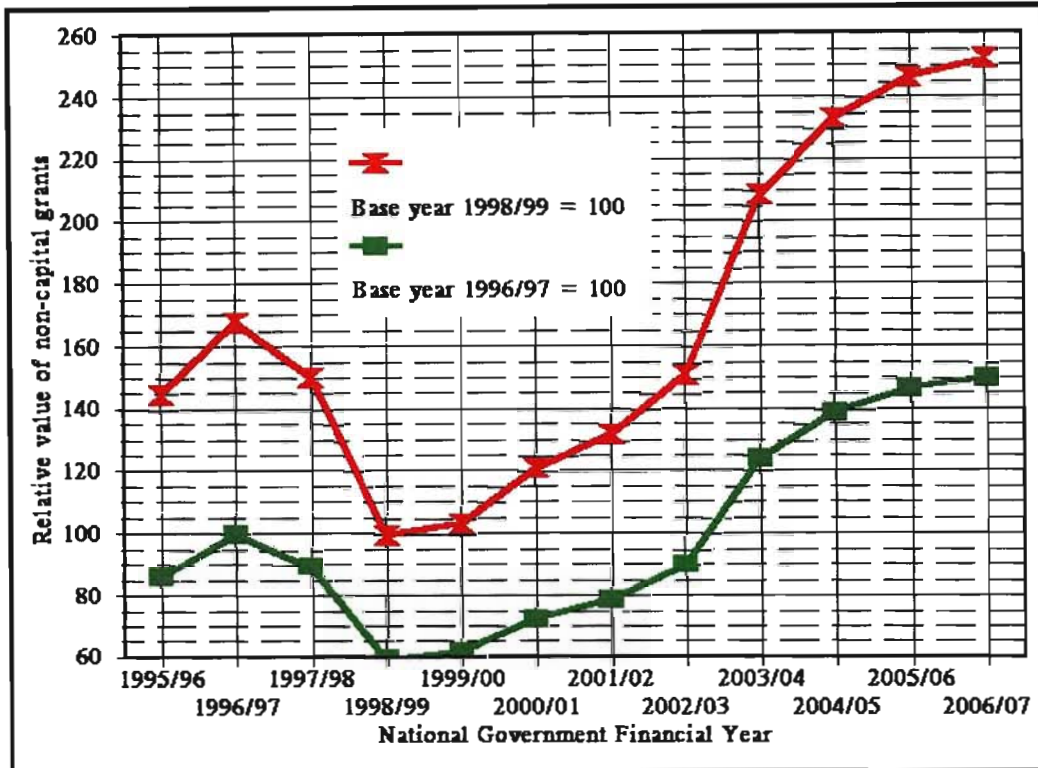


Figure 3-2: Inflation adjusted relative values of non-capital transfers to local government

1995/1996 to 2006/2007 (source: Hazelton, 2004 pg 6)

Note: Figure 3-2 shows an economic time series using real data which takes into account the change in value with time. This use of a price index converts the series to a particular year's prices. A price index is a measure of how prices in each year are different to those in the base year. Two base years have been shown to provide two different frames of reference, thereby giving a broader analysis of the data.

3.3.1 Components of the Equitable Share

The Equitable Share is made up of the following components:

- S-Grant – Services grant to assist in the provision of basic services to poorer households;
- I-Grant – Municipal Institutions Grant to assist in institutional and governance requirements;

- R293 Grant – subsidy for old homeland (R293) towns that used to be governed separately from the South African municipalities. These towns have now been incorporated into municipal demarcations and the grant is being phased out;
- Nodal allocations – given to 21 priority nodes of under-developed areas to aid developmental programmes; and
- Free Basic Services – additional component to assist with the provision of basic services.

Note that municipalities are guaranteed to receive at least 70% of the previous year's total grant in order to ensure financial stability. This is typically included into the S-Grant by Treasury.

For the purposes of this research, a more detailed explanation of the S-Grant and the Free Basic Services Grant is necessary. Understanding the allocation of these grants is imperative in determining the funds available to local government for the provision of Free Basic Water.

3.3.2 The Municipal Basic Services transfer – the S-Grant

This grant is intended to cover the operating costs of the provision of basic services (water, electricity, refuse removal, and sanitation) to poorer households. 'Poorer households' are currently defined as those households with an expenditure of less than R1100 per month (Division of Revenue Act, 2003).

The formula for calculating the S-Grant includes factors that adjust the amount according to: national funds available; number of poorer households; and estimated cost per capita of the provision of the services. A further factor is one that phases in the new system, allowing for time to build capacity to fulfil the new functions. When the Equitable Share was first introduced in 1998, the calculations were based on the following estimated costs (Hazelton, 2004 pg 4):

Table 3–1: Estimated costs for basic service provision

Service	Rand per mth	Rand per year	Percentage of total
Electricity	36	432	41,8
Water	20	240	23,3
Refuse	20	240	23,3
Sanitation	10	120	11,6
Total	86	*1 032	100,0

*Note: This amount is still used to date, although it is acknowledged that the costs have increased (Intergovernmental Fiscal Review, 2001 as cited in Hazelton, 2004).

The S-grant is paid to Category 'B' (local) and 'C' (district) municipalities according to functions performed. The grant is divided according to the percentages calculated in Table 3-

1 above, ie 41.8% for electricity, 23.3% for water, 23.3% for refuse, and 11.6% for sanitation (Division of Revenue, 2003).

3.3.3 Free Basic Services Grant

This grant was first introduced in the 2003/2004 budget and is intended to make the provision of free basic services to poorer households more affordable for municipalities. The Grant is separated into a Free Basic Electricity/Energy Grant, and a Free Basic Services Grant which includes water, refuse and sanitation. The allocations are divided according to the same percentages used in the S-Grant. Unlike the S-Grant, the FBS-Grant includes a parameter for the number of poorer households *actually* receiving the basic service. This parameter results in 50% of the grant being dependent on the actual service provision. This provides an incentive to local government to provide the services, and also prevents misallocation of funds by municipalities that are not providing services. The grant is paid to category 'B' (local) and 'C' (district) municipalities according to their functions. In poor areas, the district municipalities are generally in charge of water and sanitation whilst the local municipalities are assigned refuse removal and electricity (Hazelton, 2004).

For the provision of FBW, the following *should* be allocated by the municipalities:

- 23.3% of the total S-Grant; and
- 40% of the total FBS

The total from these *should* be sufficient to cover recurring operations and maintenance costs (including essential asset replacement) for the provision of FBW to poor households. The debate as to whether the Equitable Share is sufficient is found in section 7.10.

3.4 Conclusion

To summarise, South Africa is experiencing similar challenges and shortfalls in cost recovery as many developing countries. Only the costs of operation and maintenance are traditionally recovered and asset replacement, institutional capacity and support are sidelined. This short-term focus places South Africa's water systems in an unstable position and is certain to cause problems when infrastructure fails and/or systems cannot be extended to the unserved poor. Free Basic Water adds unique challenges, placing reliance on the strength of the national economy, and thus the Equitable Share, for financial sustainability.

CHAPTER 4: METHODOLOGY

4.0 Introduction

This chapter details the various methods and techniques used to undertake this research. Each method/technique is explained, and then contextualised for this specific research.

In South Africa, as with the rest of Africa, poverty, and poverty alleviation is a major motivator for research and intervention. Researchers are in a position of influence and have opportunities to truly make a difference in peoples' lives. However, the history of research and development initiatives is fraught with failures and unfulfilled promises. The link between methodology and development failure has been increasingly realised since the 1970s, and as a result, a shift towards applied research methods has occurred. Applied methods aim to involve the local people in all aspects of the process of research and development (Binns, Hill and Nel, 1997). The discipline of geography has for centuries been a holistic discipline, straddling the natural and social sciences. Instead of this being embraced historically as a strong point, geographers have been noted to have an 'identity crisis' (Kitchin and Tate, 2000). It is in this continuing 'crisis' that this research appropriately combines traditional quantitative methods with the more creative and context specific qualitative methods. This holistic approach focuses on people-environment relationships - which have always been central to geographic study – allowing the researcher to appropriately adapt techniques. Because of this change, geographers are placed in a key position for the effective application of these methodologies, and make an important contribution to rural development research (Binns, Hill and Nel, 1997).

In order to master the practical application of research methods, it is necessary to have an understanding of the history of research methodology and philosophy. From this understanding, a clear approach can be developed using the most effective combination of methods and techniques resulting in research that is reliable, relevant and useful in the South African development context.

4.1 Research approach

"Methodology is parasitic on epistemology and ontology"

(Bentz and Shapiro, 1998 pg 34).

Philosophers and scientists were originally viewed as one and the same thing. However, traditional modern science, with its strong empiricism separated science from value and

aimed to produce objective, universal laws. This approach has been continually challenged almost from its inception and today it is broadly accepted that researchers cannot divorce their methodology from the philosophy underpinning it. Philosophy provides the ethical, moral and political foundation to all research and acknowledges the specific context and influence of the researcher. Therefore, although all research methods are empirical, the philosophies guiding the researchers are variable (Bentz and Shapiro, 1998).

Due to the centrality of the researcher in his/her research, it is important that the context, assumptions and approach of the researcher be explained at the outset of this study.

Firstly, this study has been undertaken with the following general understanding of research, based on the definitions given in Bentz and Shapiro (1998) "*Mindful inquiry in social research*":

Science is being committed to procedures and arguments that are rational and that result in conclusions that are agreed upon amongst a broad body of scholars.

Research is obtaining answers using methods that will produce reliable and valid knowledge. It is a guideline for answering the research question/s.

A *method* is the selection and interpreting of information in a coherent way.

A *technique* is a specific way of gathering data, such as questionnaires, statistical analyses, observation etc that is chosen according to the method being used.

These definitions give the researcher a broad framework in which to operate that is not restricted to a traditional scientific process, but allows for practical application to the specific research objectives and context.

Secondly, the researcher acknowledges the context and bias specific to a young, white, English speaking, educated, South African female, employed in the private sector and living in a country only ten years into democracy.

Within this context, the researcher has largely used a Realist approach, as defined by Kitchin and Tate (2000 pg 15), "seek(ing) the underlying mechanisms of *policy* and *practice*", and trying to identify how extensive the phenomenon in question is. They explain further that "realism... emphasise(s) that behaviour is constrained by *economic* processes" and that "individuals make decisions within an infrastructure that they are unaware of. As a result, the

infrastructure is both constraining and enabling; it restricts yet stimulates choice” (Kitchin and Tate, 2000 pg 15). Both qualitative and quantitative methods are used in order to “explain the phenomena in terms of the underlying mechanisms and structures which dictate their pattern and form”

4.2 Research methods

This research has been undertaken using the Equitable Share allocations as a framework for the case study method and Participatory Rural Appraisal, with the latter used within a case study context.

4.2.1 The Equitable Share

The Equitable Share is significant for this research, as for many rural municipalities it is the only source of revenue available to cover the costs of providing FBW. In order to calculate how much is available for the operations and maintenance of Free Basic Water supplies to poorer households, one needs the breakdown of the ES into the various components. Table 4-1 below is an example of actual breakdowns for local and district municipalities for fiscal year 2004/2005.

Table 4–1: Breakdowns of the Equitable Share for two districts (2004/2005)

EQUITABLE SHARE 2004-05 MUNICIPAL FINANCIAL YEAR							
Municipality	S Grant incl Guarantee	I-Grant	R 293	Nodal allocation	Free Basic Services	Free Basic Electricity	Total Allocation
B Umzimkhulu	23,036,165	3,589,892	-	-	2,374,379	1,817,610	30,818,046
B Umzinvubu	59,854,492	4,350,593	-	-	5,932,395	3,894,811	74,032,291
C Alfred Nzo DM	44,778,468	7,261,891	-	11,011,707	6,575,184		69,627,250
Total: Alfred Nzo Municipalities	127,669,125	15,202,376	-	11,011,707	14,881,958	5,712,421	174,477,587
B Endumeni	1,949,513	825,288	109,620	-	957,261	517,774	4,359,456
B Nqutu	6,435,670	3,428,473	1,287,889	-	1,776,310	1,065,535	13,993,877
B Msinga	13,742,332	3,556,942	93,523	-	2,296,228	1,292,739	20,981,764
B Umvoti	10,811,149	1,957,354	-	-	1,529,269	914,426	15,212,198
C Umzinyathi DM	14,981,816	5,557,253	1,376,306	6,498,202	5,244,453	-	33,658,030
Total: Umzinyathi DM	47,920,480	15,325,310	2,867,338	6,498,202	11,803,521	3,790,474	88,205,325

For the provision of FBW, the following *should* be allocated by the municipalities:

- 23.3% of the total S-Grant; and
- 40% of the total FBS

The total from these should be used to calculate a per capita allowance for the provision of water to the poorer households (total ÷ poor population). Theoretically, this per capita allowance should be sufficient to cover recurring operations and maintenance costs (including essential asset replacement) for the provision of FBW to those poor households, and should be used in the calculation of budgets.

Table 4–2: Calculation of the per capita ES available for FBW provision

Alfred Nzo DM	
23.3% of S Grant	R29,746,906
40% of FBS	R5,952,783
Total	R35,699,689
Poor population (2001 census as used by Div of Revenue)	439 678
Per capita allowance per month	R6.77

uMzinyathi DM	
23.3% of S Grant	R11,165,471
40% of FBS	R4,721,408
Total	R15,886,880
Poor population (2001 census as used by Div of Revenue)	329 519
Per capita allowance per month	R4.02

It should be noted, that the ES is highly dependent on population and poor population figures in its allocations. The 2001 Census figures that are used in the calculations differ significantly with other data available in the municipalities. These discrepancies can result in municipalities being under funded and unable to afford the provision of FBW. This is discussed further in Chapter 7 of this thesis.

4.2.2 Case Studies

Case study research is regarded as a qualitative method and as such does not aim to discover data that will support or disprove a hypothesis, but rather develops theories and propositions as the research develops (Burns, 2000). Furthermore, a case study does not look at a phenomenon in general, but is rather a specific example studied within a defined context, time and space. This allows for an in-depth study from a variety of perspectives (Kitchin and Tate, 2000) to discover what is happening within the boundaries of the complex system. Case studies are typically a mix of qualitative and quantitative data relying on interviews, observation, and document analysis. Furthermore, they can be at varying scales,

starting from the study of an individual and ranging to the study of a country. Researchers can also have only one case, or several. Multi-case studies are often intended to replicate each other, and are specifically chosen so that they either produce contrary or similar results. This is then used to demonstrate support, or show the need to revise a situation (Burns, 2000). In this research, the researcher had very little prior knowledge of the case studies and so predicted results could not be included in the criteria for choosing the case studies. This was important, as the researcher did not want a bias towards success or failure to affect the choice of case studies. The case study method was applied in this research to discover, describe and analyse the current situation in South African rural areas with regards to the implementation of Free Basic Water. A number of defined case study areas (multi-case studies) were chosen - varying in scale, location, and degree of implementation. .

A key element in building reliable and valid information in case studies is the use of multiple sources. This allows for triangulation and corroboration. As most of the information gathered is subjective, this is of great importance for an accurate representation of the situation to be given. Each source provides more information and allows the researcher to be more objective and compare information, not to verify but to learn from the different perspectives expressed. With case study research it is vital that the researcher is aware that their role in the research process is inextricably linked with the results. The researcher must be aware of bias, and therefore must include triangulation and peer consultation in order to minimise the possibility of the researcher becoming too immersed in the process to be objective. Subjective bias is a significant problem in case study research. Personal views can easily influence the direction of the investigation and interpretation of the findings. There are no standardized instruments that can be used to check the data. It is thus important for the researcher to explain how the study was carried out in order to validate the studies (Burns, 2000).

The researcher needs to be flexible - prepared if necessary to change the focus of the investigation - and have good interviewing skills. Recording of data from interviews is also an important skill, and needs to follow a uniform approach in order to develop reliable, detailed reports (Burns, 2000).

The case studies in this research were not chosen as representative samples, but rather to document different implementation strategies in order to discover any patterns/trends/lessons which could then be related to a wider audience. As mentioned, the case studies were all at varying scales, ranging from regional to an isolated small community:

i.)	Regional	uThukela Water Partnership
ii.)	District Municipality	Alfred Nzo
iii.)	local municipality	Ngqushwa
iv.)	Large scale community project	Vulindlela
v.)	Small scale community project	Nhlungwane

Existing documentation on Free Basic Water (pilot research projects, research papers, policy documents) were read for the researcher to become familiar with the background to implementation and to develop a base knowledge for the key informant interviews. The documentation, the interview material, and other reports and documents that were made available through the key informants, were then used to describe, analyse and compare aspects of the case studies. A trend appeared in the case studies, suggesting possible general conclusions on the implementation of FBW in rural areas in South Africa. This trend could be of significant importance to government, and thus it was necessary to establish that the trend was not restricted to this research, but that similar trends were being discovered by contemporary researchers in South Africa. In order to do this, both published and unpublished documents were used to corroborate the findings of this research. This helped to establish the credibility and reliability of the case studies.

The case study method was chosen specifically as the lessons from specific local situations, local actors, their relationships and circumstances were viewed as the most valuable contribution to the research. The controversy worldwide surrounding the delivery of water has resulted in many rigorous empirical studies debating the two competing approaches of water as an economic good versus water as a basic human right. None of these studies are conclusive, and comparisons are difficult. Measurement and numbers do not secure success and the complexity of the issues means that measurements are contested. This research therefore aims to understand the particulars of specific cases and to help others to better develop a way forward in different situations.

4.2.3 Participatory Rural Appraisal

"PRA can be described as a family of approaches, methods and behaviours that enable people to express and analyse the realities of their lives and conditions, to plan for themselves what actions to take and to monitor and evaluate the results" (Hill, 1999 pg 14).

Participatory Rural Appraisal (PRA) was the second methodology used. This was only used in one case study - the community case study - as this was deemed the most appropriate method at this level.

PRA was developed in the 1980s in a shift away from methods where the researcher sets the agenda and extracts the information. Instead, the PRA researcher is a learner, a facilitator, and a catalyst in a process of local discovery and analysis. PRA can be used for investigation, planning, monitoring, implementation and evaluation. All the methodology and techniques were developed by those in the field of development studies out of a realisation that empowerment and sustainability (the primary aims of development interventions) were only achievable if the communities were fully involved in the process (PRA handbook, 1993).

In 1997, Binns in his paper "Learning from the People" stressed the importance of PRA in a democratic South Africa stating that (pg 8): *"In South Africa there is an especially urgent need for geographers to engage in field-based PRA research, particularly in marginal and impoverished black rural areas. Such research must be undertaken with a view to identifying appropriate development options and strategies in partnership with communities"*. This urgency still exists, and it is with this understanding that PRA methodologies were chosen in the community-level case study. It was also important for the researcher to practice the application of these techniques. PRA was only used in this one case study, as it was not appropriate at municipality level.

PRA is a proactive research methodology which involves the local people in the learning process, and has the key objective of empowering the people to bring about the changes themselves. A PRA practitioner does not prepare a set of externally predetermined criteria for investigation, but rather learns in an inductive manner from the community. In order to do this, the researcher has to spend time in the community observing and participating in their daily activities (Hill *et al*, 2001).

According to a group of PRA practitioners (PRA Handbook, 1993) the underlying values of PRA are:

- A community must engage in their own development;
- Perceptions and feelings are important;
- Resourcefulness and creativity should be stimulated; and
- The insight and knowledge of the community is important.

These values are echoed in Chambers' (1983) five central concepts: empowerment; respect; localisation; enjoyment and inclusiveness.

A clear example that demonstrates the PRA methodology is found in Table4-3 below (adapted from PRA Handbook, 1993):

Table 4–3: The PRA approach

Academic Approach	Participatory Approach
The researcher designs, refines and applies a questionnaire	The facilitator designs and presents materials to stimulate participation and reflection
Community members provide information	Community members observe the materials, experiment, and add ideas
The researcher gathers and analyses the data, draws conclusions and makes recommendations	Community members analyse the data, make recommendations, and act on them

PRA relies on the facilitator’s skill, and the community’s willingness to participate. In order for the facilitator to develop an environment where learning is possible and desirable, many barriers and biases must be realised and minimised. These include professional, organisational, spatial, temporal, social, education level, political, religious, and language. The facilitator must take cognisance of all of these before and during the process and, if he/she cannot personally minimise one or more, should ensure that a team of facilitators is involved to aid the process. Some of the key elements of a successful process are attitude, behaviour, careful yet flexible planning (liaison with the community, venue, participants), good introductions, a prepared team, appropriate materials, recording information, summarising findings up, ‘saying goodbye’ and following up. It is clear from all the above descriptions and priorities, PRA is more about how the investigation is carried out, and not what techniques are used (PRA Handbook 1993).

The primary difference between participatory research and traditional methodologies, is that participatory research is designed to work with, and for grass roots communities, and is specifically appropriate for the marginalised and oppressed (Hill, 2004). Traditional methodologies were designed by the powerful to help the powerful, and despite the attempts to use these methods to help the poor, they were mostly a failure. So, although PRA is difficult to statistically analyse and the factors cannot be controlled, these disadvantages are outweighed by the unique ability of participatory research to holistically understand and plan in poor rural communities.

PRA was applied in this research in the Nhlungwane community in order to help prepare and plan for the impending transition from an independent community based management set up, to external management with the implementation of Free Basic Water. The Nhlungwane case study was approached in a very different way to the other case studies as this was at community level. At this level it was important to not only discover the situation with regards to FBW, as with the other case studies, but also to fulfil the moral obligation of aiding the

community to improve their lives. The researcher has thus been able to gather all the information necessary using the appropriate PRA methodology, and at the same time help the community to become empowered in a decision making process with local government.

The researcher worked in partnership (team) with an experienced development facilitator who conducted the primary research. As explained, it is most beneficial to implement PRA in a team as the different members can complement each others strengths and weaknesses. The researcher was experienced in the implementation of the chosen PRA techniques, and in problem solving. However, the researcher cannot speak Zulu and is not well familiarized with Zulu culture. On the other hand, the facilitator is a Zulu man and thus was able to merge with the community without translators (translation is a hindrance to effective research, and can often distort/hide the truth). The facilitator was not experienced in PRA application, but was at that time a university student and this process was used to develop his capacity as part of a compulsory course learnership. The researcher was involved each part of the process - planning, guiding the facilitator in technique decisions, intervening in the workshops where the facilitator was not effective, and doing thorough follow up after each intervention. The researcher was active in the workshops, working alongside the facilitator.

4.3 Techniques

A number of techniques were adopted to apply the chosen methods and to gather multi-layered information. In the regional, district municipality, and local municipality studies, key informant interviews and document analyses were the principle techniques of investigation. However, in the community level case study there was also the use of workshops, a transect walk, observation, and informal discussions.

4.3.1 Key informant interviews

“Key informant interviews involve interviewing a select group of individuals who are likely to provide needed information, ideas, and insights on a particular subject” (Kumar, 1989 pg 1).

This technique does not seek a large number of respondents as for a survey or questionnaire. Rather, the purpose is to interview a small number of people that are key to the issue under investigation. These interviews are informal and are interactive conversations facilitated by the interviewer who probes for detailed information (Kumar, 1989). The technique is particularly useful when descriptive information is adequate, when trying to understand underlying motivations, when obtaining recommendations, and when

explanation of quantitative data is needed (Kumar, 1989). These were all considerations in this research.

The advantages of key informant interviews are the depth of insight gained due to the involvement and knowledge of the targeted people, and the exploration of unanticipated topics which may result in new areas of discovery for the researcher. The disadvantages are the lack of sufficient numbers for statistical analyses, the variety of biases that can affect the conclusions, and the difficulty in proving validity. The latter two can be reduced through awareness of the possible pitfalls, as well as triangulation (Kumar, 1989).

Application of this technique in this study involved the interviewing of key informants at the different levels of Free Basic Water implementation. It was vital to obtain the perspectives from the municipalities, the implementing agents, and where possible, community members. From these interviews the researchers developed a broad perspective of FBW implementation as well as details of the processes, lessons learnt, problems, and recommendations. The personal contact and building of trust resulted in the researcher gaining access to reports and financial documents that were not available publicly. A list of those interviewed is found in Table 4-4 below:

Table 4–4: Interview list

Name	Case study	Position
Colin Johnston	uThukela Water Partnership	Operations Manager for the Partnership
Ernst Zellhuber	Alfred Nzo District Municipality	Deputy Director Water and Sanitation
Jim Gibson	Alfred Nzo District Municipality	Support Services Agent – Maluti Water GSM
Anthony Lenehan	Alfred Nzo District Municipality	Support Services Agent – WASH consultants
Jamie de Jager	Ngqushwa Local Municipality	Manager, researcher – Mvula Trust East London
Mlungisi Shangase	Vulindlela Water Project	Inland Operations Manager – Umgeni Water
Roy Lilmohun	Vulindlela Water Project	Financial Officer – Umgeni Water

Community perspectives were gained from Alfred Nzo District Municipality from informal discussions at three villages with water supply; Vulindlela through extensive interviews for Mr

Hlope's (2004) MBA thesis; and through the entire research process at Nhlungwane. Community perspective on the implementation of FBW by the uThukela Water Partnership and the Ngqushwa Local Municipality were not sought as these areas were not operational at the time of the research.

Sixty-three people were interviewed at Nhlungwane including youth, adults, females, males, and leadership. Most of the interviews were conducted in groups with very few one-on-one interviews, as the interviews were informally carried out where people were gathered together.

The breakdown of people interviewed is as follows:

	Male	Female
Adults	15	25
Youth	17	6

4.3.2 Document analyses

"Documentary data can provide valuable insight into the structures and mechanisms of socio-spatial thinking and practice" (Kitchin and Tate, 2000 pg 227).

Secondary sources are very important in case study research and include reports, minutes, budgets, policies and other research projects. Most of these documents were created and edited for a particular audience, and inherent bias must be accounted for. The 'truth' may need to be sifted out through triangulation of various documents and interviews (Burns, 2000).

Application of this technique involved a combination of public documents (on the internet, published, or available on request); and project reports kept by consultants and municipalities. As mentioned above, these types of documents are often produced with a particular audience in mind and thus disclose only that which is necessary/helpful. It became clear that political agendas and sensitivity are of particular significance in this research. The documentation was a significant means of triangulation with the interviews, and gave clarity on biases, problems, political tensions and motivations. This combination was an effective means of sifting out the 'truth'. Different documentation also allowed for the researcher to question the assumptions made by other researchers/consultants. It became clear that it was necessary to scrutinize the facts, and conclusions of all materials, as inconsistencies could result in false conclusions.

4.3.3 PRA Techniques

There are a vast number of PRA techniques that are all designed to build understanding of the different aspects of community life. One technique cannot be used in isolation with much success; instead a few must be chosen that will most likely build a holistic picture of the research issue. Key issues in all PRA techniques are planning, community liaison, cultural awareness, materials used, record keeping and report back. Planning must be creative, detailed, but flexible, ensuring that issues like location, time, and group composition are all included. Decisions should be made in consultation with the relevant authorities within the community as ignoring the cultural chain of command could be destructive to the research. Materials/mediums used in all PRA techniques should be appropriate to the context and not result in exclusion due to different genders, ages, literacy levels etc. Any information generated locally should stay behind with the local people, with the researcher ensuring that any maps, drawings, voting exercises are copied to a local leader. Notes on each exercise should be captured immediately, as the depth of PRA is in the details. It is very important to report back the findings to the community as part of the process and if possible, by community members. The researcher has an obligation to communicate progress, follow-up on any requests and if appropriate return to the community after research is complete and make a final report and vote of thanks (PRA Handbook, 1993)

Several PRA techniques were used in this research. All except for the transect walk were used in a workshop context. Group discussions are a platform for sharing of information, analysis, review and decision making. In this way, change can be brought about in an accountable manner. Within the workshop groups, smaller discussion groups were used to allow the more reserved members of the community time to voice their opinions (Motteux, 2002).

The workshops were structured in a similar way to Foster's (1995) *problem specification workshops*. This involves a three-stage process:

Stage1: identification of the key elements of the problem and the barriers to change. This outlines the constraints and opportunities for growth;

Stage 2: the exploration of options for improvement and ways to overcome the constraints;

Stage 3: setting goals and making decisions in order to bring about change.

These structured workshops are an effective means to address complex issues and have community specific solutions that have broad community support.

This approach was followed loosely in series of four workshops. The aim of the workshops was to discuss the changes that Free Basic Water would bring to the community. The community had been paying for their water (R7 per household per month) since the

commissioning of the water system, and would no longer need to pay. The workshops were designed to help the community decide whether they wanted to now change their focus to another development priority and use their monthly contributions to fund the project.

The first workshop was an introductory workshop to help the community to think about the change coming, and the possibilities for new development. This was facilitated using the skills assessment, ranking and voting techniques explained below in workshop one. An educational field trip (workshop 2) was included to discuss options for sanitation in the area, which had emerged as the top development priority. The third workshop was a report back on the field trip and a costing exercise for the community to work out for themselves how much it would cost to build latrines. The aim of workshop four was to help the committee and the community to come to a decision on whether or not to keep the community levy for another shared goal, after the introduction of the free basic water. In order to achieve this, the community had to explore the options that came out from the previous workshops.

4.3.3.1 Transect Walk

A walk through the community with key informants in order to observe, question, build up background knowledge and find out the context of the issue under investigation. The primary aim is to begin to understand the community and be exposed to the geographical and sociological make up of the area (PRA Handbook, 1993).

A casual walk through Nhlungwane with a few community members, including those in the water committee, was the initial information gathering, relationship building and orientation exercise. This was a useful foundation for the community mapping, interviews and workshops.

4.3.3.2 Community Mapping

Mapping is drawing a picture of the area in question. The map can show whatever information is needed and can be used to start conversations on matters of interest. The map can show social, geographical, historical information (PRA Handbook, 1993).

At Nhlungwane, the primary interest was in their water resources and related issues. A resource map was drawn to show where crops are planted, where livestock are grazed, where all the different water sources are, and where future development (related to water usage) was desired. Approximately 25 people participated in a community mapping exercise. Most of the participants were females, however the sun was very hot and the men turned out

to be the most active during the exercise. A few women observed from the shade of a tree while others got involved during the discussion.

4.3.3.3 Skills Assessment

This tool is used to help both the participants and the facilitator gain a better understanding of the current activities and skills of the community. A series of flash cards depicting 'skills' or 'tasks' are used to represent the activities that are a part of daily living. These are used to generate discussion, and then the participants are required to identify those flashcards that are appropriate to their community. These cards are then arranged by the community into gender categories – which promotes further discussion. From these flashcards, those activities that are not currently a part of the community, but are desired, are mentioned and discussions around development needs arise.

This technique was used in the first workshop which was focussed on identifying all the activities in the community that were linked to income generation and/or sustainable livelihoods. An extensive set of pictures was used depicting different tasks, and the participants divided these according to gender roles and responsibilities.

4.3.3.4 Ranking

This is the identification and prioritising of issues through discussion groups and visual aids. The groups have to come to a consensus as to what are the most important issues to tackle.

This was used in the first workshop, to follow on from the skills assessment. The large group split into smaller groups, and they ranked all these pictured tasks by priority. In this ranking procedure they were asked to decide what were the most important activities in the community, and which of these needed "developing". Much debate ensued but each group eventually ranked all their picture cards.

4.3.3.5 Voting

This is an extension of the ranking exercise, and is used in order for individuals to vote on their priorities after the discussion and ranking process has occurred. The voting is a personal decision based on all the discussions and exercises preceding the vote. This is a means of making a final decision on the way forward, and ensures that each person has a 'voice'.

This technique followed the ranking, after which the groups were given two mielie kernels each and asked to vote for their first and second priority for development. From each group a

spokesperson was chosen to present their first and second priorities, and motivate their choice. After these motivations, the top scoring cards in each group were placed in the centre of the room and each person was given only one mielie kernel. Each person then voted again for their priority issue.

Some of the advantages of using these techniques are: full participation; flexibility; opportunities for facilitated discussions; time to observe; and the affirmation of indigenous knowledge. These advantages lead to some disadvantages, namely that the process is highly reliant on the skill of the facilitator. The facilitator can either highlight the advantages mentioned - resulting in a productive, useful process - or can interfere in the learning process and cause the results to be a reflection of his/her interests or misunderstandings. It is therefore imperative that PRA facilitators are adequately trained and that they work in a team to minimise these disadvantages.

In this research, these techniques were combined to facilitate both information generation, and community planning. The transect walk and interviews took place within the every day activities of the community life and were conducted whilst the facilitator was hosted in the community. The whole process took place over approximately 3 months, to allow for the lessons learnt in the workshops to be disseminated and discussed within the community. The implementation of these techniques is a vital part of the research process, and is described in Appendix 1.

4.4 Conclusion

This chapter has detailed the researcher's approach from a broad theoretical framework to the specific practical techniques chosen to obtain the findings. These methods and techniques provide a firm foundation for this research.

CHAPTER 5: CASE STUDIES

5.0 Introduction

This chapter provides an introduction to the five case studies, starting with a brief overall orientation and then a case-specific discussion on the background; Free Basic Water Policy; income sources; and institutional arrangement.

Five case studies within the provinces of KwaZulu-Natal and the Eastern Cape were chosen. The location of each case study is shown in Figure 5-1. These case studies are at different scales, and provide insight into rural water supply management at different levels and different institutional arrangements.

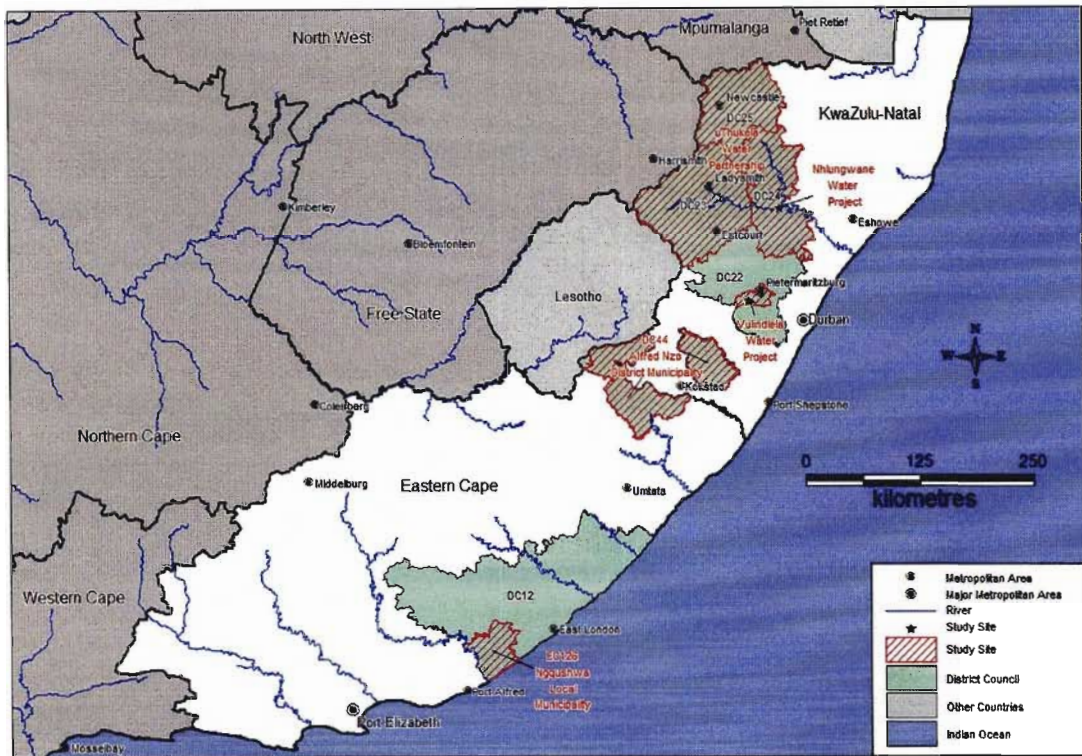


Figure 5–1: Location of case study areas

The uThukela Water Partnership has been contracted as the regional water service provider (WSP) for three district municipalities in the Tugela Basin. On the 1 July 2004 they began operating as WSP, but at the time the primary research process was complete and no follow up was done. The case study outlines the 30 year Strategic Plan of the partnership and then compares this with historical data (AquAmanzi) from the region and project budgets planned

by the partnership. The data from AquAmanzi forms a mini-case study within the uTWP study of the experience and costs in the region.

The Alfred Nzo District Municipality is a WSA in the eastern part of the Eastern Cape and has been implementing Free Basic Water since July 2001. The case study tracks their experience thus far, outlining their costs, institutional arrangement and effectiveness. The study focuses on the Umzimvubu area where the Maluti Water Support Service Agent (SSA) operates.

The Ngqushwa Local Municipality in the Eastern Cape, is part of the Amatole District Municipality (the WSA). These municipalities have not officially implemented a Free Basic Water policy due to institutional problems. Ngqushwa LM is not the only municipality in this predicament, and thus this is a valuable case study highlighting the obstacles to implementing FBW in rural areas. The Ngqushwa LM is indirectly implementing a FBW policy in that they were paying for water supply for the rural areas from the equitable share with no income from beneficiaries.

The Vulindlela Water Project is found within the uMsunduzi LM (the WSA) in KwaZulu-Natal. It is a single project but serves a very large population. This case study focuses on the management of FBW implementation at project level, and the challenges of cost recovery.

The Nhlungwane Water Project is a small stand-alone scheme managed by the local community. Their approach, costs, strengths, and weaknesses are all different from any of the other case studies. This case is important in illustrating an alternative option for rural water supply. The case study also records the process of transition from an autonomous community water scheme, to one that is government subsidised with outside management by uThukela Water Partnership, as a result of FBW.

It is important to note that a key element in establishing the affordability of Free Basic Water is level of indigence. The official poverty line in South Africa is defined as those households earning less than R 1100 per month. However, municipalities have their own definitions which they use in determining their FBW policies. To further complicate the issue, the National Treasury calculates indigence based on both income and expenditure. Equitable Share is allocated according to these 'imputed income' figures. These discrepancies result in serious affordability issues, money allocated is often insufficient when applied using municipal figures. Further discussion on these poverty indicators does not fit within the aim and objectives of this research, but the importance of correct and consistent use of data is

emphasised. In these findings, the municipal definitions (which vary in the different municipalities) are used, as these are ultimately used at the water service provision level.

As the municipalities develop, implement and improve, their status is continually changing. For the purposes of this research, a cut off date for updating details was made in June 2004. For this reason, references to changes after that date have not been followed up and amended and remain as planned changes.

5.1 uThukela Water Partnership



Figure 5–2: The area serviced by the uThukela Water Partnership

5.1.1 Background

The uThukela Water Partnership is a multi-jurisdictional municipal service provider for water and sanitation services. It is a joint initiative of three district municipalities in north-western KwaZulu-Natal, namely Amajuba, uMzinyathi, and uThukela and is the third largest Water Services Provider (WSP) in South Africa. The region is primarily rural and has no large cities, only a few towns such as Greytown, Ladysmith, Dundee and Newcastle. The area covers 26 318 km² and has a population of 1.78 million. There are 284 777 households in the region, implying an average across urban and rural settlements of 6.3 persons per household (according to the Section 78 study of 2003). Table 5-1 below details the demographic information for the region:

Table 5–1: Demographic information for the uTWP region

	uThukela	uMzinyathi	Amajuba	Newcastle	Total
Primary Info source	SP2030*	WSDP**	WSDP	WSDP	
No. customers	125 108	80 634	29 381	70 692	305 815
Population	629 751	615 973	176 975	364 956	1 787 655
Indigent customers	113 336	74 990	19 746	38 579	246 651
% indigent customers***	91%	93%	67%	55%	81%
Customers serviced	82 058	26 609	3 791	46 682	159 140
% customers serviced	66%	33%	13%	66%	52%

* Strategic Plan 2030 ** Water Services Development Plan ***Estimates given in the relevant documents. Criteria unknown

Following the general election for local government in December 2000, the role of local government was more clearly defined, and responsibility for water and sanitation provision was placed at this level. The official allocation of 'powers and functions' allocated the role of Water Services Authority to the district municipalities (DMs) of Amajuba, uMzinyathi, and uThukela, and to the Newcastle LM in this area. In response to this, the three district municipalities, together with the support of the 11 local municipalities began the process of establishing a multi-jurisdictional municipal service provider for water and sanitation services – the uThukela Water Partnership (uTWP). This partnership was decided upon after a study conducted by the Department of Water Affairs and Forestry, which concluded that it would be the most cost effective manner of meeting the needs of the large indigent population in the region (www.uthukelawater.co.za, 2004). The uTWP will be the water service provider, under contract to provide water services on behalf of the DMs. These services will include the supply of potable water to all communities, businesses, industry and other users, as well as domestic waste-water and sewage disposal systems (uTWP, 2002a).

In 2002, Ceenex (Pty) Ltd was contracted to develop a planning document for the uTWP. The uThukela Water Strategic Plan SP2030 is a “comprehensive, integrated, dynamic water sector long term plan, for urgent implementation, for the sustainable provisioning of safe, acceptable, and affordable water and sanitation services” (uTWP, 2002a pg 5). This plan details every aspect of the delivery of water and sanitation until the year 2030. The mandate for this plan is to find the best way for uTWP to operate - answering how, when and at what cost (uTWP, 2002a). Two scenarios were developed, an optimal and a marginal. These are outlined below.

The *optimal scenario* will aim at providing a low pressure/full pressure water connection to 98% of customers within 7 years. This water will be supplied through a centralised water infrastructure system that is part of the plan. A transaction processing system for billing and receipting is to be set up for all customers. The optimal scenario will require capital funding of R 3 281 million.

The *marginal scenario* will provide a basic service (standpipe) to all customers not presently serviced. There will be no major infrastructural changes and the present decentralised system will continue. The marginal scenario will require capital funding of R980 million.

At the time the plan was drafted the three district municipalities had secured the following funding for 2002/2003:

R237 million from the Department of Water Affairs and Forestry
R18 million from the European Union
R65 million from the Consolidated Municipal Infrastructure Programme
R320 million in total

Thus for both the optimal and marginal scenario, further external funding is required to meet the objectives of the SP2030. Whereas the marginal scenario should be achievable using *expected* future funding flows from DWAF and CMIP, the optimal scenario will not become a reality unless very significant external grant funding sources are realised (uTWP, 2002a).

5.1.2 Free Basic Water Policy

The uThukela Water Partnership does have a Free Basic Water policy, but due to the partnership not being fully functional as yet, the three district municipalities still have different policies. These policies will be replaced by the following once the partnership has taken over as water service provider:

The Free Basic Water policy in the uThukela Water Partnership areas will be determined by service level. There are three levels (Johnston, 2003):

- Street standpipe – free. This standard policy recognises that consumption at street standpipes is typically under the 6kl/family/month limit. Any rudimentary system (e.g. hand-pumps) also fits into this category;
- Household connections with restricted flow – flat rate of R18.00 per household per month. A broad based cost analysis was undertaken to reach this figure, and covers the use of 3.3kl per household per month; and
- Full pressure connection – a flat rate charge of R18.00 per household per month until the 6kl is exceeded. Thereafter the current ‘normal’ tariff would apply.

The uThukela Water Partnership aims to upgrade all water supplies to piped connections by the year 2030.

5.1.3 Envisaged Income Sources

- Tariff income – tariffs will be standardised across the district municipalities and will be increased so that cross-subsidization will be possible. This will be helped by the implementation of a uniform bulk tariff (the figures for these tariffs are not known) (Johnston, 2003);
- Equitable share – R20 million (Financial Year 2003) (SP2030, 2002); and
- Water tax – R11 million (Financial Year 2003) (SP2030, 2002).

5.1.4 Institutional arrangement

The institutional arrangement is not yet finalised, but is unlikely to change significantly from that which is set out in the SP2030 document:

5.1.4.1 The water service authority (WSA)

The three district municipalities will remain as three separate WSAs although there was a suggestion that one multi jurisdictional joint WSA will be formed and referred to as the uThukela Water Regulator. This is not legally possible. Below is the proposed institutional arrangement for the uTWP as WSP, and how it will relate with all the contributing parties. This is presented as a very complicated arrangement which is difficult to understand. However, it has been included to illustrate the impractical nature of the SP2030 plan.

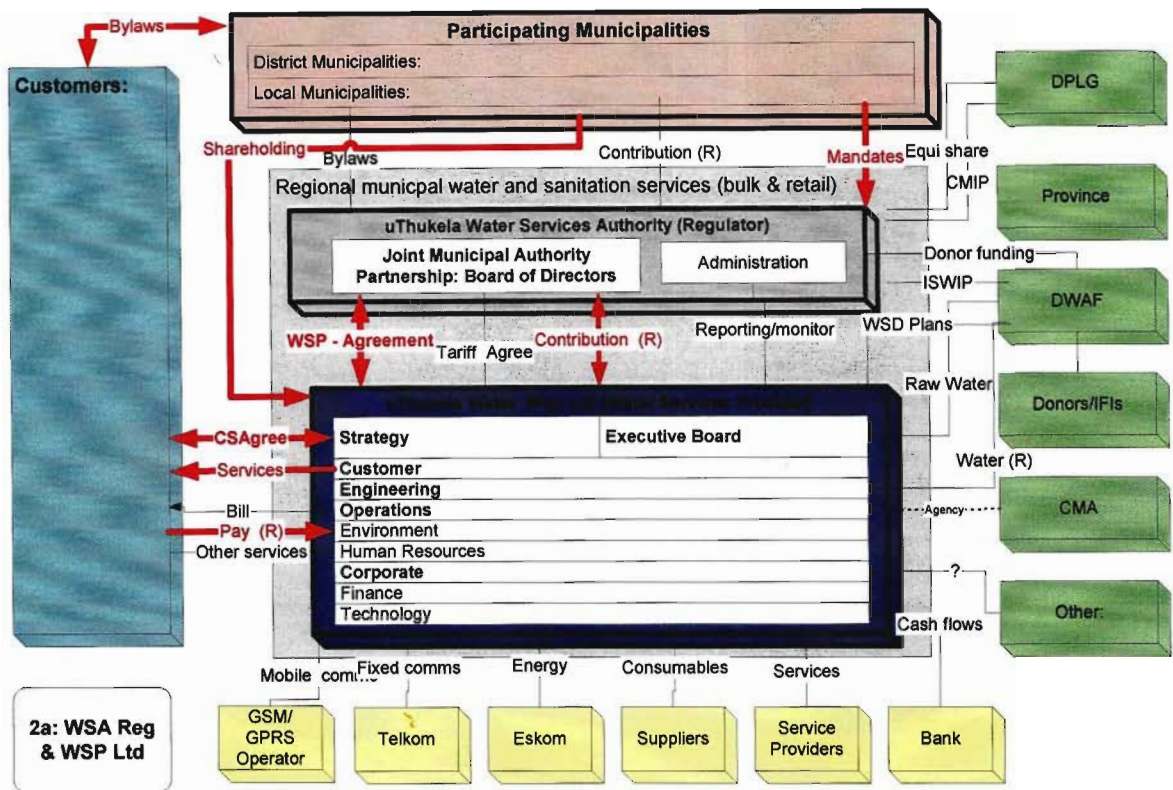


Figure 5-3: Proposed Institutional arrangement for the uThukela Water Partnership (SP2030, 2002 pg 38)

5.1.4.2 The water service provider (WSP)

The WSP for the uTWP was set up as follows:

Participating municipalities fully own the uThukela Water Company. The uThukela Water Services Provider is a private company (Pty Ltd) and will comply with the Public Finance Management Act. The uThukela Water company has entered into a long term agreement with the WSAs for the services delivery of water and sanitation. All water related assets and water staff have been to the company.

It is unknown at what stage of implementation the Partnership is in, but at the time this research was undertaken, it was planned that uTWP would subsidize tariffs as per the FBW policy, and then be compensated by the WSA for the costs incurred. Users would enter into a contractual agreement with the uTWP and pay the uTWP for services delivered. Any profits made by the uTWP would be reinvested or paid out to its stakeholders (i.e. the Water Service Authorities of the region).

5.2 Alfred Nzo District Municipality

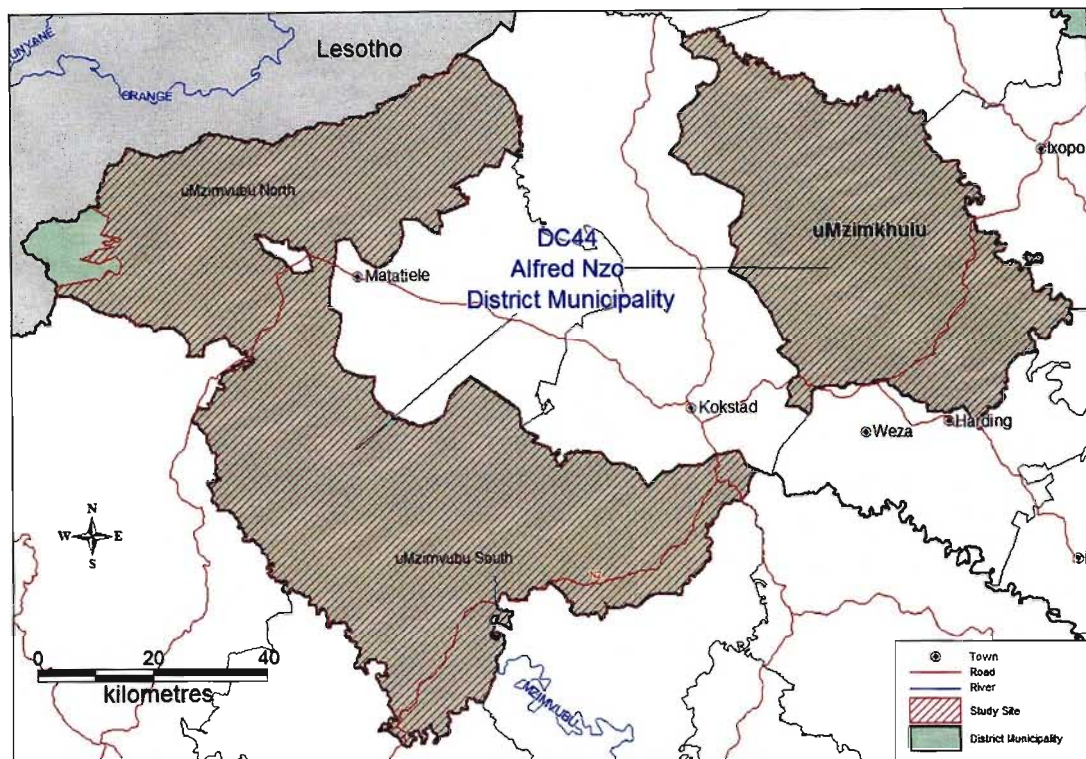


Figure 5-4: Map of the Alfred Nzo District Municipality

5.2.1 Background

The Alfred Nzo District Municipality (Alfred Nzo DM) is located in the poorest province in the country - the Eastern Cape. It is divided into three areas: Umzimvubu South, Umzimvubu North, and Umzimkhulu (see Figure 5-4). The Alfred Nzo DM has a population of 635 845 of which 552 813 are classified as poor (i.e. the monthly household income is below R1 100) (DWAf website, Jan 2004). There are no major cities in the Alfred Nzo DM and only a few towns, such as Umzumkhulu, Mt Ayliff, Mt Frere and Maluti, thus most of the population (approximately 400 000) is rural. There are 560 rural villages of which 350 have a water supply – 40% at the RDP level and 60% at a rudimentary level (Zellhuber, 2003). In terms of the 'powers and functions' the DM is the water services authority.

In the year 2000 a study of the water schemes in the DM was undertaken by the Mvula Trust, in order to develop a way forward for the management of rural water schemes in the DM. From the findings of this study, the DM decided to accept the principle of community based management for Alfred Nzo. The rationale for this was as follows (Lebenya, 2002):

- most of the schemes use simple technologies that are understood by local communities;

- the cost of operating and maintaining these schemes is low due to the simple technology; and
- vandalism is better controlled by a respected institution within a community.

Although this principle was agreed upon, it was understood that this could not be immediately implemented, but was rather a goal to work towards - thus, the need for Support Service Agents (SSAs). In the beginning of 2001, three SSAs were contracted by the district municipality, and as a first step they undertook a technical and social assessment of all the schemes within their given areas of responsibility. Once this information was gathered, intensive workshops and discussions were held on the procedures for the appointment of WSPs. Combining the feedback from these discussions, and the DWAF guidelines for implementation the *Village Level Action Plan* was developed. This plan outlines the FBW policy and strategy for Alfred Nzo District Municipality (Mvula Trust, 2001). Much of the information in section 5.2.4 is sourced from this Action Plan.

5.2.2 Free Basic Water Policy

The FBW policy is determined by service level:

- Water supplied via basic systems such as hand-pumps and communal tap-stands is free; and
- All households with yard connections, as well as businesses and institutions, to pay a flat rate of R5 /kl (Jan 04) for water. This however has not been enforced, as it is not cost efficient for the DM to do so. It was calculated that it would cost the DM R16 per customer to enforce this policy (Gibson, 2003; Lenehan, 2003; Zellhuber, 2003).

The policy aims at providing for the poor, and those with private connections are not viewed as poor. House/yard connections are discouraged, and anyone requesting a connection is responsible for all connection costs (Gibson, 2003; Lenehan, 2003; Zellhuber, 2003).

There has not been much need to develop a policy more complex than this, as the consumption in the water schemes is, in most cases, below the 6kl limit, and there are very few private connections (see Table 5-2 below):

Table 5–2: Consumption at some of the water projects in Umzimvubu North (Maluti Water, 2003)

Project	Population	Average Consumption July 02-July 03 (kl/mth)	Average Litres/cap/day July 02-July 03	Average %FBW allocation used July 02-July 03
George Moshesh	20 586	30 471	48	194
Tsita	5 280	2 695	10	42
Madlangala	1 872	873	17	70
Madlangala ext	14 976	7 500	17	69
Masakala	3 672	1 058	13	53
Mzongwana	11 196	1367	11	42

Note: There are a large number of private connections at George Moshesh

However, some parties expressed a concern regarding the attitude towards private connections, as the demand for them is increasing in communities. If there is no policy enabling private connections, illegal connections may become costly for the DM - with no mechanism for tariff collection, consumption is very high and the problem cannot be contained. This is being shown in a village called George Moshesh (see Table 5-2 above) where illegal connections not only supply water for domestic use, but also for businesses. (Gibson, 2003; Lenehan, 2003; Zellhuber, 2003). A billing system may be set up in the future, but at the moment this would cost the DM more than they would collect from users.

The functions of the water service providers are currently split between the communities and the private sector SSAs. Community level Project Steering Committees are responsible for overseeing the daily operation and maintenance activities, and report to SSAs. The SSAs are responsible for all other WSP functions. While doing so, the SSAs are required to mentor the community so that the functions can be handed over in the future. The goal is to develop Community Based Organisations that are registered legal entities, and are formally contracted to the DM as WSPs (Gibson, 2003; Lenehan, 2003; Zellhuber, 2003).

5.2.3 Income sources

The programme is in its third year of implementation. Funding has increased each year as the programme has proved its effectiveness and efficiency and has accordingly been extended to new areas. In the first year (2001) a budget of R4 million was allocated. In the second (2002), R11.4 million, and in the third it was increased to R19.4 million. For the 2003 financial year the breakdown of the source of these funds was as follows (Zellhuber, 2003):

- R6 million of equitable share funds for FBW allocation;

- R10 million of equitable share funds for operation and maintenance of the water projects; and
- R3.4 million from the Department of Water Affairs and Forestry (Operate Train and Transfer funding)

5.2.4 Institutional Arrangement

The DM has developed a structure that defines the relationship and functions of the different parties needed for effective and efficient implementation of FBW in rural areas. The success of this institutional arrangement lies in the partnership between government, the private sector, and civil society. This arrangement is not permanent as yet, instead contracts are renewed annually. This is due to political reluctance to privatise. It is hoped that the efficiencies of this current arrangement will soon be recognised by the politicians and that it will be adopted on a permanent, long term basis.

All the information on the institutional arrangement was taken from the Mvula Trust *Village Level Action Plan* (Mvula Trust, 2002).

The following organogram shows the structure for each project:

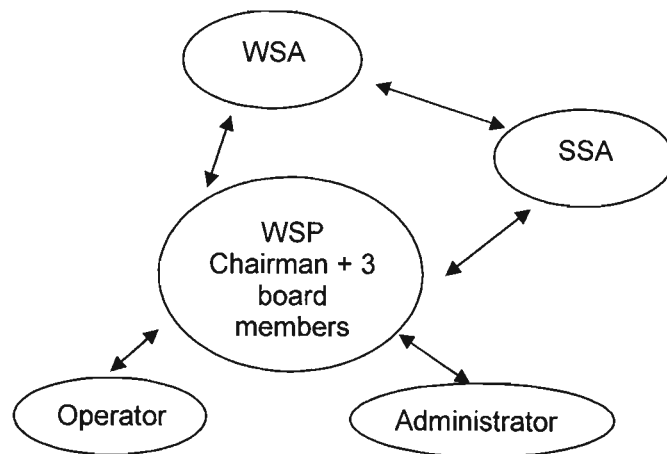


Figure 5–5: Institutional arrangement for water provision

5.2.4.1 The water service authority

The DM is the WSA and is responsible for ensuring that water supply is efficient, affordable, and sustainable. However, as the municipality has only 5 staff employed in water and sanitation, the DM realised that working alone they are unable to fulfil this responsibility. As a result, the WSA now fulfils a management and co-ordinating role. Inter alia, this includes all of the 350 villages with water supplies.

The WSA provides by-laws and policy, contractual agreements, funding, and the planning and provision of water services. Monthly meetings are held with the three SSAs to discuss the villages under their care, reports are collated, budgets managed and provincial government and other authorities are reported to.

5.2.4.2 The water service provider

The WSPs have not yet been formalised. The goal is for the Village Water Committees to be fully functioning WSPs in the near future. This involves training and capacity building, and a complex legal process. This legal process has provided a number of barriers and the district municipality, in conjunction with the Support Service Agents, are challenging policy at present so that the process can be completed.

The WSP, when fully operational, will be a legally constituted and registered entity that will be responsible for ensuring that water supply is reliable and safe and that consumers are satisfied. This includes: customer relations, administration, management, general maintenance, minor repairs, daily operation, and liaison with consumers and the WSA.

The WSPs will be appointed on a two year performance-related contract by open invitation. A public information meeting will be advertised and held within the local community. At the information meeting, the invitation document will be explained and made available, with the closing date for applications made clear. Any interested party will need to complete the invitation document and hand it in on or before the closing date. On the closing date, another public meeting will be held to discuss all submissions, and a public adjudication will be held at this meeting. Ward councillors, district municipality representatives and the Support Service Agent will attend this meeting. The adjudication will not result in the appointment of the WSP, but will rather provide a forum for the community to voice their opinion. From the meeting, recommendations will be forwarded to the WSA for final appointment. Only the WSA can appoint the WSP. Once the appointment is final, the SSA will commence the legalising, registering and development of the WSP. The WSP will be an Association, registered as a Non Profit Organisation.

The proposed structure for each WSP is as follows:

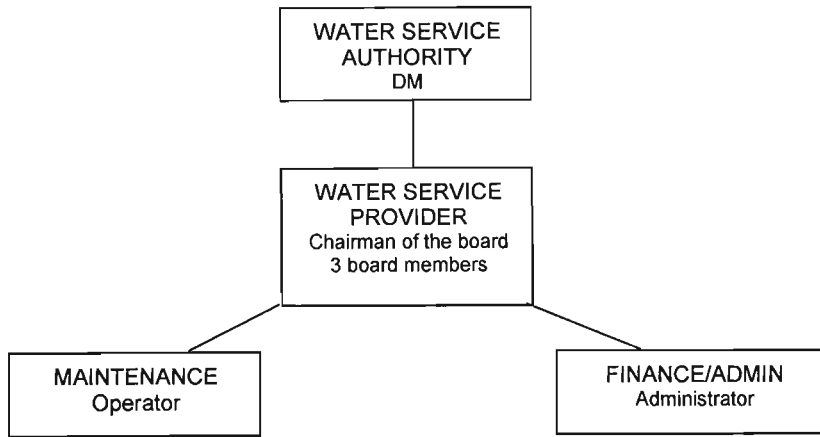


Figure 5–6: Proposed WSP structure

5.2.4.3 The Support Service Agents

The SSAs are appointed to assist the WSPs to function effectively. They mentor the WSPs in all aspects of running their water systems; link the WSA and the WSPs; assist the WSA in monitoring the WSP; facilitate the funding flow from WSA to WSPs; and assist the WSPs with the procurement of materials and services.

These are the basic functions and responsibilities, but the SSAs are also responsible for any other functions and responsibilities that either the WSA or WSP does not have the capacity to fulfil. Because of the extensive responsibilities placed on the SSAs, it is essential that these organisations have sufficient experience and staff to manage the complexities of the projects. They are fundamental in the success of the programme implementation.

The SSAs were employed on a two year performance-related contracts which ended in July 2004. At present they are employed on a month-to-month basis, with no formal contract.

5.3 Ngqushwa Local Municipality

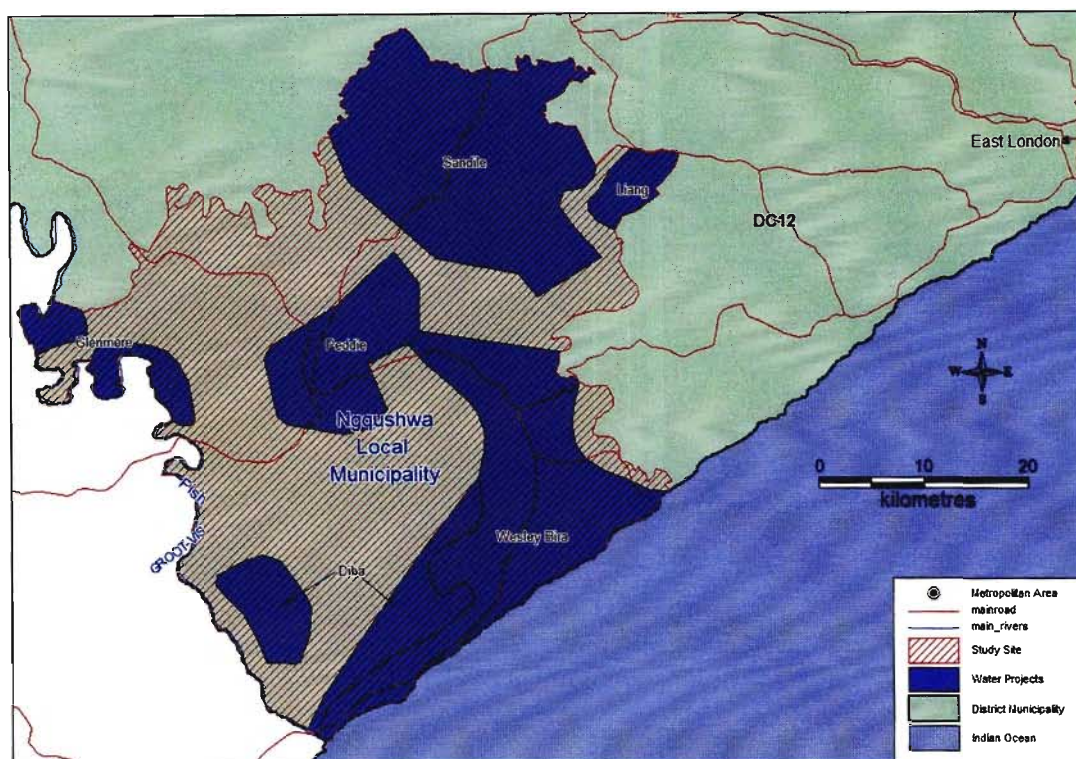


Figure 5–7: Ngqushwa Local Municipality

5.3.1 Background

The Ngqushwa Local Municipality is situated in the Amatole District Municipality, Eastern Cape Province and has a population of approximately 140 000. There are 14 wards in the local municipal area. A large proportion of the area is supplied by bulk water supply schemes as indicated in Figure 5-7 above. All of the bulk water supply schemes are operated and maintained by the Amatola Water Board. The remainder of the area is served by hand-pumps, windpumps, and stand-alone standpipe schemes. The Amatole DM is the water service authority and at present is in the process of developing a FBW policy. FBW is being supplied to the rural schemes by default as there is no cost recovery system in place. Before the authorisation of powers and functions, the Equitable Share went to the local municipality and it paid the Amatola Water Board. Now as the WSA, the district municipality is invoiced by the Water Board for the bulk schemes under their management (Palmer Development Group, 2002).

In 2001 the National Strategy Task Team on Free Basic Water (STT) chose the Ngqushwa LM to be a Free Basic Water pilot municipality, as it is a poor, largely rural municipality with a variety of water supplies ranging from hand-pumps to bulk supply schemes. This

environment was considered to be one of the most challenging for implementation and the process would result in valuable lessons for other municipalities. The pilot project was managed by the Palmer Development Group who facilitated the workshops and the investigation process. From the information gathered, recommendations for the local municipality's institutional arrangements, FBW policy, and budgeting were made (Palmer Development Group, 2002). These were, however, not implemented as the municipality was not satisfied with the methodology used by the Palmer Development Group. Due to a lack of actual costing available for this pilot, the Ngqushwa LM was very enthusiastic when the Mvula Trust proposed this WRC Free Basic Water study. The aim of this research was to take the PDG pilot to the next level and do a detailed historic costing of water supply in Ngqushwa and then do conceptual comparative costing of various institutional arrangements, projecting what needs to be budgeted for the long term provision of FBW. The written report for this study (de Jager, 2003) was used to compile this case study - unless otherwise referenced, all information for the Ngqushwa case study was sourced from the report and the author. The findings in this research were met with approval by the LM and DM. To date no changes have been implemented as the DM is awaiting completion of the Section 78 assessment currently underway (by law the DM is not allowed to make decisions until this assessment is done). Once this Section 78 is complete, decisions will be made and a FBW institutional arrangement will be chosen and implemented. The current status of the Water Board providing bulk services, the DM and DWAF providing operations and maintenance prevails on the rural schemes and distribution networks.

One of the key objectives of assessing FBW at this LM level is to determine the affordability of paying for all water services from the ES, and how critical cost recovery will be.

5.3.2 Free Basic Water Policy

There is, at present, no official Free Basic Water policy; however, the current situation on the ground is as follows:

- Those with rudimentary supplies have never been charged for water, and use less than 6kl, so there is no need for monitoring water usage of these supplies;
- The rural areas serviced by the bulk supplier, Amatola Water Board, receive FBW as the municipality pays the Water Board for the bulk water cost of supplying 6kl/hh/month; and
- All other users pay for all their water (mostly resorts and large institutions)

5.3.3 Income Sources

The LM is heavily reliant on the Equitable Share due to low cost recovery. There is income from businesses, peri-urban settlements and resorts, but this is limited as there are only a few. DWAF has an annual budget for operation and maintenance of the water systems they built, but this is used at the discretion of DWAF and is not available to the municipalities.

According to the Palmer Development Group report (Palmer Development Group, 2002), the income in 2001 was as follows:

Equitable Share:	R2.7 million
DWAF:	R2.7 million
Customer bills:	R0.6 million

The DWAF subsidy is only temporary and will be phased out in the coming years, and customer revenue has decreased since then, with the 2002 revenue being R262 000. This shows that unless there is an effective cost recovery system put in place, the LM will be almost completely reliant on the Equitable Share.

5.3.4 Institutional arrangement

The weak institutional arrangements for managing water services in rural areas have been the major impediment to the implementation of the FBW policy. The Ngqushwa Municipality inherited the capacity of the former Peddie and Hamburg TLCs and is responsible for water services in these areas, as well as *ad hoc* operation and maintenance of the surrounding peri-urban areas. There are village water committees in some schemes that are responsible for preventative maintenance, but this is not monitored and thus it is not known to what extent this is actually happening.

DWAF is responsible for five schemes in the area, but are also understaffed. The entire western half of the Eastern Cape (Amatole DM and Chris Hani DM) is served by one district office that has only eight staff members. This has resulted in an *ad hoc* crisis management approach.

The Amatole DM is responsible for operation and maintenance in the remaining rural areas but also has inadequate staff. As a result the DM is in a constant state of crisis management. There is no time to plan or to do preventative maintenance. Instead, repairs are on a first come first served basis, and are also affected by political influences. To increase the confusion, the DM and DWAF perform similar functions in overlapping regions. There is a

duplication of roles and responsibilities and no co-ordination between the two teams. Thus, the meagre capacity is further reduced.

This situation is not indicative of the scale of the system, but rather an example of the limited capacity of rural local municipalities that do not have adequate resources or experience to implement FBW.

5.4 Vulindlela Water Project

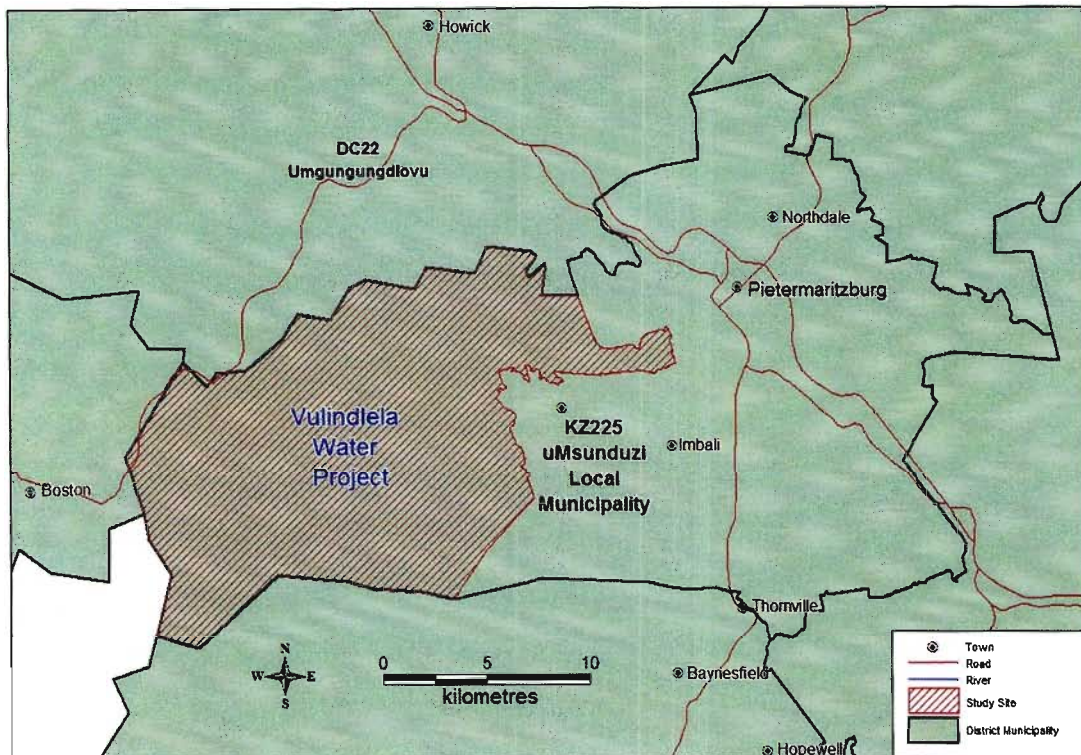


Figure 5–8: uMsunduzi Municipality, showing area covered by the Vulindlela Water Project

5.4.1 Background

Vulindlela lies to the west of the city of Pietermaritzburg in KwaZulu-Natal. The scheme covers 500km² and serves a population of approximately 122 088 (Umgeni Water, 2000). Umgeni Water (the parastatal water utility which supplies water to the Pietermaritzburg and Durban region) constructed the project during the period 1994 - 2000, and is still performing a large proportion of the WSP functions as well as operation and maintenance. The water service authority (WSA) is the Pietermaritzburg-uMsunduzi Municipality (KZ225).

Water supply for the scheme comes from the Midmar treatment works via a pump station in Groenekloof. This bulk supply is then pumped to five bulk reservoirs, and gravitated to 14 smaller reservoirs. Up to this point it is considered the bulk supply. From these 14 reservoirs, smaller diameter reticulation systems service 19 areas by gravity. Each of these areas has a branch office that is managed by a branch office committee. These committees liaise with the Vulindlela Water and Sanitation Committee who deal with Umgeni Water. There are currently approximately 11 000 active private connections in the area (i.e. approximately 50% of the families have connections). This low number is due to two reasons: there are a number of households that do not have yard connections, and thus use rudimentary supplies or obtain their water from a neighbour's yard tap; and there are also a large number of disconnected yard connections due to non-payment (these disconnections were pre-FBW). There are no public standpipes in this scheme (Umgeni Water, 2000).

Before the announcement of Free Basic Water, a business plan for a transition process from Umgeni Water to the uMsunduzi Municipality was drafted (Umgeni Water, 2000). This business plan proposed a three year trial period as a training and capacity building period after which the scheme would be handed over to the water service provider and water service authority for full operation and maintenance responsibility. However, this business plan was not finalised due to the changing government policies (Shangase, 2003). Umgeni has continued to operate and maintain the scheme thus far. The final transfer of responsibility was due to occur on the 1 July 2004 (Lilmohun, 2003) but has not occurred to date.

5.4.2 Free Basic Water Policy

Umgeni Water does not have a FBW policy of its own and is not required to do so. Vulindlela falls under the jurisdiction of the uMsunduzi Municipality (the WSA), and Umgeni Water has been instructed by the municipality to maintain the tariff as it was before FBW (R6.08/kl), with the only change being that the first 6kl is free. The uMsunduzi Municipality then pays Umgeni Water for the total FBW usage at Vulindlela (Lilmohun, 2004).

5.4.3 Income sources

Umgeni Water has always subsidised the operation of the Vulindlela Scheme. This subsidy was not foreseen at the time the scheme was planned, but like most rural schemes, Vulindlela has always run at a loss, and Umgeni Water has met these losses from its own reserves. However, due to the implementation of FBW in Vulindlela, the municipality now has the responsibility to pay for the FBW allocation used. From the implementation of FBW by the uMsunduzi in May 2002 until 30 June 2003, Umgeni Water sent a monthly consolidated bill to the uMsunduzi municipality for all customers using less than 6kl per month. All usage over the 6kl limit was then billed to the customer directly. From the 1 July 2003, uMsunduzi

officially took over the scheme. However, due to lack of capacity, the uMsunduzi requested that Umgeni operate the reticulation system on behalf of the municipality for one more year. Since this agreement, Umgeni Water has billed uMsunduzi for the total bulk supply of water. Umgeni Water also bills those consumers using more than 6kl, and all this revenue collected belongs to the uMsunduzi municipality. At present this revenue is held by Umgeni Water in a Trust account until such time as contractual arrangements have been finalised with the municipality. Negotiations are also underway for Umgeni Water to be paid by uMsunduzi for their services (Lilmohun, 2003).

5.4.4 Institutional arrangement

The current system of management for the scheme follows the standard Umgeni Water system (Umgeni Water, 2000):

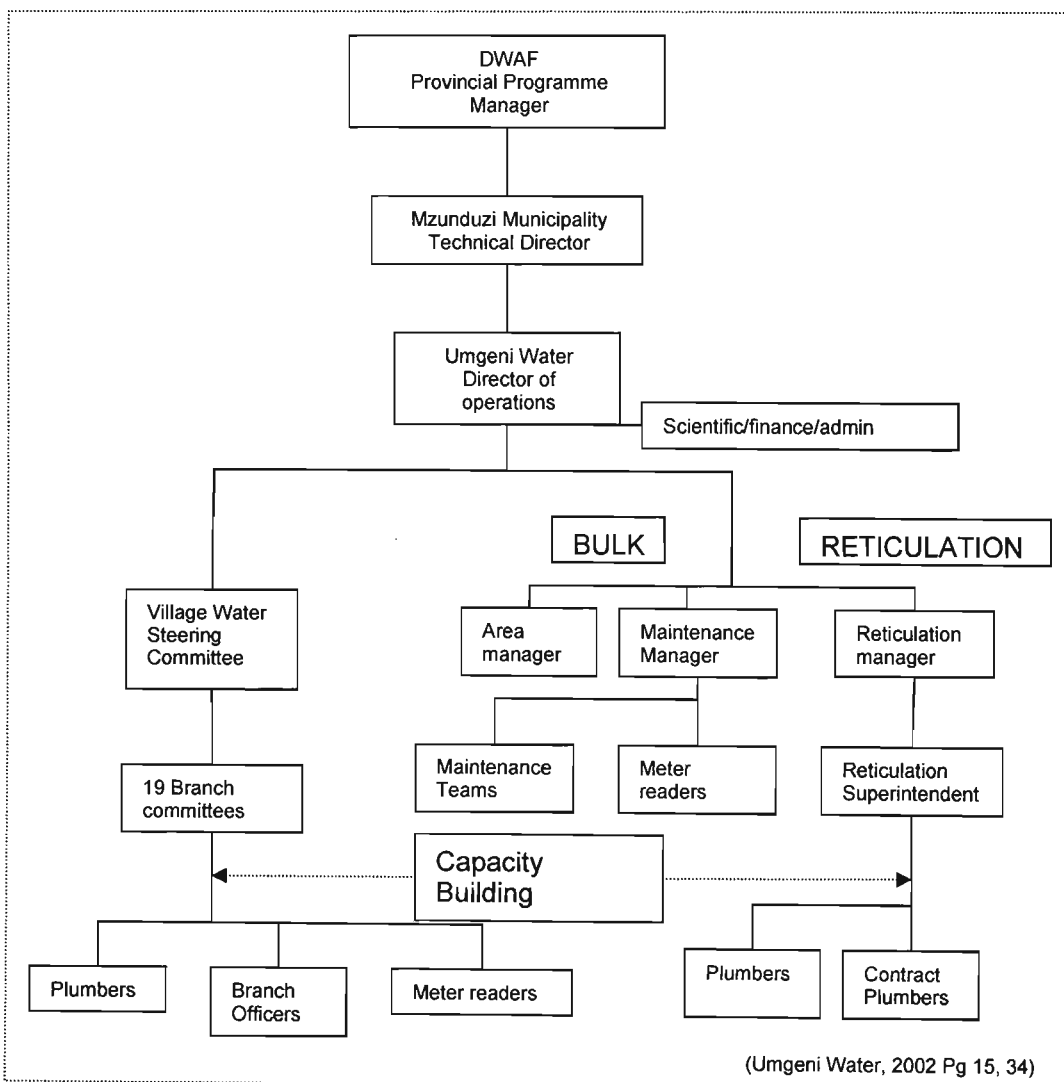


Figure 5–9: Generic Umgeni Management structure as applied to Vulindlela

This system was supposed to be temporary and Umgeni Water was to develop the local branch committees and the umbrella Vulindlela Water and Sanitation Committee into an effective management and communication structure. The aim was to gradually increase the roles and responsibilities of these local structures so that at the end of the trial phase (July 2003), the management of the scheme would align with the DWAF Guidelines for the Operation and Maintenance of Community Water Sanitation Strategy (CWSS) Projects, Version 1, March 1999. However, as stated above, this trial phase was not fully implemented, and Umgeni continued to manage the project. Water committees and administrators were trained and continue to function to date. The committees are involved in decision-making and problem solving and are responsible for ensuring a flow of information between the community and Umgeni Water. The administrators are situated in the 19 branch offices and are responsible for collecting finances, recording incidents and relaying these to Umgeni Water.

5.5 Nhlungwane Water Project



Figure 5–10: Location of Nhlungwane community

5.5.1 Background

The Nhlungwane Water Supply is located in the Msinga Local Municipality, in the uMzinyathi District Municipality, KwaZulu-Natal (KZN) (see Figure 5-10). The project was implemented in 1997 by the Mvula Trust. Since its inception, the scheme has been managed by the local community. The community, as a part of the uMzintyathi DM, falls under the jurisdiction of the uThukela Water Partnership. The DM did not implement FBW before the uTWP took over in July 2004, due to lack of capacity, and to date Free Basic Water has not been implemented by the uTWP – perhaps also due to lack of capacity. This case study was chosen in order to address the key question on how community managed systems will cope with the transition to Free Basic Water (WISA, 2003)

The scheme was built with a grant of R300 000 from the Department of Water Affairs and R24 000 contributed by members of the community. Water for the scheme is pumped from a borehole equipped with a submersible pump powered by a diesel generator. There are two separate rising mains, each filling two 30KI reservoirs. The reticulation system supplies 40 standpipes serving 220 homes (approximately 1 500 people) (WISA, 2003).

In 2002, the community won the Water Institute of Southern Africa (WISA) Award for Excellence in Rural Water Supply, for their efficient, committed management of the water scheme (WISA, 2003).

With this historical context, Nhlungwane was selected as a case study in the implementation of Free Basic Water in rural areas. This investigation was intended to answer the following questions:

- i.) In a case where a community has a good track record in managing their own water supply, will local government retain and make use of the skills built up in the community?
- ii.) If it is no longer required for people to pay for a basic water supply, will they be interested in, and prepared to pay for a higher level of water supply?
- iii.) Where good community disciplines have been established in paying for a community service (water), can that practice be transferred to a new development objective after the advent of Free Basic Water?
- iv.) What do the people of Nhlungwane feel about the transfer to FBW and the new management structure that will be implemented?

5.5.2 FBW Policy

The uMzinyathi District Municipality (the WSA) is part of the uThukela Water Partnership (which is the regional case study in this research, see section 5.1). The Partnership is the water service provider (WSP) for all schemes within the municipality. The partnership will work towards one standard policy, but at present each district municipality has their own policy which is determined according to what is affordable for that particular region. At the time of this research the FBW policy for uMzinyathi DM was 2.4kl per household per month. The local municipalities were contracted to manage all water projects in their area until such time as the uTWP has a functioning support programme (Johnston, 2004).

The uMzinyathi FBW policy at the time of the research:

- 2.4kl per household per month
- Community standpipes are to be provided at no cost and the Municipality will subsidize this service from the Equitable Share.

Thus, in the case of Nhlungwane, the community should not have to pay for water. Free Basic Water was due to be introduced at the beginning of 2003, was then rescheduled for January 2004 and to date has not been implemented. A decision was taken by the uMzinyathi DM that all payments for water paid for from July 2003 would be paid back to individuals as an acknowledgement that FBW should have been implemented in all communities by then (Johnston, 2004). This payback has not occurred to date.

5.5.3 Income Sources

Each household is required to pay a levy of R7 per month in order to receive approximately 2.4kl of water. There are 220 families in Nhlungwane, of which between 210 and 220 contribute. This gives a monthly income of R1 500.00. According to the committee, if a household does not pay for their water, they are denied access to the taps by the tap operators, and are thus forced to draw their supplies from the village hand-pumps. This strict implementation of the levy has helped the project to remain sustainable.

The uThukela Water Partnership is planned as the WSP for Nhlungwane. When this happens, the community will no longer need to collect the monthly charge for water. Therefore, unless otherwise decided by the community, there will be no income. The provision of water will therefore be funded by the equitable share.

5.5.4 Institutional Arrangement

All operations, maintenance and management of the project have to date been carried out by the community. The water system is run by the Village Water Committee (VWC) and two

local operators. All decisions, financial management and maintenance is carried out by either the committee or those employed by the committee.

The planned institutional arrangement is as outlined in Section 5.1.4 of this research, as the intended WSP is the uThukela Water Partnership. How this relates to Nhlungwane has been outlined in the uTWP's 30 year strategic plan (SP2030). The uTWP will manage rural schemes using roving plumbing teams that provide operation and maintenance support. A local operator will be appointed in each area, and will be responsible for liaising with the nearest service centre (for Nhlungwane this will be in Greytown). The operator will be an employee of the DM, and will be paid from the annual budget. The operator will be responsible for minor repairs, and will call for assistance when there is a major problem. The uTWP will be responsible for all functions of the water service provider, and there will be no outsourcing to Support Service Agents. The uTWP are planning a schedule of monthly visits to all schemes to ensure regular maintenance and support to local communities. uTWP plan to sub-contract local operators to continue their work where appropriate and report to the relevant staff of uTWP when assistance is needed. The plan for Nhlungwane is to employ one operator who will be responsible for the Nhlungwane Water Project and other neighbouring water supplies (Johnston, 2003).

5.6 Conclusion

The chosen case studies vary greatly in scale, level of implementation, challenges to implementation, and policy for implementation. These differences provide an opportunity for a broad investigation of Free Basic Water in rural areas at present and ensure that the findings are applicable to many different contexts.

CHAPTER 6: FINDINGS

6.0 Introduction

The findings of this research are detailed in this chapter. Each case study is discussed separately allowing for the specific findings to be highlighted. The sections are structured to first look at experience to date, and then all the costs associated with water provision. The Alfred Nzo District Municipality has an additional section for recommendations, as it is the only case study where Free Basic Water has been fully implemented.

It should be noted that information for each case study varies according to what was made available by the authorities. This affects the level of detail and the dates of the financial records. For example in the Ngqushwa case study, financial records from the municipality could not be obtained, and the consumption and costing data made available by Amanz'abantu, DWAF and the Water Board are from 2001/2002.

All cost per capita figures calculated in the case studies have been calculated by dividing costs by the population served, unless otherwise stated.

6.1 uThukela Water Partnership

6.1.1 Experience to date

The Free Basic Water policy has not actually been implemented yet, but is scheduled for July 2004. uThukela Water has a large backlog of work, as the district municipalities in the region have erratically implemented FBW in rural areas and there are many communities that need to receive water services. The current capacity to deliver the services is inadequate, but there is restructuring and training to help the municipalities ready themselves in the near future. There has been a reluctance to inform communities of the policy until there is the capacity to deliver, so some rural communities have continued with pre-FBW arrangements (Johnston, 2003). The WSDP and Section 78 assessments have been completed, and the uTWP has been approved as the best option for water service provision in the region.

The municipalities have chosen not to outsource operation and maintenance to various private companies. Instead, all services will be managed and maintained by the uTWP. There will be roving plumbing teams to service the schemes and local operators will be employed to monitor and fix small problems, but all major repairs will be carried out by professionals (uTWP, 2002a).

6.1.2 Costs

The expected income (at 2003 value) from Equitable Share (R20 million), water tax (R11 million) and tariff income (R95 million) totals to R133 million. The SP2030 Plan outlines the operational budget for Financial Year 2003 with the optimal scenario at R173 million per annum and the marginal scenario at R160.7 million per annum. The optimal scenario includes R40 million in additional tariff income per annum that is required to bring the business into solvency again. This is hoped to be realised as a result of an increase in customers, and the billing system that would be implemented. The plan does not clarify where the money would come from to cover the R27.7 million predicted deficit per annum for the marginal scenario.

Table 6–1: uTWP FY2003 Proposed Budgets for operation and maintenance

	Proposed Budget FY2003	Cost/household/Annum	Cost/hh/month	Cost/capita/annum	Cost/capita/month
Optimal Scenario	R173,320,000	R1464	R122	R256	R21
Marginal Scenario	R160,700,000	R1356	R113	R237	R20

Note: According to 2002 figures, approximately 120 000 households are served with either basic water or full service - this includes both urban and rural.

Due to the SP2030 being only a plan, it is not possible to discuss the optimal and marginal scenario costing at ground level. However, there is extensive historical data available for the region from a previous WSP, AquAmanzi, as well as proposed project budgets developed by the uTWP (Johnston, 2003). These sources triangulate to help provide an outline of real costs of water provision in the region. It is important to note that the proposed uTWP budgets appear to have no correlation with the SP2030 Plan.

6.1.2.1 AquAmanzi Historical Costs

AquAmanzi have been constructing, commissioning and managing water schemes in the uTWP region since 1998. These schemes were gradually handed over to the relevant district municipalities between December 2002 and March 2004 (Johnston, 2004). Detailed monthly records of the expenditure at each scheme were kept and these provide an example of the real costs of operation and maintenance.

While still under the management of AquAmanzi, most of the projects were supplied with 6kl/hh/month of free water on the instruction of the relevant DMs. AquAmanzi was required to provide support, mentorship and technical assistance to the village water committees, as well as to undertake water quality testing at all of the schemes. These were reported on in a monthly O & M report which includes comprehensive financial and water consumption records. This arrangement is similar to the institutional arrangement in the Alfred Nzo District Municipality (Section 5.2), and the institutional arrangement proposed for the Vulindlela Water Scheme (Section 5.4).

Most of the water projects are supplied by bulk water schemes, with the remaining being stand-alone schemes supplied from rivers and boreholes. Some projects have units that dispense the restricted amount of free water for example water widget units, others with house connections are billed after the free water limit is reached, and some with unmetered standpipes have no restriction (bulk meters show that the usage is below the limit). Since the introduction of FBW, AquAmanzi records show an increase in water consumption and a decrease in vandalism (AquAmanzi, 2003).

Due to the size of the region, detail of each scheme will not be included in this research; instead a summary of all projects and their costs in each district municipality will be shown. This summary will then be followed by a more in depth study of the 5 rural schemes in the Nquthu Municipality (within the uMzinyathi DM) in order to understand the AquAmanzi approach better.

6.1.2.1.1 Regional Costs

Regional costs for all the AquAmanzi projects were summarized in their monthly progress reports. Using the progress reports from January 2002 to August 2003 one can determine the cost of water provision in the region. A comparison between the two reports also highlights the influence of economies of scale in the costing, as between December 2002 and August 2003 AquAmanzi retained management of fewer projects as the transfer process to the district municipalities had commenced.

Table 6–2: AquAmanzi Records January-December 2002

District Municipality	Population	House holds	Operating Cost (R/mth)	Support Cost (R/mth)	Total O&M Cost (R/mth)	Total Cost (R/hh/mth)	Revenue (R/mth)	Deficit (R/mth)
Amajuba DC25 (7 projects)	30 493	3 811	R28,158	R49,270	R77,428	R20.30	R19,189	-R58,239
uMzinyathi DC24 (7 projects)	33 512	4 189	R52, 681	R45,201	R97,882	R23.40	R14,215	-R83,667
uThukela DC 23 (8 projects)	34 608	4 326	R18347	R30,843	R49,190	R11.37	R2,999	-R46,191
Total (22 projects)	98 913	12 364	R99,186	R125,314	R224,500	R18.36	R36,403	-R188,097

Table 6–3: AquAmanzi Records January-August 2003 after FBW implementation

District Municipality	Population	HH	Operating Cost (R/mth)	Support Cost (R/mth)	Total O&M Cost (R/mth)	Total Cost (R/hh/mth)	Revenue (R/mth)	Deficit (R/mth)
Amajuba DC25 (5 projects)	20 747	2 593	R21,963	R40,571	R62,534	R24.10	R468	-R21,495
uMzinyathi DC24 (4 projects)	10 736	1342	R8,602	R46,076	R54,678	R40.70	R0	-R8,602
uThukela DC 23 (4 projects)	13 454	1682	R6,300	R39,361	R45,661	R27.15	R0	-R6,300
Total (13 projects)	44 937	5 617	R36,865	R126,008	R162,873	R30.65	R468	-R36,397

Interesting conclusions can be drawn from these two tables:

- The effect of Free Basic Water can be seen in the almost non-existent revenue collected in 2003. Very few people are using more than the FBW allowance, thus the full cost of the water is billed to the DM concerned.

- Although the tables are largely pre- and post-FBW, the increase in cost/hh/month cannot be attributed to the implementation of FBW. Rather, it is due to the decrease in projects and population served with the handing over of projects to the district municipalities. It appears that economy of scale in support costs played a major role in the low total cost of R18.30/hh/month in 2002.
- In 2003, the total management cost *increased* slightly despite a more than 50% *reduction* in population served. This pushed the total cost up from R18.36/hh/mth to R30.65/hh/mth, an increase of 67%. Table 6-4 below summarises the change in per household management cost from 2002 to 2003, showing an increase from R10.13 to R22.43, which is more than double the per household cost.

Table 6-4: Increase in Costs with Decrease in Population

	Support/mentor costs	No. of households served	Cost/hh/month
2002	R125 314	12 364	R10.13
2003	R126 008	5 617	R22.43

6.1.2.1.2 Nquthu Costs – Historical and Planned

A case study of the Nquthu Municipality (DWAF, 2003) was published in 2003 as part of the national DWAF pilot research project. The study includes five rural villages in the municipal area that had detailed cost records. AquAmanzi were responsible for the operation and maintenance of these projects, and all costing is from their records. In December 2002 Ndatshane, Nquthu 1 and Nquthu 2 were handed over to the district municipality. The Build Operate Train and Transfer (BOTT) contract came to an end at the end of March 2004 and the remaining two projects had been transferred by then (Johnston, 2004). The income and expenditure records from this study are a very useful example of the real costs of rural water supply over the past few years. This study is independent of the SP2030, thus the real costs recorded at Nquthu have had no influence in the costing exercise for SP2030 (Johnston, 2004). Before the Nquthu report was finalised, uTWP developed budgets for the Nquthu schemes, these budgets were then included in the research and compared with the real costs to date.

The Nquthu Municipality is found within the uMzinyathi District Municipality, and is predominantly rural, with a very small town making up its core. The Nquthu municipality has a total population of approximately 202 425 people. Of these, approximately 4 142 live in the town of Nquthu and 198 283 live in the rural areas (DWAF, 2003). The uMzinyathi DM is the WSA for Nquthu, uTWP is the bulk WSP, and AquAmanzi was the reticulation WSP for the rural areas (Johnston, 2003). AquAmanzi was appointed under the BOTT contract with

DWAF but was gradually phased out as schemes were transferred to the DM. As mentioned above, the BOTT contract officially ended in March 2004. In July 2004, the uThukela Water Partnership officially took over all water provision in the region. AquAmanzi set up and trained community based organisations as water committees who were responsible for day-to-day operations and maintenance. These committees have been disbanded as the uTWP will be responsible for all functions and will communicate with communities through ward councillors (DWAF, 2003).

Of the five schemes studied, Nquthu 1,2,3 and Ndatshane are supplied with bulk water from a plant operated by uThukela Water, whilst the Bambisanani scheme is supplied by a spring. Population and service level statistics are to be found in Tables 6-5 and 6-6 below:

Table 6–5: Population figures for the five selected schemes

Scheme Name	Nquthu 1	Nquthu 2	Nquthu 3	Ndatshane	Bambisanani	Total
Total population	11 444	6 060	2 440	8 500	2 000	30 444
Total no. of households	1 430	758	305	1 062	251	3 806
Ave household size	8	8	8	8	8	8

(DWAF, 2003 pg 8)

Approximately 88% of these households have an income of less than R1500/month and are therefore classified as poor (internal classification). Due to this high percentage it is unlikely that many families in the area will be able to pay more than nominal amounts for water (DWAF, 2003).

Table 6–6: Levels of service at the five selected schemes

Scheme Name	Nquthu 1	Nquthu 2	Nquthu 3	Ndatshane	Bambisanani	Total
House Connections	304	92	34	34	3	467
Street standpipes	72	127	37	131	22	389
No of families served by standpipes	1 126	666	271	1 028	248	3 339
Total households	1 430	758	305	1 062	251	3 806

(DWAF, 2003 pg 8)

Most households within the area have a level of service at RDP or higher, however, questionnaires from the DWAF study show 54% of the standpipes are not working (DWAF, 2003).

In order to determine the average annual cost of water supply to these households, the actual costs incurred since the commissioning of the schemes were used. These were obtained from the AquAmanzi December 2002 monthly reports for the schemes:

Table 6–7: Average monthly costs of water provision to the five schemes

Item	Monthly average (from commission to Dec 2002)					
	Nquthu 1	Nquthu 2	Nquthu 3	Bambisan ani	Ndatshane	TOTAL
No. of Households served	1430	758	305	1062	251	3806
Total Overheads	R 7,583	R 2,785	R 1,701	R 1,767	R 7,450	R 21,286
Repairs & maintenance	R 592	R 576	R 289	R 144	R 519	R 2,120
Buy-in or Production Cost	R 3,336	R 3,146	R 874	R 441	R 1,898	R 9,695
Support & Mentoring cost	R 24,351	R 19,602	R 11,406	R 8,996	R 26,243	R 90,598
Total O&M Expenditure	R 35,862	R 26,110	R 14,271	R 11,347	R 36,111	R 123,701
Total expenditure/hh/mth	R 25.08	R 34.45	R 46.79	R 45.21	R 34.00	R 32.50
Total expenditure/capita/mth	R 3.14	R 4.31	R 5.85	R 5.65	R 4.25	R 4.06
Water Sales Revenue/month	R 8,675	R 3,335	R 1,620	R 976	R 2,366	R 16,972
Other Income/month	R 139	R 191	R 136	R 31	R 68	R 565
Profit / (Loss) per month	-R 27,048	-R 22,565	-R 12,514	-R 10,340	-R 33,677	-R 106,144

The average cost is R4.06 /capita/month, or R32.50/hh/month including bulk water. The expenditure above does not allow for asset replacement. The losses on these projects have historically been covered by the DWAF subsidy. This subsidy will be phased out in the near future and will therefore not be included as an income source for budget projections.

The cost to operate and maintain the Nquthu schemes is higher than the average costs for AquAmanzi over the three district municipalities (shown in Table 6-2) for the year 2002. This demonstrates the advantage of regional water provision where more costly schemes are balanced by those that operate more efficiently. This advantage should be maximised by the uTWP who could then allow for some cross-subsidisation between rural schemes.

The uThukela Water Partnership has drafted budgets for these schemes as they are expected to be the WSP (DWAF, 2003). These budgets are shown in Table 6-8 where they are compared with the historical costs. It should be noted that historical bulk water costs from AquAmanzi are pre-FBW. These costs were adjusted by uTWP for the projected water consumption due to free water in order to undertake a financial analysis of the schemes.

Table 6–8: Comparison between proposed uTWP budgets (2003/2004) and historical AquAmanzi costs

	Nquthu 1	Nquthu 2	Nquthu 3	Bambisanani	Ndatshane	TOTAL
Historical AquAmanzi	R 430,344	R 313,320	R 171,252	R 136,164	R 433,332	R 1,484,412
Proposed uTWP budget (incl projected bulk water costs)	R 337,500	R 257,445	R 215,665	R 143,311	R 256,231	R 1,210,152

(DWAF, 2003 and AquAmanzi, 2002)

The uTWP budget is equivalent to R26.50/hh/month or R3.31/capita per month, and does not allow for asset replacement. This is slightly less than the AquAmanzi budget despite the inclusion of a higher bulk water cost. These costs align with other costs discussed in this research, but do not match with the proposed SP2030 marginal scenario. The reason for this is unknown, but shows that what uTWP is actually budgeting for in reality is much more attainable than what is outlined in the SP2030.

In order to establish the affordability of FBW in this area, expenditure must be compared with predicted income. The two sources of income are the ES and user charges, with the former being the primary source. The portion of the ES for water services is allocated to the WSA, which is uMzinyathi DM. This calculation of this portion is complicated, and is explained in section 4.3. The recommended 23.3% of the S-Grant and 40% of the Free Basic Services Grant are used in the calculations below.

Table 6-9 shows two scenarios using the population data used in this research and the official population figures used by National Treasury in the calculation of the ES allocations.

Table 6–9: Equitable Share allocations for uMzinyathi DM

	DWAF Nquthu study	Division of Revenue Act (2004)
uMzinyathi ES allocation 2004/2005	R33 658 030	R33 658 030
ES allocation for water	R15 886 880	R15 886 880
uMzinyathi Total Population	616 000	456 459
uMzinyathi Poor Population	572 880	329 519
Allocation per capita /month (poor population only)	R2.31	R4.02

As illustrated above, correct demographic figures are essential for the determination of the affordability of FBW. The reality is that the Equitable Share allocations are based on the population used by the Division of Revenue Act, and with those numbers, the ES allocation will cover the operation, maintenance and management costs of FBW. If, however, the population figures of the uMzinyathi Water Services Development Plan are correct, then the poor population is significantly higher than that which has been allowed for in the allocation of ES. This makes FBW unsustainable for the municipality.

The expected income from house connections can be calculated from the proposed tariff structure for the area. This tariff structure is based on service level:

Communal stand-pipes : 1.2Kl per household of FBW

House connection: R20 monthly charge + R4/kl charge. No FBW.

It is predicted that those with house connections will use 6kl/hh/month. Therefore, an average monthly bill of R44 is expected for all house connections. This R44 was used to calculate the approximate income for the five selected schemes (DWAF, 2003):

R44 x 467 private connections = R246 576 income per annum for the five selected schemes.

In order to determine the affordability of FBW in the area, a comparison was made of income and expenditure, and the amount needed from the ES to cover the deficit was estimated. The comparison is shown in Table 6-10 The proposed uTWP budget has been used as uTWP is due to take over as WSP in July 2004, and the proposed budget is similar to the historical data.

Table 6–10: Affordability of FBW

	uTWP budget (Rands)
Total O&M cost for the 5 rural schemes (from Table 6-8)	R1 210 152
Income from schemes	R246 576
Surplus (Deficit)	R963 576
Population	30 444
Deficit per capita per month (amount required from ES)	R2.64

As can be seen, if the WSDP indigent population figures are correct (Table 5-9) and the Nquthu costs are representative of rural water supply costs in uMzinyathi DM, the percentage allocation of the ES needs to be significantly higher than that recommended by Treasury in order for the municipality to remain out of debt. A further concern is that the costing scenario relies on 100% cost recovery from all users with house connections, and

does not allocate any FBW to these users. If tariffs are not collected from those with house connections every month, the shortfall will be even greater, thus highlighting the need for an effective billing and collection system to ensure the sustainability of FBW. It is clear that the district municipalities cannot allocate nominal percentages of the Equitable Share to FBW without creating compounding debt over time.

The calculations thus far exclude asset replacement. Adding this component, one can unfortunately predict that Free Basic Water will probably not be sustainable in this area, unless there are significantly more house connections (and assuming that there is a high level of cost recovery from those house connections). If this does not happen, the uTWP will be reliant on regional cross-subsidisation to cover the deficit. This may be possible as the Partnership can access the revenue from the major towns and industries over the three district municipalities.

6.2 Alfred Nzo District Municipality

6.2.1 Experience to date

The Alfred Nzo DM's Free Basic Water is in its fourth year of implementation. The DM is divided into three zones, and a Support Service Agent (SSA) is contracted for each zone. The agents are responsible for the operation and maintenance of all the schemes in their zone. These do not include the towns. The approximate population covered by the SSAs is 300 000, which is half of the district population (Zellhuber, 2003).

The three SSAs are required to work in relationship with each other. They have a monthly meeting with the DM, where they report on progress, as well as discuss problems, improvements and lessons learnt. Each month an operations and maintenance report is submitted by each SSA to the municipality, including a system of Key Performance Indicators, water quality tests, and milestones. Any information gathered or systems developed are to be shared amongst the agents so as to have the same standard of work and to reduce unnecessary overlap or duplication (Gibson, 2003; Lenehan, 2003; Zellhuber, 2003).

In the first year of the contract, the following work was required by each SSA (Mvula Trust 2002):

- Assessment of the Schemes (0 – 3 months)
 - Technical assessment of the schemes;
 - Institutional assessment of each scheme;
 - Community / household assessment (Baseline survey);
 - Carry out minor refurbishment and repairs to ensure schemes are technically functional and water is flowing;
 - Capacity and training needs assessments;
 - Mentoring and Support of existing Village Water Committee / Project Steering Committee; and
 - Assessment of SSA systems and practices.

- Operation and maintenance (3 – 12 months)
 - Continue capacity building and training of Community Based Organisation (CBO);
 - Set up CBO agents to oversee the schemes;
 - Refurbish schemes needing considerable capital works to make them fully functional;
 - Continue mentoring support: O&M, financial, institutional and social mentoring, health and hygiene promotion, any additional *ad hoc* services, etc.; and
 - Developing and set up systems and procedures for use by the Alfred Nzo DM to monitor WSP operations and performance.

- In the second and third years, the following was required (Mvula Trust, 2002):
 - Undertake assessments of all new schemes to be transferred to the Alfred Nzo DM, preparations of implementation plans complete with budgets for the mentoring support that will be required; and
 - Ensure that all the schemes under the SSAs control are both technically and institutionally functional.

6.2.2 Costs

Maluti Water is the consultant appointed as the SSA for the Umzimvubu North section of Alfred Nzo DM. This area covers 39 water schemes of varying sizes and service types/levels. The population served is recorded as 142 007 (Maluti Water, 2003). Maluti Water is provided

with annual budget that is a combination of Equitable Share funds from the municipality and DWAF funding. The Equitable Share funds are used to fund the Community Based Organisation (CBO) costs of the schemes, and the DWAF funds cover the management, technical support, institutional and social development (ISD) support, and disbursements (Gibson, 2003). The Maluti Water expenditure will be used to demonstrate the typical cost for water supply in Alfred Nzo DM.

The budgets for the two funding sources operate on different year-ends. Due to the dates of available data, the costing for this research will be calculated from July 2002 – June 2003 (Maluti Water, 2003).

Table 6–11: Costs of water service provision

Combined DWAF and ES budget for July 02- June 03	R4 371 425.00
Actual Expenditure	R4 154 448.00
Cost per capita per annum	R29.25
Average cost per capita per month	R2.44
Cost per household per month	R17.08

Note: this includes the SSAs professional support costs.

It should be noted that the area served by Maluti Water includes a relatively high number of schemes (16 out of 39) which are fed by gravity sources (Maluti Water, 2003). Gravity fed water schemes are cheaper to run than pumped schemes.

The three SSAs contracted by the DM all have slightly different approaches and standards of work. The other two SSAs contracted by the DM serve Umzimvubu South and Umzimkhulu have slightly higher costs. Their average costs are between R3.00 and R3.50 per capita per month, which is still economical (Zellhuber 2003, Lenehan, 2003). From the researcher's observations and from interview information, Maluti Water GSM provides the highest standard of work, doing more than required, with the other two companies perhaps more profit-driven. This illustrates the diversity of the private sector, and how a company's values and work ethic affect standards of work. Development work requires time and effort in order to be successful, and not many private sector companies are willing to extend their services outside of contract specifications.

6.2.3 Recommendations for successful transfer to Free Basic Water

The Alfred Nzo District Municipality region is the only case study where the implementation of FBW has fully operational and where the key stakeholders were able to reflect on the process and lessons learnt. The following are the main points raised by those interviewed:

Alfred Nzo DM Deputy Director of Water and Sanitation, Mr Ernst Zellhuber:

- Success is reliant on the involvement of the private sector. It is very unlikely that the WSA has the expertise, nor the time to provide the intensive and diverse services needed for the successful implementation of FBW in rural areas. From the experience, in the last 3 years, it has also proved highly cost effective to employ the SSAs. If a budget was calculated to compare the costs for an in-house operation, this would be clear.
- When deciding on a strategy for implementation, stick to the basics. It is difficult enough to get these basics working efficiently, without worrying about finer details. As the strategy begins to work, develop the details.
- Allocate a portion of the annual budget for an operations and maintenance fund. This money should be saved and allowed to grow for future replacement costs.
- Do not be afraid to delegate roles and responsibilities. The municipality cannot do everything. Find people who are experienced, and involve them at every level possible.
- Once a structure is in place, and key role players have been contracted, ensure regular monthly meetings in order to brainstorm, solve problems, encourage, and improve the system.
- Develop standard reporting systems for SSAs. Ensure detailed, useful reports that allow the municipality to extract relevant information for progress analysis.
- Involve Council in the process and decision making. Keep them up to date with progress, and financial statements. It is important that their trust and support is retained for the strategy to be successful in the long term.
- When designing schemes, it is cost effective to group villages together, as there is then only one WSP and committee to liaise with.
- Design your structure to make sure there is maximum local community involvement.
- Use pumps to regulate consumption at a village level. Supply only 6kl per household, and then rely on the local water committees to regulate and police the individual household consumption.

Jim Gibson of the Maluti Water SSA

- Operation and maintenance is not a project, it is an enterprise. Planning should be carried out with this in mind, and the different cycles the system will go through must be allowed for;

- Get systems in place e.g. KPIs, milestones;
- Ensure there is discipline;
- Wages for community workers must be linked to accountability for work completed;
- There must be accountability - between municipality, SSAs, local operators, committees, and communities; and
- Have the backing of the DM for the system implemented, and ensure it is not open to illogical changes at the whim of politicians.

Anthony Lenehan of WASH Consultants SSA

- Contract out to SSAs. DM's rarely have the capacity to do all functions and keep up to date;
- The municipality must take a serious look at the cost of schemes; institutional costs etc, and see where there are unnecessary large funds being used. Efficiency is very important;
- Sort out the unknowns before you start;
- Transparency: actively inform politicians and the public what is happening, and why. Privatisation is not liked, and people need to be kept up to date or else it will not work;
- Diesel systems are better. Eskom is not equipped to deal with rural systems. The quality and consistency of electricity is not good. With a diesel system you are not reliant on another service provider that you have no control over;
- Constant water supply is the most important key performance criterion;
- Balance the level of service with willingness to pay;
- Trickle feed yard systems are better than high pressure communal tap-stands: running costs are cheaper, and regulation is easier;
- Find out what communities want; and
- Do not build new schemes without first servicing existing schemes.

6.3 Ngqushwa Local Municipality

6.3.1 Experience to date

Ngqushwa Local Municipality does not have a Free Basic Water policy, and is thus not officially implementing Free Basic Water. However, as mentioned in Section 5.3 , FBW is being supplied by default to many areas

Rural areas are receiving *ad hoc* repairs and maintenance to their water supplies. This service is being provided by the municipality and DWAF at a cost comparable to efficient,

effective systems in other municipalities. However, the current situation is unsustainable in the long term as the lack of regular, preventative maintenance is bound to result in failure of water supplies. With no allowance for asset replacement, the municipality will not be able to afford to repair crippled systems. This highlights the need for municipalities to prioritise the development and implementation of a researched, tested arrangement in order to save the unnecessary waste of meagre resources.

The contractual agreement between the Ngqushwa Municipality and the Amatola Water Board is not clear nor is it an efficient system. The water board bills the municipality at a flat rate of 6kl/hh/month. This is regardless of actual water consumption, and masks users using more than 6kl. The flat rate is also reliant on a population figure that has not been verified. This system does not encourage the Water Board to carefully monitor high users or water leaks, as they are receiving revenue regardless of the situation on the ground. This also places a large emphasis on the validity of population figures.

6.3.2 Costs

6.3.2.1 Population Figures

In order to properly assess and analyse the costs of providing Free Basic Water, it is essential that correct population and indigence data be used. From the data obtained for this research, a large discrepancy in the demographic information was discovered.

Table 6–12: Discrepancies in population figures for Ngqushwa

1996 Census Total population	94 111
DWAF data Total population	234 634
2001 Census Total population	84 229
Division of Revenue Act (2003) Total population	93 975
DWAF FBW website (2004) Total population	109 263
Palmer Development Group Data No. of households	30 519

Combining Palmer Development Group village information (No. of households) and data from other service providers who have detailed, reliable and accurate information, the number of occupants per household is taken as 4.54. Based on this figure the total population is therefore 138 556. This population correlates well with data from the Amatola Water Board, who state that they supply 80 893 people, comprising 58% of the total population in their region.

For the purposes of this research it is therefore assumed that the most accurate total population figure is 138 556. Both this figure and the census figures will be used in the calculations, as the latter are used in the allocation of the Equitable Share.

6.3.2.2 Consumption Figures

A second factor that is important to determine for cost calculations, especially with regards to FBW, is water consumption.

The consumption figures are split into information obtained from Palmer Development Group, which covers the majority of the villages, and the actual metered water consumption from the Amatola Water Board.

Table 6–13: Consumption figures

	%	Households	Population	Consumption l/c/d
Yard connections	1.80%	551	2 502	60
Communal standpipes (with schemes)	46.70%	14 267	64 772	25
Communal standpipes (no schemes)	16.20%	4 948	22 464	15
Communal standpipes (inadequate with schemes)	5.10%	1 560	7 082	10
No Data (with schemes - assumed stand pipe)	6.80%	2 063	9 366	25
Boreholes - no schemes	7.80%	2 366	10 742	25
Schemes and boreholes	2.80%	862	3 913	25
No data - no schemes	5.40%	1 641	7 450	15
No supply	7.40%	2 261	10 265	5
Totals		30 519	138 556	

Table 6–14: Service Level Summary

Summary of PDG data used in calculations		
Clearly adequate RDP level of supply	49%	14 818
Possibly RDP	23%	7 011
Bore holes and low level stand-pipes	16%	4 788
No data; no supply	12%	3 902
	100%	30 519

The Amatola Water Board villages' bulk consumption figures per settlement or village are summarised in Table 6-15 below. From this table it is evident that the Sandile and Wesley Bira schemes need to be or are currently being cross-subsidised from the other Amatola Water Board schemes in Ngqushwa that are consuming less than the average of 25l/c/d per person.

Table 6–15: Bulk consumption at Amatola Water Board schemes (2001 figures)

	No. of Villages	Population Figure from Amatola Water Board	Actual Consumption (kl/d)	Consumption if 25l/c/d	No. of Villages using more than 25l/c/d	% of villages using more than 25 l/c/d	% more than 25 l/c/d
Sandile scheme	41	44 231	1553	909	19	46.3%	171%
Dabi scheme	2	6 046	64	151	0	0	42%
Glenmore scheme	3	14 582	336	365	1	33.3%	92%
Laing scheme	3	4 398	30	110	0	0	27%
Peddie scheme	3	2 815	28	64	0	0	44%
Wesley Bira scheme	9	8 822	349	218	5	55.5%	160%
Totals		80 893	2361	2022			

Total actual consumption of 2361.3 kl/d is higher than 'theoretical consumption' of 2022.34 kl/d based on all households consuming 25l/c/d, however this difference is at present only a small excess on the FBW allocated total. The Amatola Water Board is at present billing the LM for the theoretical consumption based on the 25l/capita calculations.

The actual consumption levels have probably increased due to water being free and are predicted to increase further as levels of service increase, so it is important that cost recovery systems are put in place. If 49% of the households (i.e. those with access to RDP levels) consume more than 25 l/c/d then this situation will become a financial drain on the DM should there be no cost recovery from those communities consuming more than their 6kl/hh/mth

6.3.2.3 DWAF establishment and operational costs (2002)

As previously mentioned, DWAF receives an annual subsidy for water management in the district. Their total budget was R2.7 million which was divided between all the schemes

managed in the district and an approximate proportion was used to calculate the expenses for the Ngqushwa Local Municipality.

Table 6–16: DWAF costs for water services in Ngqushwa LM

Itemised cost	Total Cost per Annum
TOTAL Personnel & salaries expenses	R356 174
TOTAL Administration & overheads expenses	R101 682
TOTAL Stores and small stock	R39 200
TOTAL Equipment	R36 100
TOTAL Professional	R65 739
Grand total	R598 895

6.3.2.4 BOTT Service Provider Costs

Amanz'abantu were the BOTT agents responsible for operating the Peddie schemes. Peddie Regional scheme has been transferred to the Amatola Water Board (bulk provider) and the Amatole DM. They are currently still operational in the Peddie South scheme. Their costs to provide water to these areas are shown in Table 6-17 below. These costs include the Community Based Organisation WSP costs and the Support Service Agents costs. These schemes serve three villages and a population of 2 815 people.

Table 6–17: Peddie Regional & South Project costs from Amanz'abantu

(Aug 2001)	Peddie Regional Avg / month	Peddie South Avg / month
Consumption KI		
Total Consumed	311	332
l/c/d	2.74	1.19
l/c/d (active tokens)	9.77	15.35
O&M COST (Rands)		
BULK WATER COST	R1 416	R2 918
MATERIAL	R2	R57
Administration and Management	R496	R5 462
Finance and cost recovery	R1 000	R2 153
TOTAL LABOUR	R1 496	R7 614
TOTAL COST	R2 914	R10 589
INCOME (Rands)		
Projected from demand	R1 242	R1 329
RATIOS		
Cost per KI (Consumed)	R9.38	R41.76
Cost per KI (Produced)		R37.21
Cost per capita	R5.32	R6.20
Cost Recovery % (*)	43%	13%

(*) – the cost recovery is dependent on the Free Basic Water policy implementation of the LM and DM. The cost recovery from these two Amanz'abantu projects is taken to be zero (as it is negligible as a % of the whole).

The average per capita cost for water supply to the Peddie area is R6.09/month

6.3.2.5 Best estimate of costs for year 2004

The costs in Tables 6-16 and 6-17 all contribute to water service provision in different parts of Ngqushwa Local Municipality. In order to estimate the total costs for water provision in 2002, all the information was collated and summarised into Table 6-18 below:

Table 6–18: Estimate of water provision costs in Ngqushwa (2002)

COST SUMMARY (per annum)	
Bulk Supply based on tariffs by Amatola Water Board	R2 656 516
Material & Services	R202 524
Chemicals & Energy	R35 013
Transport	R151 682
Labour	R621 207
WSP Costs	R165 541
TOTAL Rand per annum	R3 832 483
COST RECOVERY	
Peddie South Income (Amanz'abantu)	R15 944
Other income from small towns etc.	R246 036
Total Required for payment for FBW	R3 570 503

To escalate these costs to 2004 (8% per annum), the total Cost would be R4 470 208 and the total required for payment from FBW would be R4 164 635. The nominal cost recovery only contributes R0.18 per capita per month and therefore the Equitable Share must be relied on to cover the costs of FBW. If one takes R1 164 635 and divides it amongst the indigent population of Ngqushwa LM this will show what is needed to subsidise Free Basic Water in the municipality (Table 6-19). Two costs have been calculated - the first column shows costs calculated using the best estimate of the population as explained in section 6.3.2.1 of this research; and the second with the 1996 census data (2001 census indigence figures not available at time of research).

Table 6–19: Subsidy requirements for FBW

	Population best estimate	Census 1996
Estimated number of indigent households	30 518	20 739
Subsidy requirement R per household per annum from equitable share	R136.47	R200.81
Subsidy requirement R per household per month from equitable share	R11.37	R16.73
Subsidy requirement R per capita per month	R2.50	R3.69

Therefore, for 2004, the present cost of *ad hoc* water supply costs the municipality between R2.50 and R3.69 per capita per month. It should be noted that only 58% of the population is supplied with water at, or above, RDP level.

6.3.2.6 Estimated cost of providing efficient, sustainable water to Ngqushwa LM

A costing exercise was carried out for each of the three institutional arrangements mentioned in section 5.3. Due to the fact that these figures are estimates/projections and include many assumptions and variables, the detailed breakdowns are not discussed. Instead, the range of the institutional arrangement costs provides an estimate of the total costs of providing a fully operational water service to the Ngqushwa Local Municipality:

Table 6–20: Estimated costs of proposed WSP institutional arrangements

	Cost per annum based on best estimate population	Cost per annum based on census 1996 figures
Estimated WSP costs for proposed institutional arrangements	R4million – R5.4 million	R4million – R5.4 million
Bulk Water supply based on tariffs by Amatola Water Board (escalated to 2004)	R3 098 560.00	R3 098 560.00
Total estimated cost	R7.1 million – R8.5 million	R7.1 million – R8.5 million
Income from tariffs (escalated to 2004)	R305 573.00	R305 573.00
Subsidy requirement R per household per annum from equitable share	R222.64 – R268.51	R327.62 – R395.12
Subsidy requirement R per household per month (2002 values) from equitable share	R18.55 -R22.38	R27.30 - R32.93
Subsidy required R per capita per month	R4.09 - R4.93	R6.01 – R7.25

This is significantly more than that which is currently being spent on water provision in the LM. The reason for this is that the present system is inadequate, and needs to be upgraded to an acceptable standard. It should also be noted that these costs are only first order and the real costs could be lower. It is also important to note that the costs are exclusive of asset replacement.

6.4 Vulindlela Water Scheme

6.4.1 Experience to date

Throughout the six years that Umgeni Water has been running the Vulindlela scheme, it is not the operation and maintenance problems that stand out as the most challenging, but the issue of cost recovery. As seen in the graph below, the number of customers paying for water was a low 40% before FBW was implemented. With the implementation of FBW this dropped considerably (as expected), as approximately 60% of customers use less than 6kl per month (Hlope, 2003). However, from the 40% who were using over the FBW allowance (and were therefore receiving bills), payments reduced each month post-FBW to less than 10% in December 2002. It is clear that Free Basic Water has exacerbated the non-payment problem in the community (data obtained from Umgeni Water).

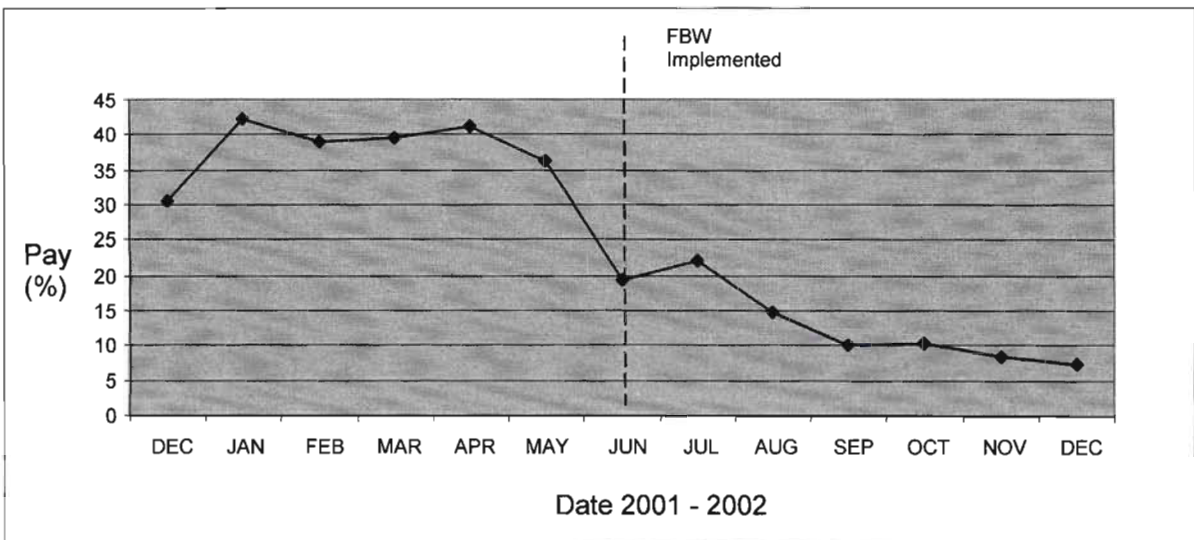


Figure 6–1: Percentage customer payments compared to number of Active Meters Dec 01-Dec 02

The problem of non-payment is multi-faceted (Lilmohun, 2003; Shangase, 2003):

- There is insufficient staff to constantly be checking for illegal connections;
- There is insufficient staff to consistently apply restrictions when bills are not paid;
- Customers using less than 6kl cannot be disconnected as a mechanism to force payment of debt from pre-FBW as this would infringe on the constitutional right for everyone to have access to 6kl per month;
- With the implementation of FBW, there are many customers who use less than 6kl. When, for one or two months they exceed the 6kl limit, they receive a bill, which is ignored;

- Water use due to illegal connections is difficult to prosecute. If these users are not customers of Umgeni Water (i.e. there is no meter), then Umgeni Water cannot issue a fine. It is a complicated legal procedure to claim for damages, and it is not deemed worthwhile by the water board. Instead, the connection is removed and the person reported to the local Induna (tribal authority) for community discipline and policing;
- People have realised that they will receive 6kl per connection, and have applied for a second or third connection in order to receive double or triple the FBW allowance without having to pay (this is stopped if discovered and the connection is removed); and
- There have been cases of politicians announcing Free Water (i.e. unlimited volume per month) not Free *Basic* Water as a part of their campaign strategy. In a similar vein politicians have encouraged people not to pay for water.

For all these reasons, the customers are going deeper into debt every month (see Figure 6-2), data obtained from Umgeni Water), and this places an increasing financial burden on Umgeni Water. Umgeni Water has been able to absorb the cost due to its other income sources, but the uMsunduzi Municipality will be less able to do so when the transfer is complete. An effective collection system, combined with the political will to enforce payment for water consumed above the FBW allowance, is needed in order for this scheme to be sustainable.

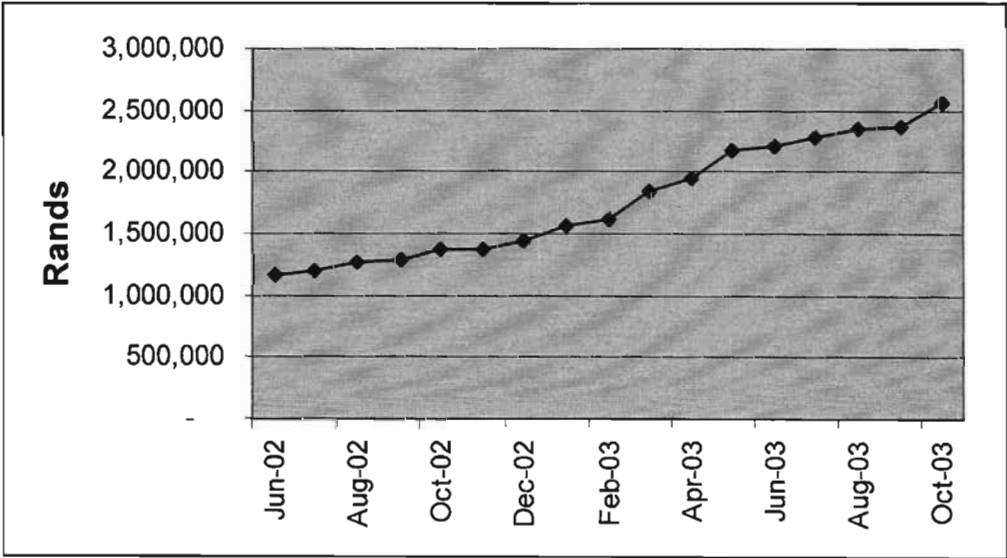


Figure 6–2: Increasing Arrears

6.4.2 Costs

The Vulindlela Water Project has had a detailed budget for each financial year. This budget includes not only operations and maintenance, but also all management, interest on finance,

depreciation, loans etc. Below is the actual expenditure for the 2002/2003 financial year. This shows what the real costs of running the scheme are:

Table 6–21: Vulindlela Rural Scheme operation and maintenance Cost Figures (FY 2002/2003)

Maintenance Costs	
<i>Plant and Equipment hired</i>	R5 ,170
<i>Maintenance Contracts- Plant</i>	R36,263
<i>Material - Small tools</i>	R10,890
<i>Operating Capital Expenses</i>	
<i>Pipe Specials</i>	R4,394
<i>Renewals</i>	R3,660
<i>Fuel & lubricants</i>	
<i>Contribution Rural Offices</i>	R143,698
<i>Workshop* - Repairs, artisan rates, materials, management</i>	R1,524,407
<i>Workshop - Buildings</i>	
<i>Workshop - Electrical</i>	
<i>Workshop - Mechanical</i>	R682
<i>Workshop - Vehicle</i>	R961
Total Maintenance Costs	R1 ,730,127

Note: The item 'Contribution to rural offices' refers to wages paid to the branch office staff, and the item "workshop*" refers to all Umgeni Water staff working on the project

Umgeni Water, being the bulk supplier, has not included the cost of bulk water in their expenditure. This however is a cost for the uMsunduzi municipality who, since July 2003, have been paying for bulk water. The annual expenditure for bulk water at R2.79/kl is approximately R2.7 million. This R2.7 million, added to the total in Table 6-21, gives an operation and maintenance total of R4 430 127.66. This translates to R18.45 per household (typically 6 persons) per month, or R3.07 per capita per month. At this level, this is a cost-effective scheme.

However, a large proportion of the *real* total cost of the scheme is depreciation and interest. This must be accounted for to calculate whether the scheme is financially viable or not.

Table 6–22: Vulindlela Rural Scheme Full Financial Costs (FY 2002/2003)

Indirect Expenditure	Rands
Depreciation - Immovables	R12,139,104
Govt grant	-R751,147
Insurances	R270,445
Interest - External	R16,166, 435
Total Indirect Expenditure	R27,824,837
Total Direct Expenditure	R4,130,127
Total Cost	R31954,965
Total Sales	R3,568,420
Deficit	-R28,386,544

The total cost is R130.87 per household per month expenditure, or R21.81 per capita per month. The total sales above include the Equitable Share portion to cover the FBW usage, and all revenue from households exceeding the FBW allocation (but the latter is negligible). As can be seen from Table 6-22, the Vulindlela Water Scheme is running at a loss (allowing for all costs) of approximately R28 million per annum. However, it is not usual to factor capital depreciation and interest into running costs in rural water supply in South Africa. For this reason the monthly per capita cost of R3.07 derived above is taken as the Vulindlela figure.

6.5 Nhlungwane Water Project

6.5.1 Experience to date

The community has been managing their water scheme very successfully since its commissioning, with very little external assistance. Each family pays R7 a month to obtain water from the system. The taps are opened once a day for an hour in the morning. Families are rationed to three 25 litre containers per day (except on Saturdays, when they get five 25 litre containers) (Water Committee, 2003).

The pump house is kept clean and the engine is serviced according to the maintenance specifications. The committee pays, in cash, for the equipment, services, fuel, and salaries. The pump records are kept up to date, and hang on a hook in the pump house. These records show that water losses have not exceeded 20%. Although there have been some

interruptions to the supply when the operator has stopped pumping due to a fault that she did not know how to fix, there has been only one major problem since commissioning – one of the reservoirs was leaking badly.

The community does not receive Free Basic Water, and have had negligible communication from the district municipality or uThukela Water Partnership regarding when it is expected to be implemented. Most people questioned as part of this research, did not know what FBW was or how it applied to their lives. As part of this research, the community participated in a series of workshops to introduce them to the FBW policy and how it would impact upon their current management system. Various options were discussed for the possibilities of developing an agreement with their WSA that would allow them to retain partial management of the scheme, as well as what was to be done with the R7 levy. The full report on this process and the conclusions reached can be found in Appendix 1.

6.5.2 Costs

6.5.2.1 Operation

The operating costs have been consistently very low due to good management, regular maintenance, and low wages. The typical monthly expenditure is as follows:

Administrator:	R50
Operator:	R300
Plumber:	R50
Diesel:	R500
Service Costs:	R200
<u>Transport/other:</u>	<u>R150</u>
	R1170

The maintenance of the scheme is paid out of the savings generated from the monthly levy. This maintenance has not only covered minor repairs, but the community also paid for a professional contractor to repair a failed reservoir (Water Committee, 2003).

All income and expenditure records have been kept since the inception of the project. Figure 6-3 below shows these records for 1999-2001 (Partners in Development, 2004):

**Nhlungwane Water Project
Income and Expenditure (1999 - 2001)**

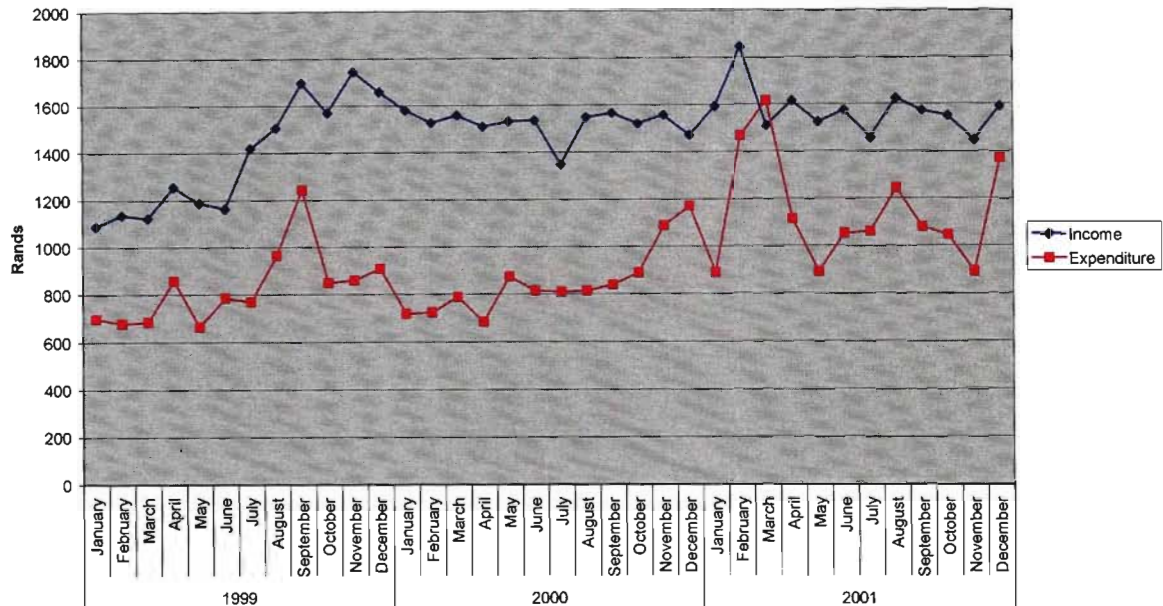


Figure 6–3: Income and Expenditure records

6.5.2.2 Savings

From the income each month, R450 was put aside for an operations and maintenance (O&M) reserve. Over 5 years the community saved R20 000 from this, despite having to pay for reservoir repairs and all other minor O&M. In 2002, they were awarded R20 000 for their good management of the scheme by the Mvula Trust. Their savings are now in excess of R40 000 (Water Committee, 2003).

6.5.2.3 Total Costs

The total cost per household per month is R7. This is approximately R1 per capita per month. This cost includes all operation, maintenance, management and some asset replacement. The community has thus far managed to cover all the costs the scheme has incurred to date. It is doubtful whether they will be able to cope with a major failure of the system, but most problems are prevented through good management.

6.5.2.4 uMzinyathi District Municipality Budget for Nhlungwane

A generic budget format has been developed by the uTWP for all community water schemes. The figures for Nhlungwane which appear in Table 6-23 below are rough estimates of what might be required that will be refined in future years.

This budget has been drafted by the uThukela Water Partnership in a general format that has been applied across various water schemes. Although the total budget is final, there is room for transfers between the budget categories, or if it becomes clear that the specific needs of the Nhlungwane water project differ from the above proposed budget split.

Although this was the budget allocation for July 2003 – June 2004, the municipality has not yet started work at Nhlungwane and none of this money was spent.

Table 6–23: uTWP/uMzinyathi DM Operations and Maintenance budget for Nhlungwane for 2003/2004

OPERATIONAL EXPENDITURE	Budget
	2003\2004
Compensation Commissioner	R200
Protective Clothing	R 500
Salaries	R15,240
Skills Development	R152
Training	R 3,000
Unemployment Insurance Fund	R 152
Sub Total	R 19,244
GENERAL EXPENDITURE	Budget
	2003\2004
Chemicals	R196
Cleaning Materials	R200
Communication	R100
Fuel & Oil	R5,913
Management Support Services	R21,374
Safety	R100
Small Tools	R500
Water Analysis	R2,280
Sub Total	R 30,663.42
MAINTENANCE & REPAIRS	Budget
	2003\2004
Pipelines	R 4,000
Pump Stations	R 6,000
Reservoir	R 1,000
Roads	R 2,000
Sub Total	R 13,000
CAPITAL EX-REVENUE	Budget
	2003\2004
Machinery & Equipment	R 500
Sub Total	R 500
TOTAL OPERATIONS	R 63,408
TOTAL CAPITAL EXPENDITURE	
TOTAL EXPENDITURE	R 63,408
TOTAL INCOME	
OPERATIONAL EXPENSES	R 63,408
SURPLUS / DEFICIT	R -63,408

This budget of R63 408 equates to R5 284 per month expenditure which is R24.02 per household (or R3.43 per capita) per month, which includes all O&M costs at both community and WSP level and is comparable to the cost of water provision in the other case studies.

6.6 Conclusion

The five case studies are all at different levels of Free Basic Water implementation, with some areas overcoming obstacles more successfully than others. Each case study highlights some of the universal challenges in rural water supply: financial constraints; cost recovery; subsidies; institutional capacity; privatisation; and community participation. The role of the Equitable Share is unique to South Africa, and is a vital element in the financial sustainability of Free Basic Water in the country's rural areas.

CHAPTER 7: DISCUSSION

7.0 Introduction

This chapter discusses the lessons learnt in each case study, first by discussing each one separately, and then combining to highlight the main findings of this research.

From this research it is clear that there are a variety of implementation strategies that combine the participation of the public and private sectors and civil society. These partnerships follow the global trend of decreasing government responsibility and increasing contractual agreements with specialist organisations. These changes have occurred within the greater political environment of South Africa's structural adjustment programme.

7.1 uThukela Water Partnership

The uThukela Water Partnership has set a high target for the implementation of water services. If they manage to secure external grant funding to fulfil their *optimal scenario* then the service level in this region will most likely be of the highest standard in the country. If, however, they are unable to secure these funds, the *marginal scenario* will be similar to the programmes being implemented in the other case studies, with similar financial, and operations and maintenance challenges. The Partnership has a large backlog of unserved communities to provide with water, as well as implementing FBW across the region and not in enclaves, as is the current situation. There appears to have been little community consultation with regards to the Partnership and its FBW strategy. The Partnership has been reluctant to communicate changes until there is capacity to implement. However, this lack of consultation and inclusion of communities could cause problems, as international experience has shown that community participation is vital for long-term sustainability.

The defining difference between this case study and the others, however, is the regional partnership that was implemented in July 2004. This partnership has many opportunities for economies of scale, and cross-subsidisation. As the Tugela Basin region is primarily rural, and poor, this partnership could prove to be the only way sustainable water provision could be realised in these district municipalities.

The uTWP proposed SP2030 *marginal scenario* budget for FY2003, when compared with the *historical cost* of supplying water in the region is at least 300% higher than any other service provider:

Table 7–1: Comparison of Costs for Water Supply in the uTWP Region

Case Study	Historical Cost (/household /month)	Estimated Cost with FBW (/household /month)
uThukela Water Partnership	N/A	R113.00
Nquthu Case Study	R33.59	R26.50
Nhlungwane Case Study	R7.00	R24.00
AquAmanzi Projects in uTWP region	R18.36 - R30.65	R18.36 - R30.65

The uTWP SP2030 budget may need to be reconsidered in the light of the Nquthu study showing the significant deficit that will accumulate due to very low revenue collected from rural areas (most usage is below FBW allowance), and the inability of the Equitable Share to cover the costs even at the recommended level of contribution (refer to Table 6-9).

As previously mentioned, the uTWP has the benefit of economies of scale that will arise due to the extensive area and the population served. These type of benefits were illustrated in the AquAmanzi records in Tables 6-2 and 6-3, where the management cost of serving just under 100 000 people was 40% lower (per household) than for serving 45 000 people. With the current uTWP served population at 159 140 and the potential population at 1.78 million, management costs *should* be low. Here, the discrepancy between the SP2030 planned budget (R113/hh/month) and the uTWP provisional budgets for both Nhlungwane (R24/hh/month) and Nquthu (R26.50/hh/month) should be highlighted. Whereas the SP2030 budget is exceptionally high, the provisional budgets are cost effective - with economies of scale being a likely explanation.

In conclusion, these case studies show that a budget of between R3.00 and R4.00 per capita per month is a reasonable estimate on the cost of the provision of water to rural areas within the uTWP region. However, even this budget (of R3.00 to R4.00) does not appear to be affordable based of current income and Equitable Share allocations in this region (see Table 7-4). For water to be affordable, it is essential that the correct poor population is established, and that FBW is targeted at the poor only. Furthermore, cross-subsidisation from towns and large consumers will be a vital contributing factor.

7.2 Alfred Nzo District Municipality

The Alfred Nzo District Municipality began the process of implementing Free Basic Water in rural areas soon after the first announcement of the government policy in 2000. As a result of this prompt action, FBW has been in operation for over three years. The institutional arrangement that was developed has been tried and tested during this time, and is proving to be effective and efficient. The schemes that are fully operational consistently supply clean water to communities - problems are dealt with quickly (normally within 24hrs) and monthly maintenance is carried out on each scheme. Old schemes have also been refurbished and re-commissioned by the Support Service Agents, thus increasing the population served.

There is regular communication between the community committees, the SSAs and the district municipality, keeping all parties accountable and up-to-date as to their role in the system. As a part of this communication, a detailed monthly reporting system has been developed which has a series of Key Performance Indicators that are applied to each scheme. To allow ease of access to this information, a GIS system managed by the municipality is being set up to track progress, trends, and to red flag potential problems.

Alfred Nzo District Municipality commits a significant amount of their Equitable Share allocation to water. In FY2002/2003 R16 000 000 was allocated to rural water supply and R8 600 000 to water supply for the towns. This shows a commitment by local government to water services provision. Together with DWAF Operate Train and Transfer funds, this money has been very efficiently utilized (at R2.50 – R3.50 per capita per month, see section 6.2). FBW is available in the rural areas of the Alfred Nzo DM – unlike many other DMs who have only committed on paper and have not implemented their policies and plans yet.

The DM aims to eventually stabilize costs at R2.80 per capita per month (2003 value) for water supply in the rural areas. This does not include WSA costs (which are paid for with a separate budget) or asset replacement (the latter is being motivated for by the Director of Water and Sanitation who sees the urgent need to invest money each year for future replacement of infrastructure). Furthermore, with the phasing out of DWAF subsidies over the next few years, the municipality will need to increase the percentage Equitable Share allocated and perhaps adjust tariffs to cover the deficit.

The current situation at Alfred Nzo DM (ANDM) is promising, and the system implemented is operating better than many others in the country. The plan (perhaps somewhat idealistic) is for the SSAs to gradually work themselves out of a job as they capacitate the local

committees as the water service providers, and the ANDM develops additional management capacity. This will take a number of years to reduce the role of the SSA as capacity increases in the communities. This would be the ideal. However, there are underlying problems that may cause the current institutional arrangement to be drastically revised in the next few years:

- The Alfred Nzo DM politicians are still sceptical about the SSA contracts. Despite it being clearly cost effective, they are hesitant as most of the money goes to private companies (SSAs). The Deputy Director of Water and Sanitation constantly has to assure the politicians and prove that the system is the best option; and
- A second threat to the current institutional arrangement is the approximately 114 staff that DWAF intend to transfer to the DM in the next few years. The DM will have to find a role for these new staff members. The municipality may try to use these new staff members to continue the SSA work, but most do not have the required skills.

It is thus ironic that the future of perhaps South Africa's best example of rural water supply management and Free Basic Water provision is by no means certain.

7.3 Ngqushwa Local Municipality

The primary obstacle to the implementation of Free Basic Water in Ngqushwa is the lack of institutional capacity. There will not be a significant improvement in the current situation unless this is dealt with. There is duplication of services provided by the Community Based Organisation WSPs, Amatole DM and the DWAF maintenance teams due to lack of communication between these parties. Both the DWAF and Amatole DM maintenance teams function almost entirely on crisis management principles. The major cost implication comes through their establishment costs and the lost opportunity costs of resources not shared. A limited number of preventative maintenance activities are carried out by the Community Based Organisation (CBO) WSPs, but there is no monitoring to ensure that they carry out their contractual duties. These CBOs need to be recognised and empowered to perform this valuable function and should be formalised in the municipal FBW policy. The Amatola Water Board has indicated that all its schemes have a preventative maintenance programme in place. This is perhaps a reason for extending the Amatola Water Board function to include reticulation water service provision on these schemes - maintenance teams are already going to these schemes regularly and the additional cost for servicing the

distribution lines should be significantly less than setting up a separate maintenance team from the LM, DM or a private sector organisation.

The significant discrepancies in population data are a concern, as when Nqgushwa officially implements FBW and if they extend and improve their water provision coverage, the low population figures used by Treasury will result in insufficient funds to cover the costs of providing the subsidy. This issue is discussed further in section 7.10.

There is very little or no cost recovery-taking place, which means that the water services are almost totally reliant on the FBW equitable share allocation. The Amatola Water Board is currently being paid a 'theoretical' value based on population served against a tariff. Therefore, regardless of actual consumption or performance, the Amatola Water Board is guaranteed a fixed income from the water supplied to the rural households. Most schemes are not using their monthly 6kl allowance per household, with the exception of the Sandile and Wesley Bira schemes which are being subsidised by those using less (see Table 6-16). As a consequence of the high usage at these two schemes, the LM still has a high bulk water invoice from the Amatola Water Board. It is important that cost recovery mechanisms are in place to obtain income from these communities, and for the Water Board to bill on actual consumption so that costs at LM level can be reduced.

The Amatole District Municipality is required according to local government 'powers and functions' to have adequate institutional capacity to perform its duties as a Water Services Authority. In order to provide the necessary support and management to the projects, the district municipality needs to set up an adequately staffed division within its own structures that can perform the duties on a continuous basis. The Amatole District Municipality is required to pass by-laws to legalise matters such as tariffs, the status of the Water Services Provider (WSP), and consequences for non-payment. For this to be successful, the Amatole District Municipality has to establish a number of relationships with other organisations that have a major role to play in promoting the goal of providing water services to all. Furthermore, the DM will need to decide on the water service provision institutional arrangement it will implement to ensure the most efficient, effective and sustainable means to deliver water to all communities in the district. There are numerous possibilities for the establishment of these WSPs. Three of these are:

- The Amatola Water Board or a private sector organisation as the reticulation WSP;
- The Amatole District Municipality as the WSP; and

- Community based organisations as WSPs with a Support Services Agent appointed to perform tasks and functions in support to the WSPs.

This case study highlights the obstacles to implementation of FBW that exist in rural municipalities with very limited capacity. There are other municipalities like this in South Africa that are in a similar position and they perhaps need long-term external assistance to build capacity to implement a successful FBW policy.

7.4 Vulindlela Water Project

Umgeni Water has proved to be cost efficient in their operation and maintenance of the Vulindlela Water Project. They are reliable and have successfully provided Free Basic Water to the community. This was confirmed in a 2003 survey with a 10% sample of the community, where 95% of the responses were positive when asked whether Umgeni Water were providing adequate operation and maintenance of the scheme (Hlope, 2003).

The water project will be handed over completely to the uMsunduzi municipality in the near future. Mr Mlungisi Shangase, the then reticulation area manager for Umgeni Water, recommended an institutional arrangement that could be adopted. This arrangement is similar to those suggested in the DWAF guidelines for water projects:

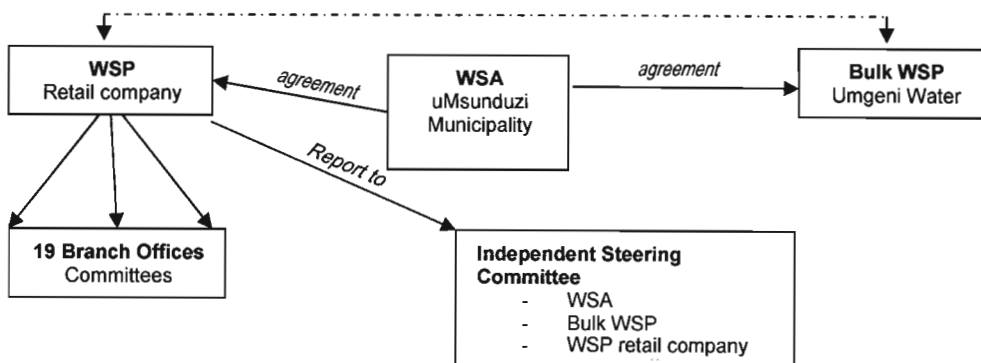


Figure 7–1: Suggested management institutional arrangement at full scheme transfer on 1 July 2004

The low revenue collected from water usage is a major contributing factor to the poor financial situation of the Vulindlela Water Scheme. Although Umgeni Water has been efficient in their operation and maintenance, they have inadequately dealt with non-payment. As was stated by Mr Shangase of Umgeni, it is important not to have the same company

handling bulk supply *and* reticulation (thus the separation shown in the suggested arrangement in Figure 7-1 above). The company's major income is from bulk water sales. The revenue from reticulation/private customers is insignificant in comparison, and thus there is very little incentive to have efficient cost recovery. It was more cost effective for Umgeni Water to *not* follow up on non-payment, and simply absorb the cost, than to pay the staff salaries for the time consuming process of revenue collection and/or water restriction. This has exacerbated non-payment, which will be inherited by the uMsunduzi Municipality with significant financial ramifications. It is doubtful that the municipality will be able to absorb the debt and thus the sustainability of this water project is questionable, as are the ethics of Umgeni Water in handing over the problems they have ignored.

The primary difference between the Vulindlela Scheme and the other schemes included in this research is that water is supplied via yard connections. There are, therefore, a number of people who use more than 6kl/month, and there is potential for this number to grow. A concerted effort needs to be made to develop a system of cost recovery. Very importantly, this system needs to be understood and supported by local politicians. The municipality will need to develop this support, as the politicians have a reputation for undermining Umgeni Water in their efforts to clamp down on non-payment. This system will then need to be implemented consistently by the reticulation water service provider appointed by the municipality when the complete transfer occurs. It is recommended that Umgeni Water should not be this WSP for the reticulation for the reasons discussed in the previous paragraph. If a high percentage of payments can be attained and maintained, the revenue collected will help the project become financially sustainable.

However, even 100% payment every month would not cover the interest on the construction loan. From this example it is clear that national government needs to cover the full capital costs of water schemes if they are to be financially viable.

7.5 Nhlungwane Water Project

The Nhlungwane Water Project is one of a handful of successfully managed community water supplies in the country. Due to the lack of overheads and costly management staff, the historic cost of running the scheme is very low – R7.00 per household per month. This appears to be affordable to the community, based on the high payment rate. The scheme has succeeded in running for 7 years at these low costs due to good economies and efficiencies.

The government Free Basic Water rollout has been slow. The uMzinyathi FBW policy was agreed in 2002, but due to low municipal capacity, has still not been implemented in Nhlungwane to date. However, when the DM does implement FBW, the suggested budget of R63 000 for the Nhlungwane Water Project will be adequate. Despite being 300% more than the current community budget, at R24/hh/month it compares favourably with other experience and is economically viable.

As far as discussions with the community regarding the coming changes are concerned (see Appendix 1), care needs to be taken before changing a system which has been successful. What was presumed to be a simple transition for the community, proved complex and frustrating. The only reason to change would be if the advantages considerably outweighed the disadvantages. The community discussed different development priorities that could be focussed on once they no longer had to pay for water, but there were considerable obstacles for each of the different options for the use of the R7 levy. The options chosen were community projects that could not benefit everyone directly. For example everyone may gain access to blocks from a block-making project, or produce from a community garden, but not everyone would be a member of the project. It was suggested by the researcher that those interested in block making and the community gardens form a planning group and approach the ideas as business opportunities instead of community projects. Sanitation was identified as a shared goal that everyone would directly benefit from, but the costs for training and the start-up capital are high. It was decided that the committee and the community should decide whether they should invest some of their savings into this project, however, it was agreed that it was not feasible for the R7 water levy to be used for sanitation. All these options were eventually sidelined in favour of implementing a system that allowed for additional consumption of water by any party who could afford the cost. However, a decision on how to implement this was not taken, and cannot be made until the uTWP becomes involved.

Although the majority of the community are in favour of government paying for their water consumption, there is a reluctance to implement until discussions are held with their water service authority and water service provider. The lack of communication by these parties with the community, and the delay in the implementation of Free Basic Water has resulted in the community members becoming frustrated and losing a degree of trust in the government. In the workshops the community expressed a desire to retain management of their water scheme, regardless of whether FBW should be implemented or not. This is partially due to a concern that if the government takes over, they could not be relied upon in terms of management and that after a period of time, its support would cease due to insufficient funds, lack of capacity, or a change in policy. Their desire is that the uTWP will subcontract the community to manage the system as they have since its commission. With the proposed

uTWP budget of R63 408.22 an (overdue) increase in the wages could be motivated for to pay those that help to operate the scheme.

A clear way forward for the community has not been resolved to date due to the above mentioned indecision, and frustrations. The community is interested in planning, and improving its system, and want to work with the authorities in order to achieve this. What the end results will be of these negotiations with the WSA and WSP is unknown. A proposal was submitted to the uMzinyathi DM on the 17 October 2003 at the suggestion of a representative from uTWP. A portion of this proposal is quoted below:

It is proposed that a service contract is entered into with the Nhlungwane Water Committee in terms of Section 1.2 of the White Paper on Municipal Service Provision (April 2000). Umzinyathi DM could then implement a system of a monthly debit order into the Nhlungwane Water Project account to pay for expenses. These monthly payments would be termed the monthly Nhlungwane Village Service Contract payment.

It is also proposed that a separate system be set up for any maintenance costs that may arise above these set monthly costs. The administrator would then submit her financial records regularly to the DM to account for all the income. Any water usage that exceeds the 2.4kl/household FBW, will be paid for by the community at a rate of R10 for 2.4kl (R4.17/kl which is comparable to the charges recommended by uTWP) to cover the diesel used, and for other extra operating costs. This will be monitored using a prepaid coupon system. The committee must be allowed to use surplus operating funds (such as may be accumulated as a result of responsible management) for implementing minor improvements to their scheme (e.g. addition of cattle drinking troughs – something which has been proposed by the community).

If this system works well, it will be able to serve as a model for replication in other cases where small isolated communities have shown an ability and willingness to manage their own water supply. The advantage to uTWP would be the cost savings that would be realised if the Nhlungwane committee continue to look after their own project as well as they have been doing.

The community water committee have been well prepared through the workshops and planning exercises of this case study – they understand Free Basic Water, they know what the intentions of their WSA are, and they know what they want to propose - and it is hoped that they can successfully present their management plan to the WSA and WSP.

This case study highlights the need for Water Service Authorities to have a flexible policy and implementation strategy in order to accommodate exceptional communities who have well managed systems in place. Communities such as Nhlungwane should be recognised and rewarded for their good management and should be involved in the decision making regarding changes that affect their community.

It is important to note that the lowest historical cost for water supply (in this research) was recorded at the Nhlungwane Water Project. At only R1.00 per capita per month (R7 per household) their costs were (and still are) more than 45% lower than the best cost per household recorded by any other service provider in this research. This community is noted to be an exception to the norm, as many other rural water schemes across the country have failed when managed by the local community. However, exceptions like this should not be ignored, and Water Service Authorities and Providers should negotiate contracts (provided for in Section 1.2 of the White Paper on Municipal Service Provision, April 2000) with communities such as Nhlungwane to continue to manage their schemes whilst the WSP provides a support role. In order to make this arrangement possible, the WSA needs to develop a policy and a defined process that communities can follow to request a contractual agreement with the WSA and WSP. Without this in place, it is doubtful whether the WSA will have the time or inclination to meet and negotiate with every community water supply committee - as has already been demonstrated by the slow response from the uMzinyathi District Municipality. Nhlungwane is only one small community in a municipality with many issues to attend to, and it is therefore the community that will need to be proactive in seeking progress.

If the Nhlungwane community can pioneer this contractual agreement with the local government and the uThukela Water Partnership, the water scheme is more likely to be sustainable in the long term. As discussed in Chapter two, with the examples of community management in Ethiopia and Malawi, external support is an essential factor in sustainability. The long-term management and financial burden of maintaining a water supply has proved to be too great for a community to bear alone. Nhlungwane has excelled to date, but their reserve funds would not be able to pay for engineers to undertake major extensions or refurbishment to the scheme. As the infrastructure ages, more problems will occur and the government will need to subsidize capital expenditure. The uThukela Water Partnership, together with the Nhlungwane community, have an opportunity to combine the two global trends of privatisation and community management. The community can retain daily operation, maintenance and management, while uTWP can provide technical and training expertise when requested. This could be an example of a truly participatory arrangement that employs the ideals of ownership and empowerment to the benefit of all.

In order to establish trends and recommendations that could apply across South Africa and perhaps to other developing countries, it is necessary to compare aspects of the five case studies. Five key factors that were noted as contributing towards sustainability (or lack

thereof) of the Free Basic Water policy are now discussed. These are: institutional arrangements; cost per capita; asset replacement; cost recovery and the equitable share.

7.6 Institutional arrangements

An analysis of the various district municipalities' institutional arrangements for the implementation of Free Basic Water in rural areas is limited at this stage, as the Alfred Nzo District Municipality is the only municipality of the five investigated in this research that has developed and implemented FBW. The uTWP has a very detailed strategic plan which assesses FBW, but this is still in the process of being finalised; the uMsunduzi Municipality will only be taking over the Vulindlela Water Project in July 2004, and they are uncertain of the institutional arrangement they will use; and Amatole (Ngqushwa) Municipality is still in the process of developing a FBW policy. However, drawing from the AquAmanzi projects, the Umgeni Water operations of Vulindlela, and the Alfred Nzo DM experience recommendations for a cost effective institutional arrangement for the delivery of FBW can be made.

Nhlungwane will not be included in this discussion regarding a recommended institutional arrangement as it is an exception to the norm, and should be viewed as a benchmark for the ultimate in low cost operation and maintenance in rural water supply. Experience indicates that there are very few community WSPs as cohesive and successful as Nhlungwane, and this institutional arrangement can thus not be broadly applied. Instead, district municipalities should allow for exceptions such as these and perhaps develop unique contracts with such communities to allow them to continue to operate their water schemes with cost efficiency that cannot be matched in any other way.

The uTWP 2030 will be excluded, as there has been no implementation history to prove that its proposed budgets are realistic. Their planned cost per capita at R20/month is too high for other district municipalities to follow and it is beyond the level of Equitable Share funding. The proposed budgets for Nquthu and Nhlungwane are economical, but again, it is difficult to comment as they have not been implemented. Ngqushwa LM will also be excluded as it has no policy or institutional arrangement in place.

The common factor between the AquAmanzi, Vulindlela and Alfred Nzo DM institutional arrangements are the specialised, experienced, independent Support Service Agents contracted for supporting or managing the operation and maintenance of water supply schemes. These organisations have the expertise to manage both the budget and engineering challenges of rural water supply. This does not infer that privatisation is

necessary, only that an independent SSA (public or private) with the necessary expertise appears to be an essential element for reliable and economical provision of rural water. An example of such an arrangement is represented in Figure 7-2 below:

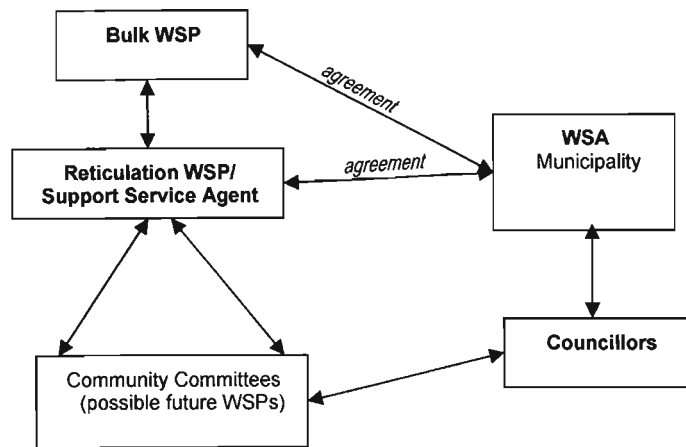


Figure 7–2: Recommended institutional arrangement

From this research, it is recommended that the roles and responsibilities be as follows:

The district municipality is the water service authority and is responsible for policy, contracting the Support Service Agents and water service providers, budgets, and ensuring all parties are fulfilling their obligations. The Support Service Agents ensure that daily operation and maintenance of the schemes happens, and are responsible for community liaison and capacitating, management of budgets, and regular reporting to the WSA and WSP. The water service provider must ensure that the Support Service Agent is supplying a clean, reliable water supply as well as for accomplishing cost recovery, community social issues, reporting regularly to the WSA and SSA. The WSP and SSA may be the same party. If a community WSP is desired, as in the Alfred Nzo DM, then the functions of the SSA and WSP will overlap as the community WSP is capacitated and legally registered. This latter example will mean a gradual phasing out of the SSA who may eventually only provide expert assistance for major maintenance.

From the experience gained in this research, and from examples in the literature review, this is viewed by the researcher as the most widely applicable institutional arrangement for successful water provision in rural areas. With this arrangement, the all important community participation is included, with the possibility of developing into community management in areas where committees show commitment and initiative. Equally important are the

professional, independent water service providers that can be monitored according to strict key performance indicators and are removed from the bureaucracy of local government.

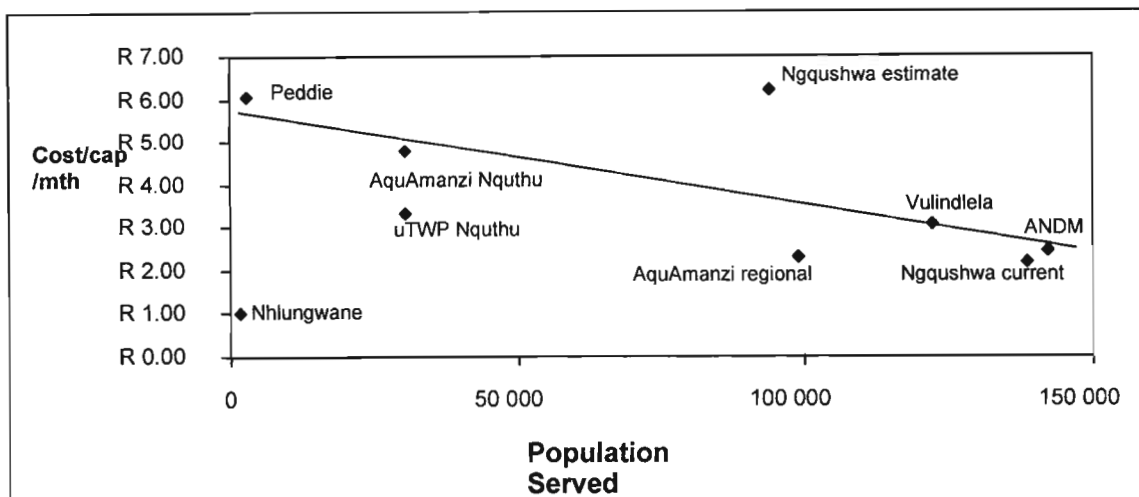
7.7 Cost per capita

A comprehensive costing of water supply was detailed in each case study, providing a broad spectrum of the historical and predicted costs with the different institutional arrangements. From these case studies one can determine a pattern developing in the cost per capita that can be used to budget for the supply of FBW to other rural areas.

Table 7–2: Comparison of the operation and support costs of water supply in the different case studies

	No. of People Served	Cost of Operations & Support/hh/month	Cost of Operations & Support/capita/month
uTWP Marginal Scenario	1 787 655	R113.00	R20.00
AquAmanzi (uTWP region)	98 912	R18.36	R2.30
Nquthu rural (historical)	30 444	R33.59	R4.80
Nquthu rural (uTWP proposed budget)	30 444	R26.50	R3.31
Nhlungwane	1 500	R7.00	R1.00
Alfred Nzo DM (Umzimvubu North)	142 007	R17.08	R2.44
Vulindlela	122 088	R18.45	R3.07
Ngqushwa LM	120 841	R9.75	R2.17
Amanz'abantu (Peddie in Ngqushwa)	2 815	R27.41	R6.09
Estimated Ngqushwa (From Table 6-20. Avg taken) (includes WSA costs)	94 155	R28.00	R6.19

From these case studies, the median cost per capita per month for operation and maintenance is R2.75. It should be noted that when investigating the AquAmanzi, Nquthu, Alfred Nzo DM, Vulindlela and Peddie costs there is a trend between the number of people served and the cost per capita, showing the significance of economies of scale. The Ngqushwa current costs fit the trend but the service provided is poor and will need significant improvement before it can be compared with the other costings. The Ngqushwa estimate results in a higher cost per capita and does not fit the trend shown by the other case studies.



Note: uTWP SP2030 strategy budget not included as the costs are too high

Figure 7–3: Trend between Cost per Capita and Population Served

7.8 Asset Replacement

Asset replacement is a vital component of Free Basic Water costs, and yet was not included by the Water Service Authorities' budgets in this research. Without planning for these future costs, the water supply cannot be sustainable in the long term. Water Service Authorities must begin to budget for asset replacement, setting aside funds from their annual budgets.

But how much should be budgeted? While plastic pipes and concrete reservoirs do have a long life expectancy, other items such as valves, meters, pumps, engines and electrical controls are faster wearing (Still, 2002). At today's value, an average scheme costs approximately R1 400 per capita to construct. If 20% of this has to be replaced/upgraded every ten years, that is R280 per capita to be spent every 10 years - this translates to R2.33 per capita per month (Still, 2002). As discussed in each case study, the costs do not include asset replacement, and are thus not the *real* costs of water supply. Using the median of the costs in Figure 7-3 above (escalated to 2004/2005 value), and the estimated asset replacement cost calculated above, an approximate total cost per capita per month for water supply can be calculated:

R3.51 (operations and support) + R2.33 (asset replacement) = **R5.84** Total cost /capita/month

This figure is for 2004/2005 and should be increased annually at the inflation rate. It should also be noted that this figure does not include WSA costs. These costs will vary considerably in each district municipality. However, in this research it appears that these costs are often included under a different municipal budget section as they are not found under water service provision.

7.9 Cost Recovery

Cost recovery is a problem that still needs to be dealt with. The Alfred Nzo DM has no cost recovery in rural areas, and this is predicted to become an increasing problem in the future as consumption increases with increasing number of yard connections. Yard connections are discouraged and household water consumption beyond the FBW quota is not being paid for. The municipality plans to devise a strategy in the future, but is at present focussed on expanding the rural water supply to cover all villages in the DM. Umgeni Water has a problem with cost recovery at Vulindlela, and has increasing arrears every month. The lesson here is the need to have different companies/organisations responsible for bulk supply and reticulation. The company responsible for the reticulation must have the motivation to recover costs every month as a part of their contractual obligations and financial sustainability. This problem illustrates the resilience of large organisations to shock. Umgeni is able to absorb costs and inefficiencies when needed. However, as mentioned, the local municipality will have significantly less resilience and although it has inherited a largely well-functioning system, the problem of non-payment could cause the system to falter and perhaps collapse in the future. This situation should be a caution to other municipalities who contract large companies as service providers. Once the contract is finished and the municipality resumes responsibility, the failures of the previous system will be inherited. This highlights the need for the municipality to monitor, regulate and enforce standards for any contracted service provider. Furthermore, the municipality and WSP should ensure the support of traditional and local government leaders for cost recovery, and have regular education programmes to improve community buy-in.

AquAmanzi used prepaid meters before FBW, but these were replaced with units dispensing a controlled FBW allocation at standpipes. This prevents those that cannot afford to pay for water from using more than their free allocation. This is a controversial option, but is an option that may be more acceptable if introduction is made with community participation in the decision process. Where this type of restrictive technology is used, there should be other rudimentary (hand pumps, protected springs) for people to obtain additional water.

Cost recovery is a contentious issue in South Africa at present. After conflict over cut-offs due to non-payment, the former Minister of Water Affairs Ronnie Kasrils announced that it was unconstitutional to cut people off from a lifeline supply. This has exacerbated the cost recovery issues, as people continue to receive water despite arrears. The other reality is that many people cannot afford the water tariffs, despite willingness-to-pay, and cannot be denied a basic human need due to economics. The vast majority of rural households obtaining water from standpipes do not use more than 6kl per month and therefore there will be no cost recovery, but with the increasing number of - and desire for - private connections, cost recovery will continue to become a larger issue.

No solutions to these problems emerged from this research, but it did highlight the need for more work on this topic.

7.10 The Equitable Share

For poor rural areas the affordability of FBW is primarily determined by the Equitable Share allocations. These allocations will be compared with the costs in this research, and with the median cost calculated above. Most of the calculations and illustrations in this research used 2002-2004 figures. The costs will be escalated and applied to the most recent Equitable Share allocations for financial year 2004/2005. The money for water services is allocated to the Water Service Authorities. In order to calculate the approximate portion of the Equitable Share allocation that is intended to subsidize the costs of FBW, 23.3% of the total S-Grant and 40% of the total Free Basic Services portion for the DM and for the LMs within the DM jurisdiction is assumed to be available (as recommended by Treasury). Table 7-3 shows the approximate totals available in each case study area. It should be noted that the calculations for Amatole, uMgungundlovu and Amajuba were complicated by local municipalities within their jurisdiction being Water Service Authorities and thus the figures for these areas are less certain than for the other areas.

Table 7–3: Rands allocated for water services from the Equitable Share (Division of Revenue 2004)

	Total ES 2004/2005	Recommended allocation for water services (% of ES)
uThukela	R91,817,856	R13,936,333
uMzinyathi	R88,205,325	R15,886,880
Amajuba	R57,340,114	R11,163,596
uTWP (3 DMs combined)	R237,363,295	R40,986,809
Alfred Nzo	R174,477,587	R35,699,689
uMsunduzi	R69,468,999*	R13,673,977
Amatole	R266,336,111**	R58,973,476

* This amount is allocated to the local municipality. The LM is the WSA and thus receives the allocation for water services.

** This amount excludes all allocations to Buffalo City LM (WSA), as Amatole is not responsible for that area, and has no access to the funds

Using these ES allocations one can apply them to the current and projected costs discussed in this research for the different case studies and determine their affordability. In Table 7–4 below, the water service allocations are compared with the total populations within the jurisdiction of the applicable Water Service Authorities, in order to show what percentage of the population the current ES allocation can cover. It should be noted that the Census 2001 figures have been used, as these are the ones that were used by National Treasury for the 2004/2005 Division of Revenue. If the population figures used in the case studies were taken, results would vary from those below. Once again, this highlights the importance of correct population figures.

Table 7–4: Affordability of water provision

	ES allocated for water	WSA Popln (Census 2001)	Cost/cap/ mth**	% coverage possible @ actual costs	Recommended Cost/cap/ mth	% cover possible @ recommended costs	% cover needed***
uTWP	R40,986,809	1 581 480	R4.92 – R23.32	9 - 44%	R5.84	37%	43%
Alfred Nzo DM	R35,699,689	550 389	R5.08	106%	R5.84	93%	57%
Ngqushwa	R2,984,680*	84 229	R4.77 – R10.19	29 - 62%	R5.84	51%	60%
Vulindlela (uMsunduzi)	R13,673,977	553 223	R5.80	36%	R5.84	36%	48%

* The portion of the Amatole allocation that would be for Ngqushwa, based on population figures.

**incl asset replacement; escalated to 2004/2005 value

*** for 2004/2005 taking into account indigence levels and population actually served

If the data in Table 7-4 are an accurate representation, the situation is positive only for Alfred Nzo. The percentage possible coverage for all the other WSAs, even at the recommended cost/capita, is low. However, it must be remembered that the ES is allocated on the basis of indigence levels and furthermore, the FBS portion is allocated according to the number of people actually served. When this is taken into account, and the percentage coverage actually needed in the 2004/2005 is calculated, the picture is considerably better, *but still not sufficient*. All the WSAs, bar Alfred Nzo at this stage, need to both allocate the full recommended percentages of their ES to water services and develop effective cost recovery, and cross-subsidisation strategies. However, as none of these municipalities have large urban centres to cross-subsidise high water provision costs, this table further highlights the importance of a cost-effective institutional arrangement.

As already mentioned, Equitable Share allocations for basic services are targeted at indigent households only. Therefore correct indigent population figures are crucial to determine affordability. It is also imperative that the census figures correlate with the figures used by WSAs. An example of this is illustrated in Table 7-5 below:

Table 7–5: Population figure discrepancies

	Census 2001 population	Population used by WSA	Difference	Census 1996 indigent population	Indigent population used by WSA	Difference
uThukela Water Partnership	1 581 480	1 787 655	206 175	Could not get data	1 448 000	
uMzinyathi DM	456 459	615 973	159 514	323 519	572 858	249 339
Alfred Nzo DM	550 389	635 845	85 456	439 678	552 813	113 135

The ES indigence numbers were imputed from the 1996 Census and used from the first ES year, 1998/1999, until the 2003/2004 ES year. If a comparison is made between these indigence levels and the indigence levels used by the WSAs in this study, there are significant discrepancies. These discrepancies resulted in lower ES allocations than the WSAs appeared to require, placing increasing strain on municipalities' already tight budgets. This could be a reason for the delay in the implementation of FBW in some of the case study areas. The 2004/2005 ES is based on the 2001 Census, however, the official imputed poor population figures from Census 2001 were not available at the time of the research. For the uTWP region, there were significant increases in the ES allocation that were not projected in Division of Revenue Act 2003. This could be attributed to increased indigence figures from the 2001 Census, which will improve the ability of the WSA to provide FBW in this region.

These main findings are summarized in Table 7-5 below. The table shows key similarities and differences between case studies.

Table 7–6: Comparison of key elements in each case study

	People served	Institutional arrangement	Level of technology	FBW policy	Cost recovery	Cost/ capita/ month	% cover @ current ES
uTWP	1 787 655	Regional WSA and WSP	Public standpipes & private connections	3.3kl planned	Not yet implemented	R20 (planned)	9%
AquAmanzi regional	98 912	SSA supporting VWC, reporting to WSA	Public standpipes & private connections	6kl to standpipes only (water widget)	Poor	R2.30	94%
AquAmanzi Nquthu	30 444	SSA supporting VWC, reporting to WSA	Public standpipes & private connections	6kl to standpipes only (water widget)	Poor	R4.30	50%
uTWP Nquthu	30 444	Regional WSA and WSP	Public standpipes & private connections	3.3kl planned	Not yet implemented	R3.31	65%
Umzimvubu ANDM	142 007	SSA supporting VWC, reporting to WSA	Public standpipes & private connections	6kl	No cost recovery	R2.44	106%
Ngqushwa	120 841	DM as WSA. DWAf and LM as WSP. Water Board as bulk WSP Inactive VWC.	Public standpipes, rudimentary & private connections	6kl	Poor. No system in place.	R2.17	136%
Amanz'abantu	2 815	SSA supporting VWC, reporting to WSA	Public standpipes & private connections	6kl	None post FBW. Efficiency pre-FBW unknown.	R6.09	48%
Ngqushwa estimate	94 155	undecided	Public standpipes & private connections	undecided	Not yet implemented	R6.19	47%
Vulindlela	122 088	SSA supporting VWC, reporting to WSA	Private connections	6kl	Poor. Not enforced consistently.	R3.07	36%
Nhlungwane	1 500	Community management	Public standpipes	2.4kl	Very good	R1	100%

7.11 Recommendations

From the experience gained during the investigation of the five case studies the researcher recommends the following:

A thorough investigation of status of water schemes is an essential first step in the successful implementation of Free Basic Water in rural areas. The Water Service Authorities need to have a very clear understanding on how all the existing schemes are operating, where refurbishment is needed, and where new capital projects are required. Once the current status has been established, the budgets and the implementation of institutional arrangements can be discussed. It needs to be ascertained what expertise is available within the DM, and where expert assistance will be needed in order to supply water across the entire DM. Existing relationships between government, the private sector and the community must be analysed and included if possible and preferable. It is at this stage that roles and responsibilities should begin to be allocated. A DM should undertake costing exercises for the different institutional arrangements, drawing of the experience of other DMs. The DM needs to determine what can be afforded, what extra income is needed, and where this money will be found. Included in this must be an allowance for asset replacement. From the costing, the required percentage allocation from the Equitable Share will be clear, and can be motivated for.

The role of the private sector should be carefully explored, as there are many options for outsourcing work that could improve efficiency and affordability. These options, and the motivation for them, must be carefully explained within the local government circles, as privatisation is often viewed as negative. The international private sector cannot be expected to play a key role in areas with low commercial viability without having to demand greater profits in order to compensate for the risk, and therefore it is not recommended that they are contracted in rural municipalities.

Partnerships between government, private/public organisations, and communities hold a variety of benefits. Each body has different strengths and weaknesses which, with careful planning, can be partnered to ensure maximum quality and sustainability of service. From this research an expert Support Service Agent is recommended to provide technical and capacity building assistance to communities and government.

It is essential that political support and commitment is obtained at an early stage and nurtured throughout planning and implementation, as the Alfred Nzo DM and Vulindlela experience shows that political issues can threaten the success and sustainability of FBW implementation.

CHAPTER 8: CONCLUSIONS

This Chapter revisits the aims and objectives of this research and describes how these have been fulfilled within the chosen methodology.

8.1 Aim

The aim of this research was to investigate the implementation of Free Basic Water in selected rural areas of KwaZulu-Natal and the Eastern Cape, South Africa and to ascertain whether it is sustainable in the long term.

Although each case study area is in a different stage of implementation of the policy and all have a different approach, these differences helped to highlight the challenges that municipalities are facing, and the decisions that are crucial for success. Due to the limited implementation of Free Basic Water within the chosen case studies, definitive conclusions could not be made in regards to the long term sustainability of FBW in rural areas of South Africa. Comments and recommendations on sustainability have been made, however, from the current status of the case studies.

8.2 Objectives

The objectives were not dealt with individually, and cannot be split into defined categories. The conclusions below are brief summaries that must be related back to the in-depth discussions in Chapter 7.

8.2.1 Objectives 1 and 2:

- 1 Investigate various emerging Free Basic Water institutional arrangements and implementation approaches, and the success thereof;*
- 2 Make recommendations for suitable, cost-effective arrangements for FBW provision.*

The institutional arrangements were researched through interviews with key personnel and through project and programme reports. It was discovered that some of the municipalities are acting as both Water Service Authority and Water Service Provider (Ngqushwa and possible Msunduzi (Vulindlela), whilst others have contracted out the role of Water Service Provider to an external organisation (uThukela Water Partnership, Alfred Nzo District Municipality). In all

the municipalities, there is insufficient staff dedicated to the water and sanitation sector, resulting in many 'roll-out' delays. Internal politics is also a common theme that hinders decision-making and progress (Alfred Nzo, Nhlungwane). As a general observation, the bureaucracy within local government is a strong motivation to externalise service provision.

From these case studies it is concluded that the most cost effective institutional arrangement has an external organisation as a Water Service Provider. This can either be a public, private, or community organisation – the primary requirements being engineering, financial and social expertise. It was also noted that the inclusion of persons at community level in the institutional arrangement was a key component to success. Unfortunately, people at this level are not always involved and local government and/or the private sector make decisions without consulting those that will be most affected.

8.2.2 Objective 3

Assess the real costs of providing the water at project, support agency, and municipality level.

This was achieved by analysing project reports and budgets as well as discussions with key personnel. With each case study at differing levels of implementation, this analysis proved to be a difficult task. In the areas that are in transition, both historical and planned costs were used. In this exercise it was noted that none of the municipalities were investing funds for future asset replacement. This will have serious implications for the long-term sustainability of these programmes.

A benchmark all-inclusive cost per capita per month of R5.84 for water service provision was developed from the mean of the costs in this research. This figure aligns with previous costing exercises (Palmer Development Group, 2001; WRC, 2002; Still, 2002) and should be aimed at by all municipalities that are reliant on Equitable Share allocations.

8.2.3 Objective 4:

Investigate the availability of funds and the channelling of those funds.

This was achieved through a study of the Equitable Share. Working with Mr Derek Hazelton of TSE Water, various documents were obtained from National Treasury and the Department of Provincial and Local Government. From these documents, the details of the system were understood and applied to two municipalities. The process proved to be very difficult and highlighted the lack of transparency in these allocations. Many municipalities do not fully

understand how the allocations are made and what portions of the money are for different functions.

The Equitable Share is vital for the sustainability of Free Basic Water, and at present, the divisions to each municipality do not appear to be equitable, making FBW unaffordable in some rural municipalities. It is essential that the government introduces more accountability and conditionality to the grants in order to ensure that those municipalities genuinely providing basic services to the poor are adequately funded to do so.

Of the case study areas, only the Alfred Nzo District Municipality had sufficient allocation to cover the recommended R5.84 per capita per month for water provision. For all the other municipalities, providing a sustainable water supply to the entire poor population, is impossible without significant cross-subsidies. It is not certain whether these municipalities have undertaken similar costing exercises, or whether they realise the gravity of the situation. It is hoped that this research will be able to highlight the problems and prompt the municipalities to action.

8.2.4 Objective 5

Make recommendations for the successful transfer process to FBW

The primary purpose of this objective was to obtain advice from the Water Service Authorities and Providers. However, due to the limited implementation of FBW in the case study areas, only the Alfred Nzo District Municipality had a significant contribution to make. However, from an overview of the case studies, one is able to make general recommendations from the lessons learnt to date.

The most essential elements for a successful FBW programme are: political support; thorough knowledge of current status; analysis of municipal capacity; costing of various institutional arrangements; and the defining of a budget.

8.2.5 Conclusions

The need for access to water in rural areas is an international development priority. The challenges that have arisen in the global water and sanitation sector to meet this need are relevant to South Africa and have emerged in the case studies of this research. *Water is essential to life* is implicit in the Free Basic Water policy and its implementation in each case study. Even those areas that have not fully implemented a policy acknowledge its priority and are attempting to improve. *Water is an economic good* is outworked in the tariff structures,

cross-subsidisation, and the Equitable Share. Water provision is costly and the government subsidising of a basic allowance of water provides for *both the economic cost and the human right to water*. The controversial topic of *privatisation*, linked to structural adjustment programmes is debated in all the case studies. There are varied levels of success and political opposition, with the conclusion being that the private sector is a viable option that can be highly successful if monitored and regulated by local government.

International best practice for water supply in rural areas highlights *community management* as vital to sustainability. This is the area where South Africa is increasingly deviating from international best practice. The FBW policy has had the negative impact of water service delivery in rural areas becoming 'top-down' and 'supply-driven' as it is administered by local government. With the emphasis on the responsibility of local government to operate and maintain rural water supplies at no cost to the community, it appears that the role that the community plays in the institutional arrangement is diminishing. This is an issue that needs to be highlighted and resolved, or else historical sustainability issues linked to lack of community involvement may be repeated. There are exceptions to this, and these could be used as examples of getting the balance right. The Alfred Nzo District Municipality is such an example from this research, where communities are involved in operation, maintenance and decision-making, with their capacity consistently being improved through a partnership with the WSPs.

From this research it is clear that there is still much improvement needed before South Africa has a fully implemented and sustainable Free Basic Water policy. Full supply to the rural areas is vital, as it is in these areas that the majority of the poor population reside. Considering that the policy was aimed at the poor, South Africa cannot claim success until the poor are reached. This target should be clarified as not simply the provision of potable water to RDP standards, but rather the financially and institutionally sustainable supply of potable water. In order to achieve this success, government must address the issue of the apparent inadequacies of the Equitable Share; municipalities must set benchmark costs per capita that are affordable; a consistent system of cost recovery must be discovered and implemented; and accountability (achieved via performance indicators, monthly reports and financial transparency) are essential. All of the above can only be achieved within a co-operative political environment that is consistent at national, provincial, local and ward level.

Free Basic Water in the rural areas of South Africa is difficult, but possible, and with good management could be sustainable in the long term as long as national government provides sufficient levels of Equitable Share revenue to municipalities. From the lessons learnt in this research, the key factors in successful implementation are: good planning; the honest

assessment of the WSA capacity and the consequential contracting of experts to fulfil the roles and responsibilities the WSAs cannot fulfil; political support for FBW policy; accountability; and a cost recovery system for high users.

South Africa has taken a brave step away from global development trends. It is too early to comment on the policy's success or failure, and the shortcomings discovered in this research should be viewed as teething problems that can be overcome with commitment from all stakeholders. It is hoped that this policy will finally be a solution to the historical failure of service delivery to rural areas. Free Basic Water is one way to help remove the inequalities of the past and spread resources more evenly across the spectrum of South Africa's rainbow people. The vitality of water and the national political support for its increasing accessibility have resulted in an urgency to implement the FBW policy successfully and equitably in every municipality. This catalysed environment provides an excellent opportunity for strong partnerships between government, civil society and the private sector to develop. These partnerships provide the possibility for other development issues to be effectively implemented and for South African development to occur in a more holistic, integrated manner.

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Appendix 1

Nhlungwane Community Process

Nhlungwane community response to coming changes

1. Core research questions

- i.) In a case where a community has a good track record in managing their own water supply, will local government retain and make use of the skills built up in the community?
- ii.) If it is no longer required for people to pay for a basic water supply, will they be interested in, and prepared to pay for a higher level of water supply?
- iii.) Where good community disciplines have been established in paying for a community service (water), can that practice be transferred to a new development objective after the advent of Free Basic Water?

2. Process

2.1 Introduction of research project to Water Committee

12 September 2003

Partners in Development have been working with the local Water Committee for a number of years, but had not attended their monthly meetings in 2003. At this meeting an update on the Water Project was given to the researcher. Following this update, the researcher questioned whether there was any progress with Free Basic Water in the area. The committee could remember no interaction with either the District Municipality or the uThukela Water Partnership. The researcher explained the new powers and functions with regards to water supply, and the role that uTWP planned to play both financially and technically. Once the committee understood and had asked questions that concerned them, the researcher made the suggestion that the community does not stop their current system and simply let the government pay, but to keep up monthly levy and use it to pay for additional water, or a completely different development project.

The committee was requested to think about the proposal, and speak to friends and family. Permission was given for the researcher to workshop the idea with the community so that an informed decision could be made.

2.2 Prelim interviews and mapping exercise

18-19 September 2003

The aims of the two day site visit were: to get to know the community; to explore current and future developments of this community; and to start facilitating the thinking around redirecting community contributions to other community development initiatives, after the introduction of free basic water.

Current sources of water

The community of Nhlungwane currently obtain water from the following sources:

Hand-pumps	Used mainly by those who do not pay for water. Those people who use tap water also use the borehole if they need extra water eg for livestock or watering the gardens.
Mpofana river	Used to be the main source of water for the Nhlungwane community, especially during dry seasons. This source is still used if the umgonqozo (borehole) is broken. It is also used for a community garden.
Stream	Used mainly for livestock watering. During dry seasons there is often too little water available in this stream, and sometimes there is no water at all. During these times community men dig below the river bed to get to water.
Rain water	Rain is limited to the wet season. Rainwater harvesting is only possible for those with appropriate roof designs.
Tap water	In order to get access to this source the community members or families have to pay an initial joining fee of R150.00 and the monthly tariff of R7.00 per household. Tap water is the cleanest source in this community.

Main uses of water

The tap water users are allowed 3 water containers (25 litres) per day per family. According to the interviews, water is used mainly for cooking, drinking, bathing, watering the garden and for livestock watering. The tap water provided is enough to meet the needs of the household, but there is generally not enough water for the livestock or for watering the gardens. If there could be more water people would be able to cater for gardens, block making, livestock, and students could wash their school uniforms each day.

People were not aware that it was possible to increase the amount of water that they use daily. This became clear when they explained that there was arable land that is not ploughed due to insufficient water. They also expressed the need to install a pump in another borehole that was drilled by Mr Rudi Schroeder, who advised that if there should be a need to increase water supply then they could make use of that borehole. Mr Schroeder used to work with this community and initiated the idea of the water project to provide the water needed for the gardens. This was the start of the process for the Nhlungwane Water Project some ten years ago.

Community Activities

These include one community garden and a few family gardens.

Ekwethembeni Community Garden

This community garden started ten years ago, when a person from the community gave a piece of land for communal ploughing. The project has a membership of 46 families. Members farm to supply their families and to sell surplus to the community. Their produce includes beetroot, spinach, onions, tomatoes, cabbages, carrot and mielies. The Department of Agriculture supported them with fencing and an engine and pump which supplies irrigation water. A R10.00/ contribution by each member is used to run the project. The garden is successful, although theft by baboons is a problem.

Family gardens

A few households have small gardens where they plant vegetables. Most of these are only ploughed and planted in summer. Some households save their daily ration of tap water to water their plants, while others use water from the hand-pumps. Umsasane (a type of a thorn tree) and wire is used to fence the family gardens. There was a concern that there is a shortage of umsasane in Nhlungwane. This results in people not ploughing their fields.

Other community projects

People of Nhlungwane keep cattle, goats and sheep as family wealth and not for selling. They are used to pay penalties or for cultural purposes.

A block project started by the late Mr Bethuel did not succeed, allegedly because of the shortage of water and sand.

Interviews

Number of people interviewed

Sixty-three people were interviewed including youth, adults, females, males, leadership etc. Most of the interviews conducted were in groups with very few one-on-one interviews, as people were gathered together at different places.

The breakdown of people interviewed is as follows:

	Male	Female
Adults	15	25
Youth	17	6

About 25 people participated in a community mapping exercise. Most of the participants were females, however the sun was very hot and the men turned out to be the most active during the exercise. A few women observed from the shade of a tree while others got involved during the discussion.

Interview with the local political Councillor, Mr Kubheka

The aims of this interview were to find out about the following:

- the process of the transfer of water management to the uMzinyathi District Municipality and the community involvement in this transformation;
- any programmes planned for the Nhlungwane community in the near future; and
- involvement of the Nhlungwane youth in developing their area.

Councillor Kubheka claimed to know nothing about the operation of the Nhlungwane Water Project, or the transfer of water management to the uMzinyathi DM. During the interview he was informed about the process. It emerged that the reason for his non participation was because he lives in the neighbouring area of Mkhuphula that did not get piped water because of resistance to pay when the project was initiated. Because of the lack of water in his area, the councillor does not like to be involved in, or show support for, the Nhlungwane Water Project.

Councillor Kubheka also told of a local government project to supply solar power electricity. The household has to pay the installation fee which is R100, and then pay R18.00 per month. There is only one household that is using solar electricity so far.

He talked about several projects that are expected to commence soon: poultry farming, sewing and community gardens.

He expressed concern that people do not attend meetings, and that it is difficult to communicate with the community other than through meetings. He does not know what they can do to overcome this problem. According to Mr Kubheka the youth do not get involved as they lack understanding of the importance of development activities.

Youth involvement in development issues

From the interviews with youth, it became clear that they do not participate in any development activities in their community. When asked the reason why, they gave different answers: no one invites them to meetings so they think that they are not needed; they only get invited when there are disciplinary hearings taken by leadership against one of the youth; they think that it is not applicable for them to participate in development activities.

Sports activities at Nhlungwane include soccer (for both boys and girls), netball and Imbube music. Boys' soccer lacks sponsors therefore they do not compete with teams from other wards, while girls' soccer was recently involved in competitions that were organised by uMsinga Local Municipality.

Conclusion

From the interviews it was clear that there is a serious shortage of water for livestock watering. Other potential uses for additional water include family gardens, block making, and poultry farming. Should they have an Eskom electricity supply they can do things like welding, and panel beating (the solar panels offered by local government, are not powerful enough for industrial uses).

Another important issue that was discovered was the lack of cooperation between the Nhlungwane community and their local councillor. For example the councillor complained that people do not come to meetings, while the chairperson of the water committee complained that the councillor refused to sign a letter to the Mvula Trust (requesting help to fence the pump house) because the councillor felt it may jeopardise his negotiations for the supply of water to Mkhuphula ward. The relationship between the local councillor and the community will influence whatever plans are made for this community.

A knowledge-and-skill-assessment was not done on the two days visit, but was included into the first workshop to help the community understand their best possibilities for development.

The vocabulary and attitudes that were expressed in the interviews showed a tendency for dependence on government and other funding. People are waiting for outsiders to come and do things for them. This is an interesting observation, considering that this project was chosen for research precisely because they have fared better than most in looking after their own water supply.

2.3 Workshop 1

9 October 2003

This workshop was the first in a series that aimed at helping the community of Nhlungwane



to consider their options, and plan for the future. We made it clear from the start that we were not bringing money to the community, or jobs, or a development project, but rather we wanted to help the community realise the potential that they have to help themselves.

With this goal in mind, the first workshop was focussed on identifying all the activities in the community that were linked to income generation and/or sustainable livelihoods. An extensive set of pictures was used depicting different tasks, and the participants divided these according to **gender roles and responsibilities**.

Once this was finished, the large group split into smaller groups, and they ranked all these tasks by priority. In this **ranking procedure** they were asked to decide what were the most important activities in the community, and which of these needed “developing”. Much debate ensued but each group eventually ranked all their picture cards.





The groups were then given two mielie kernels each and asked to vote for their first and second priority for development. From each group a spokesperson was chosen to present their first and second priorities, and motivate their choice. After these motivations, the top scoring cards in each

group were placed in the centre of the room and each person was given only one mielie kernel. Each person then voted again for their priority issue.



The results were unexpected. From the initial site visit and interviews it was predicted that livestock watering and vegetable gardening would rank high on the list of priorities. However, these did not receive any votes. The livestock watering did not even make it into the second round of voting.

The second priority, getting only a few votes was the need for a block making project. The need was expressed for a local supplier, as blocks had to be bought elsewhere and delivered at significant cost.

The first priority, and one that had not been mentioned prior to this workshop, was sanitation. This option won the vast majority of the votes. It was expressed that there were hardly any latrines in the community and that it was a continuous source of embarrassment and inconvenience. People had to walk a considerable distance to conceal themselves in bushes and dongas for their daily ablutions. When asked why people had not build latrines if it was so important, the reply was that the ground was too rocky and hard to dig. The women did not have the time or energy to dig, and the men and

young folk were reluctant.

The Induna made a request that we find funding for the community to get latrines, but it was explained that that was not the purpose of our research. An offer was made and accepted for

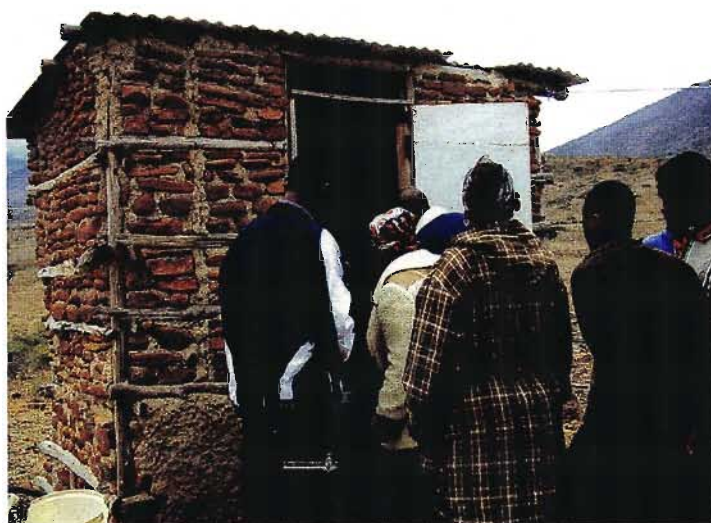
an educational site visit to improve the community's understanding of the requirements for building a latrine.

After the voting, there was some further discussion, during which livestock watering, community gardens, family gardens, and block making were mentioned again as issues that needed attention within the community.

2.4 Workshop 2: Sanitation field trip

3 November 2003

From the outcome of the first workshop it was clear that sanitation was a very important issue in the community. Although this was steering away from the project goal, it was deemed necessary to inform the community of their options and help them to plan a way forward.



Mr Richard Holden of the Mvula Trust was contacted for advice due to his experience in community driven sanitation in the Msinga area. He directed us to Mrs Vetrinah Madondo who is currently working with Mr Holden, and is from the Msinga area. An educational site visit was organised, and 15 people from the Nhlungwane community were taken to be shown Mrs Madondo's urine diversion toilet. Urine diversion is seen to be an appropriate technology for this area, as it is extremely rocky, and difficult to dig in. The people of Nhlungwane had expressed that the reason for their being no latrines in the area was due to the lack of time and energy required to dig a pit. We aimed to show them an alternative that did not require a pit, and could also be afforded without external funding.



The trip was very successful, and sparked many questions and discussions.

2.5 Workshop 3

4 November 2003

The day following the field trip, a meeting was held to discuss the trip with other community members, and to cost a latrine. The meeting was led by the Induna who reported back on the



trip, and answered any questions. Following this, he workshopped all the materials needed and the costs thereof.

The costing was a shock to most, and resulted in the Induna requesting funding from us. We explained yet again that the community needed to make a plan that did not rely on government subsidies, or other donor funding.

In order to justify this, and to put the expenditure into perspective, it was explained that a latrine should be viewed as part of the house, and thus building a latrine is simply building a small room – the only extra expense being the toilet seat. This concept did not appear to be grasped, and the workshop ended with a request that those present discuss the options with their friends and family, and try to come to a conclusion as to how/if they would like to proceed.

2.6 Workshop 4

20 November 2003

The aim of this workshop was to help the committee and the community to come to a decision on whether or not to keep the community levy for another shared goal, after the introduction of the free basic water. In order to achieve this, the community had to explore the options that came out from the previous workshops. No decision was made in this workshop as it was poorly attended, and because the committee felt that it was important that the whole community (including those who work in town and only come home during holidays) be part of the decision making.

Block making

The block making project would be aimed at providing blocks for the community while providing an income for those involved. The target market is Nhlungwane and neighbouring communities. The members would be expected to contribute the capital, or fundraise if possible to initiate the project. There is someone who makes and sells blocks already, but the community wants to provide competition in order to bring the prices down. A block making machine, cement, sand, water, a store room and labour were identified as the things they need to have, in order to start the project.

Livestock watering

At present there is insufficient water for livestock in the dry season. The Nhlungwane stream runs dry in winter, and the livestock have to go a long distance to the Mpfana River. The participants estimated the daily consumption of 25l/cow/day and 7l/goat or sheep/ day (note: the Department of Agriculture recommend the figure 40litre/large stock unit/day for planning purposes). The project charges 20c per 25liters. This amounts to R6/month/cow and R2/goat/month. This is relatively expensive for the community. Also, not everyone in the community has livestock, so the issue of who benefits if the community levy was used to buy extra water for livestock drinking raised a debate. Some people felt that everyone should contribute towards getting more water, since animals like donkeys plough for everyone. Others believe that the matter should concern only those who keep livestock.

Community Gardens

The participants in this workshop felt that there is a need for a second community garden, since the current one is far from the settlement area. The current garden is irrigated by water from the Mpfana River, which is pumped up by an engine to the garden. However, the distance and lack of an access road makes it difficult to sell the harvest, because members

have to carry the loads of vegetable on their heads. The need for fresh vegetables is high and the current garden is not meeting this need. There is a feeling that a garden within the settlement area could provide the extra produce needed.

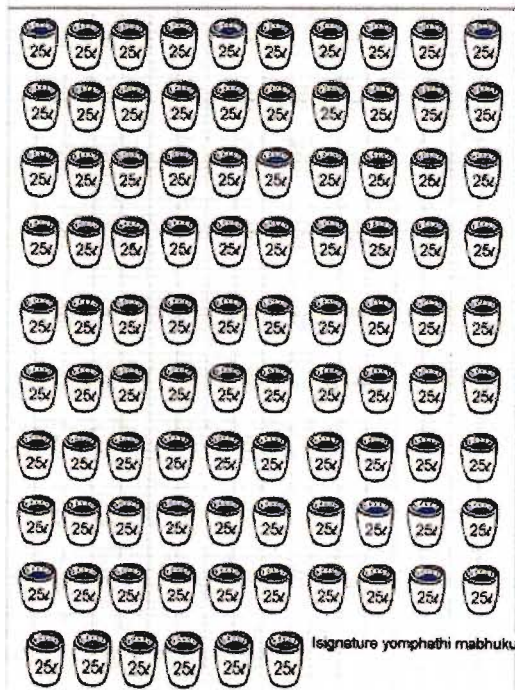
The options chosen as the most important are community projects that cannot benefit everyone directly. For example everyone may gain access to blocks from the block making project, but not everyone would be a member of the project. The only way others would benefit is through buying from the project. It therefore follows that only members should have to pay the costs to run the project. This was explained to those at the workshop, and understood as a valid point. It was suggested by the researcher that those interested in block making and the community gardens form a planning group. The researcher offered to help with some planning exercises and business skills.

Sanitation is seen as a shared goal that everyone would directly benefit from. The problem is that the costs for training and the start up capital are high. It was decided that the committee and the community should decide whether they should invest some of their savings into this project. However it was agreed that it was not feasible for the R7 water levy to be used for sanitation.

Umsebenzi Wamanzi was eNhlungwane
Ikhuphoni elikhokhelwe ngaphambili

R 10 00 ngo
2.4kl

Igama lomndeni:



An example of a pre-paid water coupon drafted for Nhlungwane

Water coupons

The absence of any clearly defined, practical, shared community goal led to the development of the concept of the water coupon.

The proposed water coupons are A6 size cards showing pictures representing 96 x 25litre containers (i.e. at total of 2.4kl per card). The householders name is printed near the top of the card, and the administrator's signature is found in the bottom right of the card to authenticate it.

Each unit represents one of the standard containers used by householders to collect their water rations. As each unit is filled from the tap, the person overseeing the tapstand will cross off the unit on the householder's card. Once all units on the card are crossed off, the ration is finished,

and the card cannot be used again.

One of these cards would be issued per household per month as their FBW allocation. As mentioned above once this free card is used up, the water allocation is fully utilised. However, the system would allow householders to purchase extra cards each month if required. The cards would be sold by the administrator for approximately R10.00 (the price would be determined by the rate charged by the uMzinyathi District Municipality). This would allow each family to choose their own need, whether it be clothes washing, food gardening, block making, cattle watering etc. This would not be limited to householders, but could be a means for businesses to purchase water for their projects. This was seen as a solution to the development priorities mentioned in workshops that were argued to be valid, but not beneficial to everyone.

The R10.00 per 2.4kl would either be paid to the water service provider, or the money would be used by the Water Committee to pay for the extra pumping and wage costs that would result from the increased consumption.

The water coupons were suggested by the researcher due to it being a simple, robust system with no electronic, mechanical or hydraulic parts that could break. The coupons would fit into their current system with very little adjustment.

The idea of water coupons was introduced at workshop 3, and was welcomed by those who came to the workshop. However, there was a concern that people who volunteer to oversee the stand pipes do not do their work properly as they are not paid for it (it is understood that the tap minders do not actually attend the taps when they are open). It is believed that water gets lost as a result of this, as people get more than the amount that was agreed upon. The possibility of paying the 41 people who are caretakers on each stand pipe was to be discussed in a community meeting in December 2003 (but note that if the payment of tap minders is to be necessary, the modest remuneration of R50 per minder per month would cost more than R2 000 per month, more than the entire current operating budget).

Since no decisions were taken at this workshop, the committee suggested that these matters were to be discussed further in the community annual general meeting in December.

The researcher and the community leaders present were positive about the implementation of the adjusted system in the new year.

2.6 Introduction of prepaid coupon concept at Nhlungwane AGM

The researcher was not present at this meeting, but a report of the outcome was given by the Induna.

Despite the positive response that was received during the workshop period, the decision taken at the AGM was to not introduce the water coupons, or make any plans for the introduction of Free Basic Water. It was reported that a few influential members of the community who live and work in Johannesburg, opposed the plan. The reasoning given by these people was that the community should retain management within the community and not let the government take over operations and maintenance. They voiced distrust in the government and predicted that FBW will not last long. They fear that if they hand over to the government that the government will not fulfil their obligations, and will leave the community in a worse off position.

The Induna was not happy with the decision and had a second meeting with some of those who vetoed the changes. At the Induna's request, the researcher attended this meeting to explain what is being proposed, and also what the uTWP policy and implementation plan is. The meeting was successful and the Induna was able to reconcile with these people so that the community can plan for the implementation of FBW. The community want to have a meeting with the DM and uTWP to present their plan to the District Municipality in order to continue to manage the daily operations and maintenance of the scheme. The researcher have approached the relevant persons to set up this meeting, and are awaiting a response.

3 Conclusions

The options for re-directing the R7.00 levy are not simple:

Sanitation is definitely the highest priority in the community, and one that affects every household. However, the cost of sanitation could not be met by the R7.00 levy. The community may decide to use some of their R40 000 savings to initiate a sanitation project, but the construction and materials costs would have to be borne by the householders.

A block-making project was also a popular choice, yet when the option was analysed people realised that they did not want to contribute monthly to a project that would benefit some, and not others. This same lack of uniform benefit to the whole community was realised for livestock watering and for a community garden. Ultimately the community could not come to agreement.

The water coupon was hoped to be the 'fair' solution to everyone's different development priorities. The community was positive about the option, and have decided to discuss it further. The obstacle with this system is, however, the need for daily monitoring of consumption. It is believed that people will not be prepared to manage the system without receiving payment for their time. Payment of each tap minder would result in a significant extra running cost that would not fit within the uTWP budget and is thus unlikely to be approved.