The Cholera Outbreak:

A 2000-2002 case study of the source of the outbreak in the Madlebe Tribal Authority areas, uThungulu Region, KwaZulu-Natal
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Executive summary

Background

In August 2000 South Africa was experiencing one of the worst cholera epidemics in the country’s recent history. Initial reports of the cholera outbreak came from the largely rural and impoverished communities on the outskirts of the Ngwelezane Township, near the Empangeni town. The source of the epidemic was traced to the uMhlathuze River, also in the northern part of the KwaZulu-Natal Province. However by the end of the year 2000, the northern KwaZulu-Natal cholera outbreak had replicated itself in eight of South Africa’s nine provinces.

Purpose of the study

Poverty was a common thread that ran through all the areas surrounding the Ngwelezane Township from which the initial reports of the cholera outbreak were reported. The Madlebe Tribal Authority stands in incongruent proximity to the industrialised heartland of the KwaZulu-Natal province, its population shifting with the changing thirst for labour. Unemployment is endemic and the majority of people live below internationally accepted benchmarks of absolute poverty. The water-borne epidemic, however, was specifically indicative of a serious failure of government’s policy on water and sanitation provision.

The Department of Water Affairs and Forestry (DWAF) also concurred that there was a causal relationship between the cholera outbreak and persistent poverty. However DWAF’s over-emphasis on the poverty factor in the cholera outbreak tended to clear its own water policies of any fault. DWAF’s exposition on the cause of the cholera outbreak seemed to deliberately omit factoring how its cost-recovery water policies impacted on the spread of the cholera epidemic in the poverty stricken rural communities of Madlebe and the greater uThungulu region.

This report digs deeper to uncover the links between poverty, the cost-recovery motive underlying government’s water policy and the cholera outbreak. Its primary objective is to ascertain the following:
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- To establish the underlying causes of the cholera outbreak in the Madlebe Tribal Authority areas, KwaZulu-Natal.
- To investigate whether there were any water cuts in the areas and the relationship between the water-cuts and the cholera outbreak.
- To establish the nature and extent of water and sanitation services delivery in the KwaZulu-Natal Province, with specific focus on the affected areas in rural Madlebe.
- To assess the impact of government’s cost-recovery principles on communities’ right of access to clean water.

Theoretical approach

The study opted for the “political economy” perspective which draws on historical and ongoing affects of government policies to provide the best theoretical framework for understanding the cause of the cholera outbreak. It is within this theoretical framework that the study conveys the following argument:

- Government policies have not only been unable to close the gap on the inequalities of apartheid service provision, but that they have in fact perpetuated and deepened poverty because of the reduction in state expenditure on social services.

This report begins with an outline of government water policy. It then goes on to provide historical and geographical background to the Empangeni area where the outbreaks began, and sketches the massive inequalities in terms of water provision between the former Natal province and the KwaZulu bantustan as a result of apartheid policies.

Major findings of the report

- An analysis of post-apartheid demarcation of municipal boundaries indicates a continuation of Apartheid inequalities in terms of service delivery. The political geography of the areas covered by the study has radically changed over the past few years. But their racially defined geography of poverty persists. White privilege was protected by a Ngwelezane/Empangeni municipality that was impassive in the face of a cholera epidemic within its administrative area while holding R98 million in reserves. Neither had there been an attempt to subsidise the extension of services to poor communities. The municipality rather sought to impose pre-paid water meters on the
existing free water supply and to subsidise industry through the introduction of tax breaks and incentives.

- The study’s overview of health provision in the Madlebe Tribal Authority area, which covers the rural areas around Ngwelezane Township, revealed that the August 2000 cholera outbreak was in fact not a unique problem. The region had experienced recurrent cholera outbreaks in the past. But what made this latest outbreak distinctive from all previous ones was its sheer scale and a mortality rate that exceeded Apartheid-era cholera deaths. In the 1980s, over 22,000 people were infected by a cholera outbreak in the Natal province and KwaZulu which resulted in 78 deaths. Since August 2000 to February 2002, the disease has infected 113,966 people and claimed 259 lives in the province.

- With HIV/AIDS at a pandemic scale in South Africa, the added contagion of cholera becomes fatal although it is a curable disease. A doctor at Ngwelezane hospital estimated 40% of the cholera deaths to be AIDS related. The especial vulnerability of people living with HIV to cholera demands that water and sanitation provision becomes more than just a right for all but a reality.

- Health authorities failed to adequately monitor the quality of water used by communities. The delay in identifying the source of the outbreak encouraged the spread of cholera. Rural health facilities, moreover, have been found wanting in the monitoring of sewage treatment standards which negligence could be contaminating rivers and springs.

- Researchers interviewed residents in the areas where cholera was first detected. Communities spoke of the inability to pay for water, continual malfunctioning of pre-paid meter systems and waits of up to six weeks for water-tap breakages to be repaired. Stories from the affected communities confirmed the extent of the failure of government’s water provision strategy within the context of DWAF’s “cost recovery” policy framework. These communities’ testimonies revealed that DWAF’s water provision policy framework fundamentally prioritised “cost-recovery” over its stated goal of providing communities with improved access to water.

- The idea that the user must pay for the costs in providing the service did not take cognisance of affordability issues. In the areas covered by this study, DWAF’s unbending
implementation of its cost-recovery policy forced poor households to resort to using “unpurified” water sources which made them vulnerable to cholera and other water-borne diseases. The downscaling of the Madlebe Community Water Supply Scheme as a result of budget cuts and the enforced connection fee meant that most people in the Tribal Authority area remained without access to clean water.

- The Madlebe Tribal Authority Water Scheme rewarded only 700 families of a total of 2,700 with access to water at the time of the August 2000 cholera outbreak. The investigation includes in-depth analyses of water consumption levels at nine communal standpipes servicing Madlebe areas which had offered free water since 1982. The conversion of these nine taps by the Ngwelezane/Empangeni municipality to a pre-paid metered systems forced people to resort to using natural water sources. The water usage data revealed erratic consumption levels and indicate a general failure of the pre-paid metering system to provide reliable water flow. The breakdown of five of these taps in the 3 months prior to August 2000 and the cholera outbreak evidences the critical relationship between water provision and cholera, and DWAF’s and the municipality’s culpability for the outcomes of the water cut-offs it enforced.

- Sanitation provision for the Madlebe area was not a priority for the uThungulu Regional Council. The Madlebe Water Supply project did not undertake to provide sanitation services. Our study has found that population growth had outpaced delivery. So in its failure to provide water to all community members, natural and alternative water sources were contaminated by the omission. This separation of water and sanitation service reflects the broader understanding of DWAF at the time.

Recommendations

- The study has found that in order to promote communities’ right to access water, as entrenched in the Constitution, the government, and DWAF in particular, has to forego its obsessive implementation of cost-recovery measures as a condition to access to water. In the long term, the financial cost of tackling cholera and other water-borne diseases far outweighs the cost of providing purified water to poor communities.
• To counteract the racist geography perpetuated in municipal demarcations, water service providers have to be compelled to make free water available to communities. Left to their own imperatives, water service providers have shown themselves to be negligent in compensating supply when their service has broken down. This disregard for the needs of specifically black communities promotes racist disparities in service provision.

• Water cut-offs have to be declared illegal, similar to the United Kingdom’s Water Industry Act of 1999 which prohibits the disconnection of water supply for reasons of non-payment. Water cut-offs are unconstitutional insofar as they have directly endangered the lives of citizens.

• Evidence here presented reflects the negative impact of government water policies, and the impact of water cut-offs on the lives and health of communities. We strongly believe a legal case of culpability should be investigated.

• Cholera is also a food chain transmitted disease. Hygiene information and education has, therefore, to be made available to rural communities whose remoteness from informational networks makes targeted media intervention necessary.

• Clean water and sanitation provision can drastically improve the quality of life for people living with HIV. Data linking HIV/AIDS to the incidence of cholera has to be made public, doctors having only offered their estimations of links between the two epidemics.

• The Department of Health’s water monitoring activities need to be more frequent and upgraded. Cholera emerged without warning and the delay in identifying the source of the cholera encouraged the spread of the contamination. Urgent review of rural hospitals’ sewage treatment plants is also required following positive tests for cholera in the effluent of rural hospitals in KwaZulu and the systemic dysfunction of most of the sanitation processes.
Topographical map of case study within the area newly formed uThungulu District
Source: 2831DD Felixton, Chief Directorate, Surveys and Mapping
Scale: 1: 50 000
In August 2000, the first cases of a cholera outbreak were reported from the outskirts of Empangeni in northern KwaZulu-Natal in an area called Madlebe. The source of the disease was traced to the uMhlathuze River and the first group of patients came from Matshana and Nquntshini areas\(^1\) from where the contagion spread. From its initial detection in KwaZulu-Natal, the cholera epidemic then spread to seven of the country’s nine provinces and registered over 114,000 cases and 260 reported deaths by the end of January 2002\(^2\), nearly all from KwaZulu-Natal. The outbreak “developed into the most serious epidemic yet experienced in South Africa.”\(^3\)

The seemingly sudden eruption of the national cholera outbreak had been shrouded in controversy. In the wake of the outbreak, many commentators and critics liberally provided the public with a range of interpretations on the causes of the cholera epidemic, particularly in northern KwaZulu-Natal. Nearby rural hospitals, which often have substandard sewage processing works, have been cited as possible sources of cholera bacteria.\(^4\) The government’s interpretation of the cause of the outbreak was twofold. It squarely pinned down the cause to the combined impact of the 1999 floods and poverty.\(^5\) This line of argument, however, deflects attention from the responsibility of either the Department of Water Affairs and Forestry, or Health.

It is hard to fathom how a new democratic dispensation, which prides itself with promoting seemingly progressive water legislation, could experience one of the biggest outbreaks of cholera. But in contrast to statements issued by government departments, an article in the 1 October 2000 edition of the *Sunday Times* explicitly linked the cholera outbreak to changes in government’s water policies. Before the implementation of new water policies, the old KwaZulu homeland government provided communities under its service jurisdiction with free water. The apartheid-era water scheme, which had been in existence for 17 years, also covered the areas then worst affected by the cholera outbreak. In the Nquntshini, Singisi, Matshana and Ngwelezane areas, 13 cholera related deaths were reported by the time of the article’s publication. On the basis of its

\(^1\) Jenkins, Chris “Cholera outbreak puts 30 in hospital,” Independent Newspapers on line, 27 August 2000
\(^2\) KwaZulu-Natal Department of Health, *Cholera Update*, media release, 7 February 2002
\(^3\) *Daily Monitoring Report* by the CSIR, 26 January 2001
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investigation, the Sunday Times report concluded that a relationship existed between the cholera outbreak, the government’s new ‘cost-recovery’ water policy, and the resolve by authorities to terminate this free water usage. After the transfer from the homeland policy of free water provision in the area to the neo-liberal principle of enforced cost recovery, the local population became vulnerable to the onset of the cholera, as Mr Biyela noted:

[The free water supply] was eventually noticed, and it was decided to switch off the supply.

- B.B Biyela (chief executive, uThungulu Regional Council) 6

The Sunday Times report exposed the limitations of the government’s analysis of the causes of the cholera outbreak. The government departments implicated in the crisis were reported as either inept or defensive. The provincial health authorities could only offer suspicions of the source of the pathogens, a month after the first confirmed cases of cholera in the area. And at the regional level, Mhlathuze Water Board officials were reported as recalcitrant, its chief executive discrediting community members’ complaints over water charges as the result of misdirected expenditure on ‘Coke’. With officials from the national departments of water affairs and health having to meet with local government and traditional authorities to discuss a common strategy, the article concluded with an image of governmental disunity and uncertainty in the face of the disaster.

Government’s extrapolations on the cholera outbreak perilously excluded its own role in the changes to water policy as a major factor. Civil society groupings such as the Rural Development Service Network, the National Education Health and Allied Workers Union and the South African Municipal Workers Union have consistently amplified the link between government policy and the cholera epidemic. A central feature of their argument is that government’s macro-economic policy, Growth Employment and Redistribution (GEAR), which promotes fiscal restraint, is increasing poverty. In short, the actual results of GEAR’s implementation are exactly the opposite of its stated objectives. This contradiction was confirmed by some of the factors leading to the outbreak of cholera. In the rural and peri-urban areas that are covered by the study, there was a clear correlation between people’s inability to pay for water services and the incidence of cholera.

5 See DWAF press releases between October – December 2000
Notwithstanding the usual tension between government policy intentions and their actual outcomes, what is particularly alarming was the propensity for government to continually churn out policy rhetoric without much reflection on the possible adverse effects of its own policies.

1.1 Objectives of the Study

The objectives of the study are the following:

1. To establish the underlying causes of the cholera outbreak in the Madlebe Tribal Authority areas, KwaZulu-Natal.
2. To investigate whether there were any water cuts in the area during 2000 and whether there was a relationship between water cuts and the cholera outbreak.
3. To establish the nature and extent of the provision of water and sanitation in the province to the rural poor.
4. To assess the impact of the cost-recovery process on communities’ right to access to water.
Section 2: Methodology

2.1 Research Methods

Our research has been conducted with both the qualitative and quantitative research methodology. We have however, focused on the qualitative method of research as the interest and focus of the research was to trace the source of the cholera outbreak. This implied the tracing of rural people and stakeholders affected in the tragedy and documenting their experiences and views. We also did an intensive literature survey and used whatever contemporary material and information available.

The political economy paradigm is one of many important theoretical frameworks that we used to locate our findings. This framework has been widely used by social scientists in documenting the causes of social inequalities. In our study there is a huge gap in the water and sanitation services provided to poor (largely black) and white (largely affluent) citizens in South Africa. Illness and diseases such as cholera and diarrhoea are products of social inequalities between the rich and poor. We will therefore attempt to explain some of the tensions that have resulted from these relations, and how it in turn relates to the current cholera epidemic.

In–depth interviews both with individuals and with groups were conducted through the use of a semi-structured questionnaire. The areas that were selected in which the interviews were conducted were guided by the location of the nine communal taps situated on the border of Ngwelezane and the rural Madlebe area.

Not only did the nine taps provide an entry point into the region, but also their location enabled us as researchers to conduct comprehensive transepts which allowed us to gain familiarity with the area, its topography and its social setting.

2.1.1 Transepts

To address our limited familiarity with the area, a variety of research methods were used for information gathering of the area. However to provide a holistic view, the researchers also interrogated the history of the area’s infrastructural development for service provision and
ascertaining the current status of the service delivery in the area. The technique had both qualitative and quantitative characteristics. For instance, researchers counted:

- The number of communal taps in each area.
- How many of these were pre-paid meters before March 2001?
- What was the distance between each tap, and its proximity to the households it serviced?
- Who accessed the taps, was it mainly women and children?
- What amount of water were they collecting?
- What were they using, i.e. buckets, containers?
- How was it being carried, (on their heads, in their hands, in a wheelbarrow, etc.)?
- How many people on average visited that tap, which were the most common times, etc.?

The qualitative aspect was characterised by informal conversations with the residents of Singisi, Matshana, Nquntshini and Odondolo. Residents were asked to provide the historical information on the pre-paid meters, how they felt about the service, what kind of service or water access was there before the pre-paid system, and how they felt about the system and why. These issues were interrogated in greater depth during semi-structured interviews conducted at the nine communal taps and during the household interviews.

2.1.2 **In-depth Interviews**

From the outset of the research SAMWU, affected communities in the area, community organisations, councillors, and municipal officials were identified as stakeholders. It was also agreed that as many stakeholders as possible were to be interviewed within the timeframe of the research. As most of the interviewees spoke Zulu, Dudu Khumalo, the SAMWU provincial water co-ordinator, was tasked to facilitate this process. A semi-structured questionnaire was used for each interview. The process also involved immediate translations of both the questions and the interviewees’ responses. Both individual and group interviews were conducted and recorded on tape.

2.1.3 **Interviews in Ngwelezane:**

The researchers’ first interview was with Mr Wilson Xaba, the leader of a community organisation called “Shona Khona”, meaning “Go to there”. This organisation was started in response to the communities’ dissatisfaction with service cut-offs in Ngwelezane township. Although the Residents Association was a recognised Community Based Organisation (CBO) dealing with these issues, it was politically affiliated to the African National Congress (ANC).
“Shona Khona” according to Mr Xaba, was politically affiliated to the Inkhatha Freedom Party (IFP). Xaba also referred us to residents in the area who had experienced service cut-offs, particularly water. Ten (10) households in the township were interviewed through the snowball method.

2.1.4 Interviews in the rural areas:
Researchers conducted interviews in the rural areas of Bomvini and Ngobothi. Induna or “chief” Madida, was among the Bomvini interviewees. Nine (9) group interviews, mainly women at the taps, were conducted in other rural areas. In addition, approximately 12 households within close proximity to the tap-stands were interviewed. Researchers made a concerted effort to include among interviewees at least one household where a family member had either died of or contracted cholera.

2.1.5 Interviews with municipal officials:
Municipal officials facilitated access to official documentation on the municipality’s Infrastructural Development Plans of business plans. Interviews with municipal official were aimed at ascertaining the following:

- general views on service delivered;
- evaluating the officials’ level of understanding of the concept of cost recovery, and how this translates into their business plan; and then most importantly,
- how they view the service offered within this framework, including comments on the issue of service cut-offs, credit control and indigence policy were central to these discussions.

Two separate water providers service the areas of investigation. The uMhlathuze Municipality services the Ngwelezane township, among other urban areas. The rural Madlebe areas are serviced by the uMhlathuze Water Board. Interviews were conducted with officials from both these water service providers. For uMhlathuze Municipality, interviews were conducted with the town secretary, the chief electrical engineer, the assistant to the town treasurer and the town engineer. Phil Berridge, the Programme Officer, represented the uMhlathuze Water Board at the interview session.
2.2 Limitations of the research

Owing to the tight timeframe of the research and a lack of familiarity with the area, we were not able to gather as much information as we would have liked. We were unable to source data for water consumption levels for the Madlebe community prior to and after installation of the prepaid metered scheme. We have data for the nine communal taps that were converted to a prepaid system. However, since our attempts to obtain readings for the nine taps prior to conversion were unsuccessful we were not able to use figures to substantiate the communities’ views of a drop in their water consumption.

Another major obstacle was the unavailability of the January 2001 World Health Report (WHO). Despite numerous attempts to obtain a copy from both the National and Provincial Departments of Health, DWAF, WHO Pretoria, the WHO website, NGOs, and health officials and researchers alike, a copy of the report was not forthcoming.
Section 3: The Policy Context

1994 represents South Africa’s break with its apartheid past and the dawn of the new democratic dispensation as enshrined in the Bill of Rights. In terms of the right to water and sanitation, the government has over the past years instituted a plethora of policies and legislation aimed at making access to clean drinking water and sanitation a reality for millions of South Africans.

In the context of this study, the White Paper on Sanitation (1996) and the Water Services Act (1997), are two noteworthy policy and legislative pieces intended to redress the country’s skewed water distribution and consumption legacies as reflected by the following facts:

- Industry and mining consume 25% of South Africa’s water supply
- Agriculture consumes 53% of the water supply. Much of this (50%) is wasted because of bad irrigation methods
- Domestic water consumption constitutes about 12% of total water supply. More than half of this is used for such luxuries as swimming pools and gardens in largely white residential areas
- Although rural people constitute nearly half of the South African population, they consume less than 1% of the 12% domestic water use.

Apartheid’s skewed water policies have had an adverse impact on the country’s disadvantaged communities as a whole. It is, however, the meagre consumption of domestic water by rural South Africans which reflects the brutality of the apartheid-capitalist history. Lack of water and sanitation facilities makes domestic water provision a burdensome activity for many rural women. Not only do rural women travel long distances to access water, but illnesses related to the decline in the quality of water from natural sources are an additional burden on women as primary caretakers in rural communities.

It was thus with the water and sanitation interests of rural people, among others, in mind that the African National Congress (ANC) led government adopted the Reconstruction and Development Programme (RDP) in 1994. As the post-apartheid government’s set of comprehensive policy statements, the RDP committed itself to providing every person with an adequate supply of water by instituting a national tariff structure with the following features:
• A lifeline tariff to ensure that all South Africans are able to afford water services sufficient for health and hygiene requirements;
• In urban areas, a progressive block tariff to ensure that the long-term costs of supplying large volume users are met and that there is cross-subsidisation to promote affordability for the poor, and
• In rural areas, a tariff that covers operating and maintenance costs from the user, based on a cross-subsidy from urban areas in case of limited rural affordability.

Coinciding with the gradual de-emphasis and the eventual abandonment of the RDP, the issue of a lifeline tariff was picked-up by the 1996 White Paper on Sanitation. Like the RDP, the white paper defined the “lifeline tariff” as a distributive instrument that would ensure sustainable water provision for health and hygiene to the 21 million people without proper sanitation, and the 12 million people without drinking water.7 State intervention was assumed to be the driver of the process, but very rapidly the state’s role was downgraded as partnerships were sought with the private sector. Business practices increasingly came to underpin the welfarist ambitions of government water policy. In the rural areas, cost-recovery is an absolute principle that abandons those projects without sufficient revenue bases. Self-sustainability is a dogma applied to projects that cannot even afford the diesel for pumps and maintenance costs.

In an attempt to deal with the country’s water and sanitation backlogs, the government adopted the Build Operate Train and Transfer (BOTT) programme in 1997. BOTT is essentially a private sector driven rural water delivery programme that, according to its exponents, has managed to provide 6 million people with access to clean drinking water. However, BOTT’s claimed success in reducing the backlog in water provision has not gone unchallenged by NGOs and independent researchers. Of the many problems associated with BOTT, critics have concluded that the initiative is not sustainable as far as many of its beneficiaries are concerned. Fuelled by South Africa’s underlying macro-economic problems, and concomitant job shedding, many of BOTT’s beneficiaries have lost the right to access water due to affordability problems.8

Section 4: The Geographic Context

The aim of this section is primarily to set the historic and spatial/geographic scene of the area of study. Its secondary objective is to describe the political economy of the region as this provides the sociological setting to the spread of the cholera epidemic.

4.1 A description of the area under investigation

4.1.1 Introduction

The area under investigation is somewhat complicated in its geographical and institutional makeup. Initially, the reported cases of the cholera outbreak came from the peri-urban areas adjacent to Ngwelezane township. Ngwelezane was part of the broader Empangeni Transitional Local Council. The Empangeni TLC has since merged with the Richards Bay TLC to constitute the new uMhlathuze local municipality. The Mhlathuze municipality is part of the uThungulu District Council. Due to radical changes in South Africa’s municipal boundaries at the end of the year 2000, tracking and reporting on the cholera outbreak has become a geographical nightmare with each local government and authority twisting and turning to avoid responsibility.

To get around these geographical complexities, the study adopts a socio-historical approach. In addition to shedding light on the historical (dis)continuity of water and sanitation provision, it is also hoped that the differential impact of cholera will be better understood. The dimensions of susceptibility are poverty and dispossession suffered, economic geography, gender, race, access to information and participatory governance.

4.1.2 Brief History

Initially, the area under study was part of the Lower Umfolozi Magisterial district, which was established by proclamation No. 1 of 1887. By 2 July 1903, the Lower Umfolozi magistracy was renamed Empangeni. Empangeni derived its name from the Zulu word “phanga”, which roughly

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9 Unless otherwise stated, the main source of information used in this section is the official Town Council of Empangeni, Empangeni, A Historical Review to 1989.
10 The magistrate had requested a name change due to confusion with the postal service sending the magistracy’s mail to the Lower Umfolozi railway station in the Hlabisa district.
translates to “grab”. The word referred to high incidences of crocodile attacks along the riverbanks of Mpangeni, a tributary of the uMhlatuze River, on which the town is situated.\textsuperscript{11}

Empangeni was part of Greater Zululand, a reserve for black settlement. After the Anglo-Boer War, 1 057,466 and 1 573,047 hectares of land was, respectively, delineated for whites and blacks in 1904. Over time, these tracts of land developed into productive small-scale sugar-cane growing areas. Whites occupied land along the Tugela and uMhlatuze Rivers, Natal. Black farmers worked around Empangeni, in Zululand.

4.1.3 Demographic information\textsuperscript{12}

In 1997, the uThungulu region had an estimated population of 1 464,503.\textsuperscript{13} The urban population was estimated at 188,594 and rural population at 1 068,345. The largest proportion of the population (91\%) lived in the former KwaZulu districts which is largely rural in nature and characterised by poverty and low levels of service. The largest concentration of population occurs in the southern magisterial districts. This area included the Mtubatuba, Hlabisa, Richards Bay and Empangeni/Ngwelezane local councils that formed the Umfolozi sub-district of the uThungulu region.

The redrawing of municipal boundaries in 2000 has since split the region into two districts, the uThungulu and uMkhanyakude to the north. Empangeni/Ngwelezane, and Richards Bay fall within the southerly uThungulu district. The gender and age composition of this district is similar to that of the province. The male to female ratio is 1:1.18 compared with the provincial ratio of 1:1.3.\textsuperscript{14} A significant provincial difference is the fact that the district has a proportionately younger population. The provincial proportion of the 0 to 14-year old age category was 39.14\% in 1991, while the district comparison in a commensurate age category of 5 – 19 in 2000 was 46.5\%.\textsuperscript{15}

\textsuperscript{12} This information is largely drawn from the \textit{uThungulu Regional Council Development Plan Specialist Report: Economic Perspective}, 1998.
\textsuperscript{13} uThungulu Region website, http://www.uthungulu.org.za/Planning/Demographics/districtsearch.asp
\textsuperscript{14} Provincial demographics as per 1996 population census, Statistics South Africa’s website: www.statssa.org.za/default1.asp. District statistics obtained from Demarcation Board website: www.demarcation.org.za/
\textsuperscript{15} As per 1991 census figures cited in the \textit{uThungulu Regional Development Plan, Specialist Report: Economic perspective}, and 2000 district demographics data at www.demarcation.org.za/
A high rate of urbanisation reflected in five-year old data was considered a critical factor in the Madlebe Tribal Authority business plan. The urbanisation level in the uThungulu region was increasing rapidly compared to that of the province. The highest urbanisation level was recorded in the lower Umfolozi district at 70% even though the 1991 census overlooked several informal urban settlements. The settlements mushrooming in areas adjacent to Ngwelezane and Empangeni, Nseleni, Esikhawini and Reserve 4 (adjacent to Richards Bay) were not taken into account.

Such population shifts have had marked affects on the areas under study as they straddle the urban-rural divide. The strong inward and outward migration between the former KwaZulu and Natal areas, as labour commuter patterns and temporary labour migration, is evident in the levels of urbanisation in the uThungulu region. Thus, the Madlebe Tribal Authority business plan anticipated:

...Some parts of the project area are adjacent to the formal township of Ngwelezane, and will be subject to urbanisation during the design period...

The approximate urban growth rate of 3.5% and a 2% rural growth rate were therefore applied in the design phase. The project area consisted of 2,700 households and a total population of 22,859.16

The demographic information is of significance as it provides an account for the rapid spread of the cholera outbreak. Firstly, the affected rural area is part of a region with a high population concentration, and secondly, the region has strong migratory features. A combination of these two factors accounted for the rapid spread of the disease.

4.1.4 Economic Expansion 17

The differentiated policies and development projects that were applied to the former KwaZulu and Natal districts led to distinct socio-economic and demographic patterns. Following the determinations of separate development, the former homeland areas are largely rural and poor and the latter being urban and wealthier. Corralling black populations in KwaZulu, such ironically dubbed ‘homelands’ were effective labour reserves for white-owned industry and commercial agriculture. With a migrating labour force and separated from the means of more than just

16 DWAF, Madlebe Tribal Authority Water Supply Project, Business Plan, November 1996.
survival, the homelands fostered poverty and indefinite underdevelopment. These legacies of apartheid constitute the current make-up of the region.

The 1950’s saw the start of the industrial expansion and development of Empangeni. The Zululand Fruit producers’ Canning Factory went into production in 1956, processing mainly pineapples for export. With the announcement of a port at Richards Bay in 1965, Empangeni’s growth as an industrial, medical, educational, commercial and shopping centre gained new impetus. The deep-water harbour had a profound impact on the population distribution in the region.

The largest sugar mill is located in Felixton, a suburb of Empangeni. The construction of the Felixton Mill in 1907 firmly established the region’s sugar industry and is now the largest mill in South Africa. Much of the region’s agricultural development is concentrated around Eshowe. Other key characteristics of the region are nature conservation, forestry and tourism. The commercial agricultural plantations are linked to the manufacturing sector and thus imbricated in the production chain, multiplying the region’s wealth generation. The region’s tourism attractions include the St. Lucia estuary and the Hluhluwe/Umfoloz game reserves. South along the coast from Richards Bay there is heavy mineral mining. A variety of industries have developed at Isithebe.

During the planning stage of the Madlebe Tribal Authority water supply project in 1996, the former Umfolozi was the wealthiest sub-district. The area is essentially the industrial heartland of the region. The concentration of heavy industry and manufacturing is conspicuous when compared to the agrarian economies of the three adjacent sub-districts, Nkandla, Umlalazi and Upongolo which include preponderantly subsistence modes of production. Prominent industries include the 636,000 ton aluminium smelters of Alusaf, the Mondi pulp mills that export 60% of their product, and the mining activities of Richards Bay Minerals. The epicentre of the nationwide cholera epidemic is distinguished by its advanced industrial development profile, standing in stark contrast to the developing-world association of cholera.

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17 Unless otherwise stated, this section is drawn from the *uThungula Regional Development Plan, Economic Perspective, 1998*
18 See the Empangeni website, www.empangeni.org.za/industry.html
19 Interview with the assistant to the town treasurer
The Empangeni area continues to be a major regional service and retail centre. Empangeni is a high growth warehousing, wholesaling and bulk sales hub. It services the region’s over 2 million people. The residents of the Ngwelezane township (established in 1962) and surrounding rural areas serve as a reservoir of labour to commerce, industry, mining and agriculture in Empangeni and Richards Bay. Industry is lured to invest in the region through low levies payable by business. According to the regional council, levies have not increased since 1991 due to the “current economic climate”. The Empangeni TLC had a 1-year tax holiday and special incentives for labour intensive industry.

In an expression of pride in the economic growth of the municipality, the IFP Mayor, Mr. Denny Moffat, congratulated his council for its strong financial position - R98 million in accumulated funds and reserves. The council’s success formula, according to Moffat might be:

* Boring information to some, but it is a situation that most businesses would be proud of.

- November 2000

None other than Moffat explicitly expressed approval of the increasing commercialisation of local government. Significantly, Moffat’s statement was made during the last days of the former KwaZulu and Natal homeland polities.

4.1.5 Climate & Disease

Apart from diseases such as East Coast fever and Nagana (caused by tsetse fly) which resulted in loss of livestock, the province, and the area under study in particular, is prone to intermittent periods of drought and floods. In October 1911 a major flood led to massive destruction of crops and caused damage to infrastructure. While still reeling from the effects of the 1932-33 drought, the area’s sugar plantations were invaded by a swarm of locust between 1933-37.

4.1.6 Water & Sanitation

The vagaries of the region’s climate, the floods and droughts it frequently experiences, had huge implications for the white population at the time. Before 1931, water supply to the white settlement of Empangeni was from water tankers and a few private boreholes whose owners were

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20 Ezimtoti, Newsletter of the uThungulu Regional Council, August 1999
21 See the Empangeni website, www.empangeni.org.za/industry.html
lucky to strike water. Investment by a newly elected Town Board saw residents through the drought of 1933. By 1935, there were nine boreholes in the village itself.

In the 1940’s samples of this water were sent for tests and were found to be unfit for human consumption. This resulted in the Town Board establishing a public water supply system. More pressure for a consistent water supply came with the drought of 1946-49. This forced the town to source the private water supplies of the Zululand Sugar Millers and Planters Limited (ZSMP).

Empangeni’s ongoing water supply problems led to the commissioning of a £50,000 water scheme in 1951. The scheme, which was payable over 40 years, involved pumping water from the Insezi Lake for Empangeni’s water needs. Insezi Lake was about 11 kilometres long and about 1 kilometre wide and had a maximum depth of 4.24m. Extensions to increase the pumping capacity of the purification works were finished in July 1966. Other projects included extending the rising main of the lower reservoir, a new filtration plant at the lake and a new 9 000,000 litre reservoir in the centre of the town.

In terms of the Department of Water Affairs’ permit, the town was only allowed to consume a daily average of 9,100 cubic metres of water with a maximum use of 13,600 cubic metres per day. Due to a water shortage in the 1980’s, the town council wanted to increase its daily water rate, but the Department of Water Affairs maintained that Empangeni had 9,100 cubic metres per day as a free water right. The Town Council was told that if it required water above this level, the Empangeni council would be charged, especially if the extra water was to be supplied from either the uMhlathuze River or the Goedertrouw Dam.

Due to the deepening drought of 1982-83, the council decided to pump water via a pipeline from the uMhlathuze River to the Insezi water works. Residents of Empangeni were given a daily limit of 400 litres per household. In contrast, the Madlebe Tribal Authority areas surrounding Ngwelezane were only allocated nine communal tap-stands as a drought emergency intervention, recalled some residents. It was also at this time that a major cholera outbreak occurred, infecting over 18,600 people and killing 42 people.

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23 This was reported in Sunday Times, the first major article on the cholera outbreak in August 2000
24 Chief Directorate: Health Information, Evaluation and Research, Department of Health, January 2002
In 1934, a rubbish removal system was supplied *free of charge* for Empangeni residents and businesses. The pit latrine system was also done away with and, between 1966-72, water-borne sewerage was completed for the whole area.

### 4.2 Post-Apartheid development and the demarcation of municipal boundaries

#### 4.2.1 Introduction

Before 1994, South Africa was divided into four provinces (Cape Province, Natal, Orange Free State and Transvaal) and ten bantustans. The bantustans, or black self-governing areas, were Bophuthatswana, Ciskei, Transkei, Venda, Lebowa, KaNgwane, Qwaqwa, Ganzankulu, KwaNdebele and KwaZulu.

Like the others, the KwaZulu homeland consisted of small fragments of land scattered throughout the province. In 1994, Natal and the bantustan of KwaZulu were merged into the new KwaZulu-Natal province.

Among the many problems South Africa inherited from grand Apartheid, was a structure of race-based municipal boundaries. Through policies such as spatial and racial segregation at a local
level, including a system of ‘own affairs’, apartheid aimed at limiting the extent to which affluent white municipalities would bear the financial burden for servicing disadvantaged black areas.

The primary objective of the post-apartheid municipal demarcation was to ensure redistribution and achieve democratic, accountable local government that consists of financially viable municipalities.\textsuperscript{25} Overall, the redrawing of municipal boundaries was intended to have an effect on both the potential income and expenditure-base of the municipality. A municipality may have little income if almost all its residents are in poverty and if its local economy is so weak that it has virtually no tax base to draw on.\textsuperscript{26} The demarcation board concluded the final boundaries for the establishment of new local and district municipalities on 24 February 2000. As a result of this process, the total number of municipalities throughout South Africa was reduced from 843 to just 284. Subsequent to the December 2000 local government election, KwaZulu-Natal was divided into 10 district councils, 46 local municipalities and 1 metropolitan municipality.

4.2.2 \textit{uThungulu Regional Council & Empangeni/Ngwelezane Transitional Local Municipality}

The uThungulu Regional Council was made-up of four sub-districts. These were Upongolo, Umfolozi, Umlalazi and Nkandla, which in turn consisted of magisterial districts and local councils. Ngwelezane fell under the authority of the wealthier Empangeni/Ngwelezane Transitional Local Municipality, which in turn was part of the Umfolozi sub-district. However, as a result of the changes in South Africa’s municipal boundaries, the uThungulu Regional Council was dissolved. The uThungulu District Council (DC28 on maps on pages 24 and 25) was a product of the new demarcation process.

The district councils have the authority to administer and make rules in an area. A particular area may include one or more local municipalities as well as district management areas (rural areas with low population and little economic activity). The first reported cases of the cholera outbreak emerged within the now overall boundaries of the uThungulu District Council, in Matshana, Nquntshini and Singisi during August 2000 before the division of the uThungulu Regional Council. In staggering shockwaves, the cholera epidemic then spread to the rural areas surrounding these peri-urban settlements. The areas to be struck by the cholera fell under the authority of the Madlebe Tribal Authority, which is part of the uThungulu District Council. At the centre of the outbreak stood Ngwelezane township, now under the newly formed uMhlathuze

\textsuperscript{25} \textit{Local Government Law Bulletin}, vol. 1 no. 1 April 1999.

\textsuperscript{26} Ezimtoti, Newsletter of the uThungulu Regional Council, September 2000
local municipality. The uMhlathuze municipality is a merger between the former Empangeni/Ngwelezane and Richards Bay local municipalities.

Emerging during a time of shifting local government jurisdictions, responsibility for the causes leading up to, and the consequent containment of, the outbreak of cholera should be laid at the door of the previous uThungulu Regional Council and Empangeni/Ngwelezane municipality, and at its new home, the uMhlathuze municipality. Though separated as sub-districts according to the 2000 municipal boundaries, Matshana, Nquntshini and Singisi are serviced by uMhlathuze’s water utility.

uThungulu region

Source: uThungulu region website, www.uthungulu.org.za
uThungulu District Council, DC 28
Section 5: An overview of Health in KwaZulu-Natal

5.1 Introduction

Where the adequacy of water and sanitation provision constitutes the focus of any study of a water-borne disease such as cholera, it is equally important to consider the health services provided in the affected area. Water in and of itself is not sufficient to ensure the health of a community, unless it is clean and fit for human consumption. In the case of Natal, the cholera outbreak was a reflection of the poor state of water and sanitation in the affected areas.

As a case study, Rural Madlebe illustrates how a cost-recovery imperative in water and sanitation provision may displace future costs to expenditure on health services. The impact is particularly powerful within the context of hospitals and clinics that are already overwhelmed in the face of the HIV/AIDS pandemic. Consequently, the task of containing the spread of cholera increased the burden on already over-stretched health services.

Understanding the relationship between community health and the environment is essential in combating the vulnerability of poor communities to disease. An emphasis on health care and education without a concomitant improvement in the environmental and hygiene conditions to which the urban and rural poor are subjected merely creates a bigger health problem, increases mortality rates and creates social upheaval.

5.2 The political economy of health in this region pre-1994 to 2000

5.2.1 A brief description of health services prior to 1994 with specific reference to the budget

Before 1994, the health services in South Africa was a reflection of a system which focused primarily on supporting the Apartheid state, rather than on improving health or providing an efficient and effective health service. An apt description would be a system fragmented along racial lines with an “own affairs” health department for each race group.

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27 The information presented in this section of the report is mainly from secondary sources. The section relies heavily on material provided by the Medical Research Council, the Health Systems Trust, newspaper reports and the World Health Report 2001. Additional literature from researchers such as Sue Tilley, David Hemson, Mondli Hlatshwayo and David Sanders has also been extensively used throughout this section. While information specifically relating to Ngwelezane Hospital was obtained via telephonic interviews with senior hospital officials who have asked to remain anonymous.
There were four provincial departments and 10 homeland health departments, whose overall administration was indicative of a redundant, wasteful and inefficient system of health service delivery. At the time, access to and the level of service was differentiated in accordance with the colour of one’s skin. Hospital care was the dominant form of service and very little emphasis was placed on Primary Health Care (PHC). Where health services in the homelands were somewhat integrated, PHC in “white” South Africa prior to 1994 excluded the majority of South Africans. The four former provincial departments separated preventative from curative health services. Despite the fact that budgets were often overspent, backlogs in hospital maintenance and repair were massive. The general management of the health services was weak and riddled with inefficiencies. Despite the continual recurrence of the cholera epidemic no educative or precautionary measures were incorporated into the service available. Attempts to improve communities’ access to clean water and a decent standard of sanitation were also non-existent.

At the time, the health needs of rural Madlebe were administered by the KwaZulu-Natal department of health. The Ngwelezane Hospital was the main hospital through which the rural community accessed health services. Because of the distance to the hospital, poor roads, or lack of transport, the community relied heavily on mobile clinics that frequented the different locales. According to one Ngwelezane Hospital official28, the mobile clinics were required to visit each rural service points at least once a month. Information on the number of health service points and their exact location were not available at the time of the interview. However, because the Madlebe area is made up of 12 rural wards, it is deduced that there must have been 12 health service points. Up until 1994 each person visiting the mobile clinic service points was expected to pay a service charge of R2-3 per “treatment”. Payments for services were scrapped when free Primary Health Care (PHC) was introduced as part of government’s health policies29. Diahorrea, gastro-enteritis, tuberculosis (TB), cholera and typhoid, were among the common ailments that were treated at Ngwelezane Hospital, according to the hospital officials.

Information pertaining to the hospital’s portion of the provincial health budget was not available at the time of compiling this report. It is, however, possible to make sense of the hospital’s financial standing by examining trends in the national health policies.

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28 Ngwelezane hospital official, telephone interview: 8 August 2001
29 Ngwelezane hospital official, telephonic interview: 28 August 2001
In 1999 the Health Department published its Health Sector Strategic Framework to provide clarity on its health priorities for the next five years. That document described its first five years as having focussed on increasing access to health care especially for those who did not have access. It added that the next five years would be aimed at accelerating the quality of health service delivery\textsuperscript{30}. But did the health department actually achieve its objective of increased access to health services and was it successful in overcoming the apartheid legacy in the health sector?

According to some researchers in the field, the ANC government was able to make a considerable difference within the health sector through the establishment of a unitary health system. The introduction of a unitary health system involved the establishment of one national health department and nine provincial health departments. Not only did the establishment of a unitary health system remove the inherent structural racism which characterised apartheid public health, the new public health dispensation also made the upgrading of many clinics and health centres possible. In addition, approximately 500 new clinics and health centres were built nationally. A national policy on free primary health care was also legislated, thereby substantially increasing access to PHC.

A District Health System was also established to allow provincial and local authorities to pool their resources together and integrate care in order to offer more comprehensive health services under one roof. However, the new health policies failed to rectify the inherent financial predicament of the public health service sector that has been compounded by poor administration and bad management. In general, the decline of the national health budget in real terms has worsened the health system’s woes.

At a superficial level, statistical sources indicate a substantial budgetary increase for the total public health sector. For example, between 1992/93 and 1998/99 the national health budget increased by approximately 9% per annum. There was similar growth in the general taxation that finances the public health sector. According to the South African Health Report 2000, the share of provincial resources devoted to health appeared to have increased slightly between 1996/97 and 1998/99 in all provinces except Mpumalanga and the Northern Province. The share for each province, however, differed in accordance to existing infrastructural and service needs. The KwaZulu-Natal Department of Health’s estimated total for provincial spending in 1996/7 and

\textsuperscript{30} \textit{South African Health Report} (SAHR), 2000, p56
1998/99 indicate an increase in the province’s health budget from 22% for 1996/97 to 24% in 1997/98 and a decrease to 22% in 1998/99.

In keeping with the Medium Term Economic Framework (MTEF) for the same period, the spending on social services which included health was stipulated to be 14.4% for 1997/98. The 1998 MTEF tabled in parliament allocated part of the equitable share to health. Health received 21.75% of the equitable share for the KwaZulu-Natal province. The base share for this province for 1998/99 was projected at 19.6%. The METF of 1999 confirmed this when the share allocated to the health sector in this Department was 19% for that year. This figure was calculated on the proportion of the population without access to medical aid or insurance.

5.2.2 The impact on Ngwelezane hospital

After 1994 health services in the former KwaZulu Bantustan were incorporated into the KwaZulu-Natal Provincial Department of Health. Although the exact figures were not available, according to a senior hospital official at Ngwelezane hospital, there was no apparent change in the budget allocation for the hospital:

In times of financial crisis the department of health shouts at all of us regardless of whether we have been good or bad - in financial terms that is.

- Hospital official, telephonic interview, 2/3 September 2001

The official then added that:

The health budget for KwaZulu-Natal provincial health department has been “in a mess” and I would not be surprised if you are unable to find out what the budget allocation is or supposed to be for Ngwelezane Hospital.

He, however, added that since 1994 there had been a substantial improvement in the infrastructure such as roads, electricity and clean water to the hospital. The fact that PHC was free also increased the inflow of patients. The official’s most substantive comment was that the hospital was currently being upgraded to a secondary hospital, and would be catering for the entire district.

While the hospital was equipped to deal with the free dispensation of primary health care, the health authorities at the hospital were still limited by the general terms of health care as an essentially responsive service provided. The declaration of Madlebe as a disaster area exposed a
lack of a community health system that is able to effectively monitor the nature and incidence of diseases.

5.3 Cholera: recurrent outbreaks in KwaZulu-Natal

5.3.1 A brief description of the outbreaks of cholera in the area, from 1982-2000

Cholera is a disease of the gastrointestinal tract caused by the ingestion of the cholerae bacteria that are spread via contaminated food or water. Human faeces carry huge quantities of these bacteria, and when shed in turn contaminates the water supply. Cholera usually occurs in conditions of extreme poverty, where inadequate or non-existent water and sanitation facilities result in poor physical hygiene. Although epidemics rise and die off, cholera appears to be increasing steadily in Africa. South Africa is no exception.

Cholera cases in KwaZulu-Natal from 1980 to March 2000

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CASES</td>
<td>1</td>
<td>943</td>
<td>12,263</td>
<td>6,427</td>
<td>1,663</td>
<td>699</td>
<td>330</td>
<td>89</td>
<td>37</td>
<td>22,452</td>
</tr>
<tr>
<td>DEATHS</td>
<td>0</td>
<td>1</td>
<td>24</td>
<td>18</td>
<td>31</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>78</td>
</tr>
</tbody>
</table>

The first major outbreak of cholera in KwaZulu was in 1982 with a total of 12,263 reported cases and 24 deaths. This outbreak was preceded by a severe drought that raged between 1982-1983. The total number of reported cholera cases since 1980 to 1995 was 22,415 and 78 deaths. In the two years 1998 and 1999 there were 20 cases and 1 death, and 68 cases reported and 2 deaths respectively.

The outbreak of cholera in August of 2000 represented a ten-fold increase on the 20-year provincial incidence of the disease in the span of just 13 months! With the total number of

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32 Data from *Statistical Notes* Vol.2 No.14 of March 2000 with mortality figures supplemented by publisher, Chief Directorate: Health Information, Evaluation and Research, Department of Health
33 *Weekly Epidemiological Record*, volume 31 numbers 74 and 75, World Health Organisation: http://www.who.int/wer, 6 August 1999 and 4 August 2000. Records of 1982 cholera mortality vary considerably. The publisher of *Statistical Notes*, the Health Information, Evaluation and Research directorate of the Department of Health’s, qualified the statistics provided as the ‘minimum’ incidence of cholera deaths. The notification system by which the directorate sources its data limits observation timeframes to the early and late stages of an epidemic. Dr. H.G.V. Kustner (*Epidemiological Comments*, vol.9 no.8 August 1982 p.24) recorded 212 cholera related deaths in the former KwaZulu and Natal with 9,492 bacteriologically proven cases of the disease.
cholera caused deaths since the start of the outbreak to February 2002 being in excess of 260, cholera in democratic South Africa has proved more lethal than during Apartheid.

The number of reported cholera cases and deaths in health facilities from 10 August 2000 – 12 November September 2001

<table>
<thead>
<tr>
<th>KZN district</th>
<th>Cases</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Umfolozi/Ngwelezane</td>
<td>23,951</td>
<td>24</td>
</tr>
<tr>
<td>Eshowe/Nkandla</td>
<td>31,462</td>
<td>31</td>
</tr>
<tr>
<td>Durban</td>
<td>2,456</td>
<td>29</td>
</tr>
<tr>
<td>Stanger/Untunjambili</td>
<td>7,672</td>
<td>16</td>
</tr>
<tr>
<td>Ugu/South Coast</td>
<td>8,650</td>
<td>23</td>
</tr>
<tr>
<td>PMB Ndlovu</td>
<td>4,425</td>
<td>24</td>
</tr>
<tr>
<td>Ladysmith</td>
<td>454</td>
<td>1</td>
</tr>
<tr>
<td>Newcastle/Nqutu</td>
<td>2,088</td>
<td>17</td>
</tr>
<tr>
<td>Ulundi</td>
<td>24,310</td>
<td>47</td>
</tr>
<tr>
<td>Jozini</td>
<td>406</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80,387</strong></td>
<td><strong>168</strong></td>
</tr>
</tbody>
</table>

Like the outbreak of 1982, the August 2000 outbreak greatly affected the KwaZulu region. Of the total number of cases in the country since then, 113,966 occurred in the province with 259 fatalities by 7 February 2002. Umfolozi and Ngwelezane sub-district, wherein the Madlebe Tribal Authority falls, recorded 23,962 cases and 24 deaths. While the cholera affected both rural and urban areas, the Durban Unicity recorded an alarmingly high mortality of 29 deaths with a much lower incidence of 2,456. What is striking about this statistic is that it breaks the commonly held perception of cholera as a rural disease.

5.4 Cholera and AIDS: is there a relationship?

The Medical Research Council of KwaZulu has confirmed that the province has the highest percentage of AIDS cases in South Africa. HIV/AIDS is particularly rife in rural areas such as Madlebe and is exacerbated by the ongoing outbreaks of cholera. Is there a relationship between

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34 Cholera Update in KwaZulu-Natal, November 2001, Epidemiology Unit, Dept. of Health, KwaZulu-Natal
35 KwaZulu-Natal Department of Health, Cholera Update, media release, 7 February 2002
these two illnesses and how do they relate to each other? According to a senior medical official at
the Ngwelezane hospital, there is a correlation. He described the problems faced by the hospital
in its attempt to deal with the two as the following:

*I think the number of cases of cholera has been overstated. It is currently said to be 3,500
but not all the diarhoea and vomiting is cholera. We are taking precautions and treating
every case as if it is cholera especially if the symptoms are the same. AIDS patients have
similar symptoms as those with cholera. It can be difficult to assess if the diarhoea is
AIDS related or is caused by cholera. These patients were treated as cholera and not
AIDS patients. You can understand the implications: here you have someone who already
has an immune deficiency because they have full blown AIDS and despite the treatment
for cholera they are unable to fight off the disease. When they die, the death is reported
as a cholera death, when in fact cholera was the catalyst, AIDS was the cause. I think
there were many such deaths reported that were AIDS.*

However, two other senior medical officials from the hospital did not seem to agree with this
interpretation. One of them stated:

*We were quite clear about what we were treating and who. AIDS, gastrointeritis and
cholera all have diarhoea, so we use anal catheters to distinguish the one from the other
and treated it accordingly. The confusion was caused by the fact that the person did not
know that he or she has AIDS and came for treatment for cholera, then we had to tell
them that they have AIDS not cholera.*

Another official also commented:

*I would not say that the figures were too overrated, but let me say that at least 40% of the
cases should have been reported as AIDS related deaths as a result of cholera and not
cholera [alone]. But you know it is so hard to say, and you cannot generalise this
relationship to all cases. It depends a lot on the person and their health condition. So I
would say that a person with HIV/AIDS responds as well or as badly to the cholera
treatment as anyone else who has contracted cholera.*

Given the lack of research on the epidemic we have yet to find literature that states that a person
living with HIV/AIDS will most certainly die if s/he contracts cholera. During a telephonic

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36 AIDS researcher at the MRC, telephonic interview
interview with a Medical Research Council researcher on the relationship between AIDS and cholera, the following was stated:

Community members who are HIV-positive and are exposed to and/or contract cholera develop AIDS much faster. For those living with HIV/AIDS and under circumstances that are already unhygienic, cholera is almost a guaranteed killer. There are too many extraneous variables to be measured for each person.

So for example, patient A has recently been diagnosed as HIV-positive, has a high t-cell count and has experienced few if any symptoms. The chances are that if patient A contracts cholera he/she would respond well to the treatment for cholera and would recover as well as someone who is not living with HIV/AIDS. On the other hand, patient B has had full-blown AIDS for a year, has an extremely low t-cell count, on-going diahorrea, is bed-ridden and has to be nursed 24 hours. If patient B contracts cholera, the treatment for cholera will not help much.

The lack of purified water for drinking and washing and the lack of toilets in the above scenario must impact severely on the person living with HIV/AIDS and those caring for him/her. In many instances, AIDS-related diarrhoea could spread cholera. The case of rural Madlebe illustrates how a cut in spending on infrastructure for essential services such as water and sanitation may save DWAF thousands, while on the other hand, the health costs within the context of HIV/AIDS run into millions.

5.5 Rural Hospitals, sewage treatment and Cholera

The final effluent from the sewage treatment works of rural hospitals often does not meet the required quality standards. In many cases this discharge soaks away into the ground, but occasionally, it enters water sources used by local communities living in close proximity to these hospitals. Thus, if it is inadequately treated prior to discharge, the effluent could pose a health risk to these communities.

Between July 1998 to February 2000 the CSIR, conducted a study to monitor effluent discharge from rural hospitals in KwaZulu Natal. The study covered the Northern Maputuland/Pongolo and Eshowe/Maphamulo areas respectively.
In January 1999, the Mosveld Hospital tested positive for cholera (Ogawa) in the raw sewage while in February 1999, cholera (Inaba) was isolated from the effluent discharge of the Bethesda Hospital sewage treatment works. In both cases the communities were utilising water from springs in close proximity to the hospital. This information is crucial as the areas were located adjacent to Mozambique where a cholera epidemic was prevalent with health authorities suspecting an importation of the disease to South Africa.

The more recent confirmation by the Eastern Cape health department that the Umtata sewage works is the source of the cholera outbreak in the Transkei region adds credence to the extent to which sewage treatment works contaminate water supplies.38

The study indicated that most of the hospitals, including the Eshowe/Maphamulo areas, plants had broken down, frequently run out of chemicals for chlorination and untreated effluent has run out and released into the environment, mostly, streams.

The study has therefore, indicated, that the cholera outbreak during 1998 and 1999 in South Africa could not solely be explained in terms of the importation thesis of doctors at the time. Rural hospitals, which are supposed to serve the health interests of rural people, are posing a serious health risk to communities who use nearby streams and wells for drinking purposes as well as watering their crops.

38 Mphumzi, Zuzile and Phumlani Mdolomba, “Umtata sewage cause of cholera says Mamase” Independent Online, 7 February 2002
Section 6: The Delivery of Water & Sanitation

The Community Water Supply and Sanitation (CWSS) Programme co-ordinates all rural water supply initiated after 1994. Its aim is to make sure that the 12 million people without adequate water and the 21 million without sanitation are catered for. An expenditure of R1bn was targeted in 1997, but by 1998, the budget was cut to about R500m. Government’s commitment to provide adequate provision of water and sanitation to rural areas fell short of the targets for areas worst affected. The imperatives of GEAR, which emphasises fiscal austerity, took over in June 1996.

The auditor general, Shauket Fakie, said that by August 1999 only 195 of the 1,025 approved Reconstruction and Development Programme (RDP) targets for water and sanitation had been met, representing only 19% of the total approved. This shortfall was due to budget cuts, poor project management and non-sustainability of completed projects:

Progress with provision of water services has been slower than originally anticipated.

One of the reasons is the low level of funding relative to need.

- Mike Muller, Director General, DWAF

Water and sanitation provision varied significantly within the former homeland areas. In 1986, it was estimated that in the homeland of KwaZulu with a population of 3,750,000 people, 75% relied on springs, rivers, boreholes and other natural sources while 25% had access to government water schemes. In Gazankulu on the other hand, which had a population of 750,000, 10% relied on traditional sources while 90% had access to government schemes. Furthermore, in the homelands, sanitation was not the responsibility of the authorities at all. Sanitation was largely provided to clinics and schools. As a result, over 80% of the rural population had no access to proper sanitation.

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40 It is important to note that the water and sanitation budget has been subjected to annual cuts. The 2001/2002 budget was cut by 2.9%.
41 Streek, Barry, “Millions still without clean water and sanitation”, Mail & Guardian, 15 June 2001
42 Council for Scientific and Industrial Research (CSIR) Guidelines on the cost effectiveness of rural water supply and sanitation projects, Water Research Commission Report 231/1/93, 1993. While the information may be outdated if gives us a sense of the levels of service in the former homelands.
According to the DWAF table, the uThungulu Region had a backlog of 87.4% for water supply and 64.6% for sanitation for a population of 1,341 million in 1994. As part of the Community Water Supply and Sanitation (CWSS) Programme, the uThungulu Regional Council prioritised sanitation to 984 schools in its region. Of these schools, 190 had no sanitation services at all, while 749 lacked adequate toilet facilities. The provision of sanitation to households was not a priority.43

The measure of the CWSS programme’s success in broadening access to clean water and sanitation for the communities of rural Madlebe shows up how it had only whittled away at the enormous need for these basic services. Any chance of the programme’s success was disappointed by the mean budgets parcelled out to provinces for extending water and sanitation services. Since 1994, R668m has been spent on water and sanitation in the KwaZulu-Natal province serving some 830,000 people.44 Budget constraints saw the suspension of 20 projects in KwaZulu-Natal, which resulted in a funding shortfall of R77.6 million on these projects, affecting 181,000 people. Furthermore, the approved 1998/1999 Mhlathuze Water Board budget was cut by 50% resulting in a shortfall of R21.7 million with 10 of the 13 projects being suspended.45 As the premier strategy for water delivery, the promise of delivery through the CWSS programmes in the uThungulu district was foreclosed by budget cuts.

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43 Business Plans, uThungulu Regional Development Plan, 1998. We have not been able to verify whether the regional council had completed this sanitation for schools project

44 DWAF, Annual Report 1999-2000

<table>
<thead>
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<th>Without Water</th>
<th>With Water</th>
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<tr>
<td><strong>Total Population at 1994:</strong></td>
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<tr>
<td>1 341,000</td>
<td>1 172,000 (87.4%)</td>
<td>169,000 (12.6%)</td>
<td>860,000 (64%)</td>
<td>481,000 (36%)</td>
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<tr>
<td><strong>Total Delivered at August 2000</strong></td>
<td></td>
<td>144,833</td>
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<td>2,297</td>
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<td><strong>Total Population at 2000:</strong></td>
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<tr>
<td>1 509,832</td>
<td>1 195,999 (79.2%)</td>
<td>313,833 (20.8%)</td>
<td>1 026,535 (68%)</td>
<td>483,297 (32%)</td>
</tr>
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The impact of the GEAR austerity programme on the CWSS can be seen from the table above (see also appendix A). At the time of the outbreak in August 2000, only 144,833 people benefited from water provision and 2,297 people from sanitation provision in the uThungulu region. If we extrapolate these latter figures according to a population growth of 2.4% for the region, a more serious impact of a lack of delivery emerges. The population of the uThungulu region was 1,341 million in 1994; by 2000, this number had grown to 1 509,832.

With a population increase to 1 509,832 the delivery of water to 144,833 people since 1994 meant that 79.2% compared with 87.4% in 1994 did not have access to an adequate water supply. Delivery of sanitation facilities to 2,297 people meant that 68% of the population had no sanitation in 2000 where 64% had been without service in 1994.

After six years of the new ANC government, only 8.2% more people had gained access to a water supply while there had been a negative growth of 4% in sanitation provision to the uThungulu Region’s population.

A closer look at the Madlebe Tribal Authority areas reveals an even more disturbing picture. While the Ngwelezane/Empaneni Transitional Local Council had converted the only free water available to the residents of Madlebe, the water infrastructure programme was only completed in August 2000. Consistent with the uThungulu Development plans, sanitation was not prioritised. What can be inferred from this omission is that sanitation service delivery could only have been even lower than the negative growth rate of 4% for the region. By implication, the inadequacy of

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existing water and sanitation services delivered to the Madlebe Tribal Authority was starkly and tragically made apparent by the cholera outbreak.

As long as uThungulu’s poor do not have access to a permanent supply of potable water, the need for emergency measures to compensate for existing deficiencies will be a constant threat. The fact that the injection of water and sanitation infrastructure after August 2000 was implemented under rapid delivery processes may mean that the standards, quality and sustainability are questionable. As indicated before, the Madlebe Tribal Authority, where the first cholera cases were reported, was part of the uThungulu region.

6.1 **The Madlebe Tribal Authority Water Supply Scheme**

Where the delivery of water services had been restricted to just nine communal taps on the boundary with Ngwelezane, the extension of water provision under the Madlebe Water Supply Scheme promised to remedy the burden of daily carting of water for the peri-urban communities surrounding the township. Problems with the implementation of the scheme indicate the relative priority of their needs as compared to large commercial interests. Prior to 1994, Madlebe fell under the KwaZulu government and its water systems were controlled by the Department of Agriculture. Like most rural areas in South Africa, Madlebe is densely populated and historically has had no real public water infrastructure to speak of. Access to clean water up until very recently was a daily struggle for communities in this vicinity. Water was predominantly sourced from hand pumped boreholes, the lower Umfolozi and uMhlathuze Rivers, or nearby streams, depending on the distance of the sources. According to Phil Berridge, the project manager for the Mthlathuze Water Board:

*There were no historical water schemes in the area apart from the nine communal taps on the boundary of Ngwelezane. During problems such as cholera or droughts, potable water was transported into the area to deal with the problem. There were also boreholes but no significant water schemes.*

The nine communal taps referred to by Berridge, were part of an emergency relief programme to deal with the 1982 drought and cholera outbreak in the area at this time. The project was an historical milestone for the communities of Madlebe, since they were for the first time able to

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46 Unless stated otherwise, this section draws heavily on DWAF’s *Madlebe Tribal Authority Water Supply Project, Business Plan*, November 1996
access purified water. The location of the taps was largely determined by already existing infrastructure of the Ngwelezane township.\textsuperscript{47} As stated earlier, among the areas where incidents of cholera were first reported were Nquntshini and Singisi, areas where five of the nine communal standpipes were located. Another major change took place in 1993 when the water system was decentralised in KwaZulu and each administrative region was provided with its own budget for drilling boreholes. The Department of Water Affairs and Forestry assumed full responsibility for all water and sanitation provision after 1994.

A new local authority was then established and with the new boundary demarcations, rural Madlebe became part of the newly formed uThungulu Regional Council (URC) in 1996.\textsuperscript{48} The Regional Council was responsible for the provision of “basic” services in the rural parts of the Empangeni region. The new municipal dispensation made it possible for the rural community of Madlebe to make requests for water provision. Because Madlebe was both a rural area and a high-risk area for cholera infections, according to Berridge, its 1996 proposed water supply project’s was “identified as a priority”.

Legislation such as the Transition of Local Government Act (no.209, 1993) made allowance for service providers to outsource the provision of services. This is most common for services such as water, electricity and sanitation. The outsourced company becomes the service provider and is thus responsible for the provision of the service. The uThungulu Regional Council chose this option and outsourced water provision to the Mthlathuze Water Board (MWB). The Council’s role was thus redefined from service provider to “assurer” of the water services in this area. Because there was almost no infrastructure in the Madlebe area, the task facing the MWB was a daunting one indeed.

The Madlebe Tribal Authority Water Supply scheme (project no.KN071) was fully funded by DWAF as part of the Reconstruction and Development Programme. The business plan was finalised in November 1996 and work began in 1997 to implement the plan that designates all of Madlebe for water provision. The Tribal Authority, which fell under the uThungulu Regional Council, is made up of the following eleven wards: Iniwe; Ndabayakhe; Mtengu; Singisi; Nquntshini; Nkosazana; Odondolo; Bomvini; Buyingoma; Mankwanyaneni; Matshana.\textsuperscript{49}

\textsuperscript{47} Interview with Phil Berridge
\textsuperscript{48} Ezimtoti, Newsletter of the uThungulu Regional Council, September 2000
\textsuperscript{49} Areas in italics indicate those first areas to be affected by cholera.
The aim of this project was to provide taps 200 meters apart to ensure that the population of Madlebe received an assured minimum supply of 25 litres per person per day of potable water. The actual water demand projections were made on the basis of a physical count undertaken by the CSIR in 1992, the DWAF CWSS study (1996), water reservoir surveys (1992-1995) and the 1991 population census. The short-term population of 2,700 households, namely 22,859 people according to the outdated statistics, were to benefit from the scheme.

A 20-year design was based on an urban growth rate of 3.5% for the area immediately adjacent to Ngwelezane and a lower rural rate of 2% for the more remote parts of the project area. The consumption of 25 litres per person per day has been applied for the more remote areas and about 60 litres per person per day for the areas more likely to have house/yard connections. The supply of bulk water for the scheme came from the Empangeni/Ngwelezane Magazulu Reservoir. A 450-diameter gravity pipeline was constructed and extended to existing reservoirs in Ngwelezane and forms an integral part of the supply to the Madlebe scheme. The Magazulu-Ngwelezane pipeline, has a metered primary reservoir and a meter at every distribution reservoir. This metering was to ensure a rapid identification of uncontrolled or excessive loss of water. This pipeline cost R4,7m and was completed in 1998.50

The following are the Madlebe project cost estimates:
- Bulk Water Supply (R4 602,000)
- Distribution and Reticulation (R8 863,000)
- Training, facilitation and capacity Building (R513,000)
- Implementing agent (R114,000)
- PSC costs (R24,000)

The total cost for the project was R13 801 000, while the funding from the RDP amounted to R7 700,000. There was thus a shortfall of R6 101,000. Because of the shortfall, phased development was sought and there was a reduction of the service level, by increasing the cartage distance (more than the RDP 200m minimum). Savings were made by reducing “considerable lengths of the reticulation pipework” which could be omitted. It was decided that additional reticulation could be upgraded at a later point, finances permitting. The implementation of the project began in 1997 and was completed in August 2000.51

51 Interview with Phil Berridge
Berridge argued that it was crucial for communities to participate in establishing such schemes:

*If the community feels ownership it will look after the project but if they are not part of the process and are not held responsible and accountable the project will fail. And they won’t care if the project is looked after or fails.*

It was for the above reason that a Project Steering Committee (PSC) was established at the beginning of the water project. The PSC consisted of the *Induna*, the *Nkosi*, two representatives from each ward and regional council representatives. The PSC discussed the MWB and its role in detail and MWB presented their business plan to the PSC and the community. According to Berridge, the MWB supported the idea that “the communities should look after their own water supply.”

### 6.2 The conversion of the nine communal taps to prepaid meters

Until 1996, the former Ngwelezane/Empangeni municipality was liable for the water costs of the nine communal taps. The municipality viewed these taps largely as a public health measure. As a result, there was no effort to collect user fees. But by 1998, when the Transformation of Local Government Act introduced measures for more rigorous financial management and cost recovery, this situation could no longer continue. Berridge described the situation at the time:

*What happened after that is the taps remained and the taps just ran. In Ngwelezane, residents were required to pay a flat rate of R45 for water and electricity service. The 9 taps were not accounted for and the residents around the taps, which was the residents under the Nkosi and the squatters were accessing water from these taps – and in some instances they made personal connections to these taps and had water running up to their houses.*

The Ngwelezane/Empangeni Transitional Local Council approached MWB, who were responsible for the water service provision in this area, and requested that they take over the service. MWB agreed to incorporate the nine communal taps into their service. As the area’s appointed water service provider, the MWB became financially accountable for the water supplied through the nine communal taps. By the end of 1998, the nine communal taps were converted to prepaid meters. The process involved the upgrading of infrastructure, establishing private connections and increasing the volumetric flow of water to 60 litres, where possible.
These developments affected those residents who, prior to the conversion of communal taps, had made connections from the communal pipes to their homes. If this service was to continue, this group of water users was told, they had to formally get permission from the Ngwelezane/Empangeni TLC.

The above case was eventually taken up by the MWB. In an attempt to establish where these connections were, the MWB visited households in the area. They tried to negotiate with the residents to apply for a private connection and told them that they would be charged R3.25 per kilo-litre of water. However, at the completion of the communal taps conversion project, some of the households with the private connections were refusing to pay. The MWB then gave this group of non-paying water users six months to pay-up, or else the uMhlathuze municipality would be instructed to cut the water service off. Berridge’s related his experience of communicating the new policy to the community:

> I told them the municipality wanted the water to be cut-off and that they were leaving me with no choice. They just said 'ya, ya, ya' but did nothing.

### 6.3 Cost recovery and affordability

... from the reality that exist on the ground where many of poorest of the poor “cannot pay” rather than “won’t pay” for basic water. In many areas, particularly in rural areas, the poor do not pay at present. The problem is that when we try to implement cost-recovery, many of the poor cannot pay. The consequence, when they are excluded from the tap, has been seen with the cholera outbreak in KwaZulu-Natal.

- Minister of Water Affairs and Forestry, Ronnie Kasrils

From the inception of the Madlebe Community Water Supply Scheme in 1996, cost recovery was the accepted framework for service provision. In line with the policy of cost recovery, the tariff in the Madlebe Tribal Authority did not include a lifeline supply as per the RDP. As a result, the community of Madlebe had to pay a tariff of R12.50 a kilo-litre. This covered the full operations

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52 Minister of Water Affairs and Forestry, Ronnie Kasrils, media statement: *Delivery of free Water to the poor*, 13 October 2000

53 On its monetarist terms, the arguments for a lifeline tariff in rural areas of South Africa fail. Low density settlements, long distances from water processing plants, only modest industry to subsidise domestic consumption and such poverty that even the most basic of tariffs becomes unaffordable are all factors contributing to the high cost of rural water services. With little prospect of full cost recovery, tariff
and management (O & M) cost of the project. The method of ensuring that costs were recovered was through the use of pre-paid meters on (mostly) communal standpipes and private connections.

According to the MWB project manager:

* MWB had recognised the need to design a water project that would ensure financial sustainability.*

Prepaid meters allowed the operational and infrastructural costs to be built into water costs undetected. To access water, users were required to pay up-front. A connection fee of R51 was payable by each user before a coupon was issued which enabled access to the pre-paid meters. As far as the MWB was concerned, a meter prevented arrears and improved the organisation’s cash flow. The O&M costs can be reduced if the, “…2,700 households in the area…come to the party then the cost will be cheaper.”

The local authorities argued that cost recovery was necessary in this area because of the absence of industry or wealthy households as a source of cross subsidisation. As Berridge put it:

* It has to be determined, cross-subsidisation … Who’s going to pay for it? It is not for free, somebody is going to pay for it…well you see it comes back to the cross-subsidisation story: until such time that we had to run this scheme, we had no bloody means of cross-subsidisation.*

The costs considered were for the actual infrastructure. This was estimated at R3000 for each household, towards which consumers would be expected to pay a contribution, calculated as follows:

- pre-paid meter: R1800
- labour and piping: about R1200.

The cost of a private connection was between R600 to R2500 per household, depending on the distance of the yard or house from any infrastructure. The cost of supplying water (operational

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policies premised on sustainability of services are futile. See David Hemson, *Closing the Gap? Policy and Practice in Water & Sanitation*, 2001

54 Interview with Phil Berridge
55 Interview with Phil Berridge
and maintenance cost) was estimated at R12.50 a kilo-litre. The MWB was willing to reduce this to R10 k/l. Berridge defended this, once again making reference to the demographics of the area:

\[ R10 \text{ per 1kl sounds incredibly high when most people in the town are paying } R2.30. \text{ In the town your water bill is } R60 – R100 \text{ a month whereas their water bill is } R20 \text{ for 2kl. You must remember that the level of service is different, in the town people have a full-blown service. One should be careful about the figures one uses, and saying that a } R10 \text{ charge is too high and how can you be charging poor people so much. Considering the fact that they use between 5-10 litres on average a day, they are getting it at } 1c \text{ a litre. They are not paying for overall water usage, they are paying for approximately 1 litre of drinking water per day and plus minus 3 litres of water for cooking. It is physically impossible for them to carry 25 litres per person per day, because of the distances.} \]

For Berridge and the MWB, there was only one way to ensure an adequate supply to the area - getting people to pay in advance through prepaid meters. The motivation articulated in the plan was getting rid of what Berridge called the “confictual elements of the system”. In terms of this logic, prepaid meters would eliminate squabbles over costs and arrears.

The Project Steering Committee supported the motivation for cost recovery as presented by the MWB. It also agreed to the provision of a water service via the prepaid meter system, as opposed to a communal tap with a flat-rate. In the words of Mr Madida, who is both a Bomvini Induna and the chairperson of the PSC:

\[ \text{The prepaid scheme was supported by the PSC. It came from us because why, there would be no wasting of water, we would not need to monitor the meter and have meter readers, we would not have to go around collecting money.} \]

The Induna added that the PSC did not consider the need for an indigence policy:

\[ \text{For those who really cannot pay, well they know that there is nothing for “mahala.” The community of Madlebe has to buy the water from the municipality who has to buy the water from uMthlathuze. That’s how it goes and at the end of the day you have to pay. Those who had money registered and bought the card, while those who did not, shared the card with their neighbours and usually bought about 50 or 60 cents of water a day.} \]
The prepaid meters were then systematically installed throughout the region at the PSC’s request. Meters were installed in one ward or area at a time. The installation of the meters began in 1997, and was completed in August 2000.

*Every area has a ward committee - R50 buy-ins commitment to their own water supply. That is how they saw it. This was their idea, they had a similar system for boreholes.* 56

MWB also decided to use the nine communal taps to train the personnel required to maintain the service. This served as an additional incentive for the community if they agreed to the prepaid meters.

A total of 700 households joined the scheme while some 2000 families remained unconnected at the time of the cholera outbreak. 57 The areas first reported to be affected by the cholera viz., Nquntshini, Matshana, and Singisi make up 1003 households (7694 people). This excludes the households serviced by the nine communal tap-stands surrounding Ngwelezane Township. The average monthly income for these areas are: Nquntshini (R498), Matshana (R600) and Singisi (R500), well below the average income of R663.

These are the details for the areas under investigation:

- Nquntshini was provided with a reservoir that serviced 19 prepaid meters which were attached to 37 taps. The number of households serviced by these taps was 262, and consisted of 2081 residents in the area.

- Matshana and Odondolo had one reservoir that serviced 30 prepaid meters attached to 54 taps. The number of households that were serviced by these taps was 440, and consisted of 3311 residents for the areas.

- Singisi had three reservoirs that serviced 25 prepaid meters which were attached to 52 taps. The number of households that were serviced by these taps was 301, and consisted of 2302 residents for the areas.

56 Interview with Phil Berridge 2001  
57 Salgado, Ingrid “Too poor to pay life-saving R51,” Sunday Times, 1 October 2000
The pumps, reservoirs and pipes of the CWSS programme that were set in place have delivered under their original projections. The failure of the pre-paid system to connect the majority of the Madlebe households exacerbated the cholera outbreak. In attempting to connect the 2000 households that remained outside the system, the pre-paid water service was converted into a flat rate of R20/month per household.58

Limited by cost-recovery criteria, even the reversion to an Apartheid-style flat rate cannot be sustained. Cost recovery demands annual operations and maintenance increases and limits the possibilities for subsidies and cross subsidisation. This is concretely demonstrated by the fact that people in Madlebe have not benefited from the government’s free water policy (see appendix B).

6.4 An analysis of the nine communal stand-pipes around Ngwelezane Township

The conversion of the nine rural communal standpipes surrounding the Ngwelezane Township largely happened by “accident”. It was ‘discovered’ that these communities:

...were still receiving free water in terms of a 17 year-initiative of the former KwaZulu government to deal with the 1983/4 drought. 59

The changes in the new local government demarcation and the defining of responsibilities according to new municipal boundaries and ‘cost-recovery’ principles accelerated this regressive conversion of the communal tap-stands. At first, the authorities wanted to remove these taps altogether but decided otherwise. 60

The areas served by the communal taps surrounding the Ngwelezane Township were also part of the first areas cited for the cholera outbreak. An investigation into the consumption levels of these

60 Interview with anonymous Empangeni official, November 2000
communal standpipes is therefore very important to see whether there is any correlation between consumption levels and the extent to which the cholera spread so rapidly.

Conversion of the communal tap-stands to prepaid meters took place between 1997-98. Data for consumption levels for all the nine communal standpipes is only available as of April 1999. This research analyses the period from April 1999 to August 2000 when the outbreak erupted. Data on consumption levels for the more outlying areas of Matshana, Singisi and Nquntshini are not available as those projects were only completed just before the cholera outbreak. A major weakness of this analysis is the fact that we do not have data indicating the consumption levels prior to the conversion of the communal taps so that a comparison of consumption levels could be made. Nevertheless, an analysis of consumption levels after conversion tells its own story.

The reading of the data has also had its own difficulties in establishing the true explanation for non-consumption, low consumption and high consumption at the various communal standpipes. The data, however, in general reveals highly uneven and erratic consumption levels with a general tendency to decline from April 1999 to August 2000. The two line charts on pages 49 and 50 provide a descriptive picture of the consumption patterns over a 16-month period.

The data from April – December 1999 indicate the following (see graph overleaf and appendix C):

The nine communal taps vary wildly in their consumption rates, due in most part to a breakdown in services. 4 of the taps indicate a 0 reading at some point during the time period. From the collected readings, however, a discernible pattern of water use is evident. During the dry-season months from July to September, consumption declines markedly. While users may be expected to depend on piped water more when natural sources of water dry up, these drier months coincide with the breakdown of service. All four of the faulty taps-stands were not functioning during the months of July and August. The high consumption rates at taps 1 to 6 could be reflective of the breakdown at the other three as people cart their water from the functioning taps. But the general trend for consumption to decline from May/June to December suggests that alternative water sources are found outside of the piped system. And rather than increasing dependency during the dry winter months, the dramatic drop in usage from the colder months to the end of the year is an indication of available time being spent on collecting fuel.
Analysis of data from January to August 2000 (see graph overleaf):

Water consumption declined dramatically from June to August 2000, and 3 of the 4 taps that had not been working the previous year registered no consumption during the same months (and more) in 2000. This consistent dysfunction in June and August exaggerates the general tendency of the water consumption to decline during the winter months, but even charting the average consumption over the eight months reflects a precipitous drop from May to June. Taps 1 to 4 registered the most consistent consumption but only when compared to the most erratic tap and only insofar as they did not discontinue supply. Consumption at these tap-stands varied considerably during the 8 months, the winter month figures registering half or lower of the higher summer levels. Most extreme in its erratic record of consumption was tap 6, where there had been a 50% increase from February to May and a 300% plunge from July to August.
6.4.1 A synthesis of the data

An increase in the total monthly average of water consumed is discernible over the course of the two years, 128.64kl in 2000 and 112.40 in 1999 (a difference of 16,240 litres). What is remarkably consistent between 1999 and 2000 is that there is a marked decline for the same 3-month period of June, July and August for the two years. For 1999 an average of 64kl was consumed over the three month period, while in 2000 an average of 49kl was consumed, a decline of 15kl a difference of 15,000 litres of water. Furthermore, there is an increase in the inequality of consumption between different standpipes. Tap numbers 1 and 6 both register the highest average consumption levels for 1999 and 2000.

During 1999, four of the nine communal taps had 0 consumption level over a certain period. That year, tap 9 provided no service for nine months; tap 8 had no service for 6 months, tap 7 no service for 2 months and tap 3 no service for 3 months. The total for the non-provision of water for all the nine communal taps adds up to 20 months!

In 2000 the situation changes somewhat, but not for the better. Tap 9 becomes functional but only provides a service for 3 months and is inoperable for 5 months; tap 8 has no consumption for 7 months; tap 7 has no consumption for 2 months; tap 6 has no consumption for 1 month; tap 5 has
no consumption for 2 months. The total for the non-provision of water for all the nine communal
taps is cumulatively 17 months!

While there is a decline in the total number of months without water, from 20 months (1999) to
17 months (2000), there was an increase in the number of taps not providing service from 4 to 5
for the respective years. Various reasons for the communal taps not being functional have been
given. These include the malfunctioning of the pre-paid system which has a repair time of three to
six weeks; vandalism of pre-paid meters and infrastructure repairs, which consequently cut-off
water to the pre-paid meters.

Not only problems of cost-recovery and affordability, what this analysis shows is that the pre-
paid meter system is not a workable technology, particularly for rural areas where a break in
service can be costly in terms of lives. The chronic dysfunctionality of the tap-stands under the
pre-paid system therefore demands that the pre-paid system be scrapped and replaced with a free
water supply.
Section 7: Stakeholder Responses

7.1 Introduction

The discussion in this section will focus on four pertinent issues identified by this study research: the social, financial, infrastructural and health implications of the prepaid meters for the rural Madlebe community.

During the course of the study in Madlebe, researchers visited five areas as explained in the methodology section of this report. Each area presented researchers with a different context. In Matshana and Nquntshini, researchers were not able to conduct many community interviews and concentrated on acquiring information via streetscapes. In Bomvini, researchers were confronted by rural bureaucracy. The community did not feel free to talk to researchers and referred the team to the Induna, Mr Madida. In Odondolo, however, researchers managed to conduct two life history interviews with local residents. In Singisi, researchers were able to conduct intensive group interviews. But despite differences in the research contexts, the same issues emerged.

7.2 Interviews in the Madlebe Community

7.2.1 Bomvini

In Bomvini, researchers spoke to a number of people about the process that led to the installation of the prepaid metering system. They spoke of a lack of consultation and coercion with regard to water cut-offs:

Prior to the prepaid meters in this area we had free water via a communal system. The taps did not have meters and we got water free. They came to us about two years ago to tell us that they are going to put prepaid meters because we are wasting water. We were not consulted as a community – they were just telling us, not discussing with us. For those houses with taps they put in meters first, then after that they wanted to put in prepaid meters. We said no and then they cut our water. They said that the water belonged to the municipality that is why they have to cut off the water. So we had no water unless you buy the card and use the prepaid system. We had taps before this!

- A resident from Bomvini, interview April 2001
The Bomvini Induna, one of the PSC people who advocated the use of prepaid meters, admitted that two years down the line the meters proved to be a problem:

There are still people who do not have cards and must still register. They don’t have money so they share a card. It is a problem because you cannot get clean water without a card. We used to use spring water before this but now it is dry.

- Induna Madida, April 2001

7.2.2 Singisi

Research in Singisi was largely guided by the location of the three communal taps. Most of our interviews were conducted at the taps and were predominantly with women. The views of Singisi residents echoed the views of people from Bomvini. Generally, the interviewees were not satisfied with the prepaid meters. The phrase “no money, no water” was used to sum up the problems with the pre-paid water scheme. Others felt that “it was a good system”, while the overwhelming majority believed “it was fine in the beginning but if you have no money then it was not so good.”

A resident summed up the overall situation:

Only my father works so it is difficult to get water through the card and many people feel like this. We used to get the water from the communal tap down the road and it was free. When we don’t have money, we don’t have water. There is no river so we stay without. We ask our neighbours for drinking water but that is all.

One interviewee for example, said that she could only afford to buy water to drink because she had no work and did not have money. Many of the respondents who were part of this group interview nodded their heads in agreement. Most people used purified water for drinking and cooking. Only a handful in the community could afford to buy water for their daily bathing needs.

7.2.3 Odondolo

The broad impact of cost-recovery was felt in Odondolo as well. There, researchers spoke with Mr Makatini and Mr Fakude. Each told of a complex set of circumstances by which cost-recovery had led them to be without water. Mr Makatini had lived in the changing rooms of a soccer field for seventeen years. He had permission from the former Empangeni Municipality to live there and had access to water and sanitation. In 1998, the new municipality ordered his water pipes removed without warning. He was left without sanitation and forced to get water from the river.
Mr Fakude was allocated land by the Induna several years ago. However, since he and his family do not come from the area, they are regarded as “outsiders”. Though existing taps were very far from his house, he was refused a yard tap when the prepaid system was put into place, because he was unemployed. Like the Makhathini family, the Fakudes were forced to resort to river water. The lack of infrastructure combined with cost-recovery had made tap water an unaffordable luxury.

7.3 On the social impact of the meters

As a result of the pre-paid meters, a large number of women spoke of feeling humiliated because of problems in accessing water. Many respondents described how they had to beg for water from their neighbours because they had no money. Many said even this presented difficulties as a source of water:

*We tried to get water from other meters otherwise we go and ask for water in the township. Sometimes these people will say water is expensive and they cannot give water.*

Some interviewees said they could not bear the thought of continually asking for water and being belittled in the process. Because of the desperate need for water, many residents then resorted to the more “traditional” unpurified sources of water from the rivers or streams.

7.3.1 Infrastructural problems from 1998-2000: impact on the communities of rural Madlebe as voiced by the Singisi community

An integral part of the research was to establish whether or not there was a correlation between the prepaid water meter system and the cholera outbreak. To do so required a thorough assessment of the infrastructure which newspapers reported as the cause of the outbreak.

According to the information obtained via the interviews, infrastructural breakdown was the norm after the implementation of the RDP water project. In all project areas, including the Singisi area, respondents complained about the constant breakdown of the water system. In some instances, the problem was with the actual meter, in others it was a leaking pipe. There was the odd occasion when someone in the community had tampered with the meter and caused a failure in the system. But the general feeling was one of uncertainty or lack of confidence in the system:

*Now they have taken out the meters because the meters kept on breaking down. Many times we go to sleep at night thinking that there is water and in the morning when you go*
to the meter with the card, you find it does not work even after we have paid for the water.

According to the interviewees, this was but part of the problem. The main problem was the length of time it took MWB to attend to the problem. In this rural area, telephones are a rare commodity and problems with the water service were communicated via word of mouth. This could take up to a week. Then depending when a plumber and the project manager could be found, it could take another two weeks before the problem was eventually sorted out. Generally, the fixing of prepaid meter related problems took up to six weeks because there were only two people trained and charged with attending to taps in the 12 wards.

The respondents reported that the community received no back-up support or alternative water supply when there were breaks in service. If they wanted to access purified water with the prepaid card, then the onus was on them to walk to the next available and functioning meter to get the water:

During this time we don’t have water and this is a problem. When there is no water we have to walk a long distance to another meter to see if it is working or otherwise we have to ask for water from the township. Even the communal taps are prepaid meters so there is no where else to get water.

According to the respondents, attempts were made, through the Induna and PSC, to get MWB to attend to these faults more promptly, but without success.

7.3.2 The major break-down in August 2000

Interviewees also described the events that culminated in the worse cholera outbreak in the history of KwaZulu Natal:

Sometime in August last year, something happened to the meters. They were faulty, not one but all of them. We could not get water from anywhere. Those of us who had bought water on the cards, even we could not get water. Nobody came to explain to us what had happened. We did not get any warning. All we know is we had no water. It was bad, it took three weeks before the meters were working again and in the meantime we had no clean water. The boreholes were dry. We needed water to live. We had no choice but to get water from the rivers.
The above is supported by another resident:

Prior to 1994 we got water from the borehole, and between 1996-97 we got water from the prepaid meters. Two months ago we started getting water from water trucks. We don’t know who sent the trucks, but we know it is because of the cholera. No-one is using the prepaid meters anymore because there are taps.

The above sentiments were time and time again reflected in many community members’ descriptions of the water cut-offs that occurred in August 2000. The water cut-offs, which were essentially caused by the shortfall and failure of the new technologies within the water infrastructure, left the entire rural Madlebe community without access to purified water just as the cholera outbreak was taking place.

7.4 On the health implications of the cholera outbreak

According to newspaper and medical reports, the first cholera case in the area covered by this study was reported on the 19th August 2000. By December 2000, this figure had escalated into the thousands. 22 people were reported to have died in the lower Umfolozi district alone by January 2001.

The health implications of the water cut-offs were particularly devastating for this community. Not only was the community as a whole denied its right to access purified water, which many had in fact paid for, the residents also had to contend with a cholera epidemic. In fact, several residents made clear linkages between the breakdown in the system and the spread of cholera:

As soon as the prepaid came in, people started to get sick and people could not get water. When we got the water from the taps it was a better system because no one in this area got cholera. You have to buy this R50 card, then you had to pay R5 to charge the battery before you could use the meter and get water. They were told to go and buy this R50 card.

You know before the township was built, the Madlebe community got water from a spring-hole, but after the township was built, this water was contaminated by problems with the sewerage works. This is where our problem started with cholera in Madlebe and it is still continuing under the prepaid system. It is since the whites came here with their talk of water and sanitation that cholera became a problem.

- Induna Madida
The Induna, however, also expressed a slightly different view of the origins of the cholera:

There are about 200 houses in Bomvini and some of the people here did have cholera. I am not sure how many. I don’t know where the cholera came from. The people in this area had standpipes in their yards. Cholera must be something in the air that causes people to get sick.

- April 2001

7.4.1 The removal and/or damage to water infrastructure

As soon as the community realised that the contaminated water from the rivers and streams was the cause of the cholera, they appear to have retaliated. They had by now learnt from experience that the prepaid meter system was not all it was set out to be. They expressed quite explicitly that the prepaid system was responsible for the cholera since it cut-off their access to clean water. Interviewees also expressed frustration and anger with the system. There was also a great sense of disappointment from interviewees who had experienced the loss of a loved one due to cholera. Some even admitted that residents had resorted to removing or breaking the meters:

We had problems with this meter since 1999, which is when they put it in our ward and our problems have continued ever since they introduced this new communal system. Because we had this problem all the time with the meter, people ended up breaking it because they had to get water. They could not get the card to work. Also the people did not come soon to fix the meter. It took three weeks before they fixed it. And even if we had bought water with the card, we still could not get water. We tried to get water from other meters otherwise we go and ask for water in the township … That tap used to be a communal tap, then at the end of 1999 they told us that they are putting in prepaid meters. By the end of 1999 that tap became prepaid. The tap is broken because perhaps people are unhappy. They are unhappy because they do not have money and with no money they cannot get water. People were happy before with the communal tap. It may happen that people have cholera now because of the prepaid. By Christmas last year there was no water coming from this tap.

This was expressed most strongly when the respondents discussed their dissatisfaction with the way in which their problems were taken up by MWB. Their major grievance was the length of time it took to attend to their problems and the MWB’s inability to provide them with an alternative supply of clean water during the break in the system. Residents said that three weeks was an unacceptable waiting period for the resumption of their water supply, particularly when
they had already paid for the water. They also felt that MWB was too complacent and because of
its lack of foresight, the community had to deal with the cholera outbreak.

7.5 uMhlathuze water and the financial implications of the water service in Madlebe

The breakdown of the prepaid water service in August 2000 resulted in a severe financial blow to
the MWB. In order to resume the service, more money had to be pumped into correcting the
problems with the infrastructure. Further pressure was exerted by DWAF because hundreds of
cases of cholera were reported from the MWB service area. Communities demanded the removal
of meters – the demand had radical implications in terms of the nature of water service provision
in the area.

The meters that cost in the range of R2800 were now redundant. In addition, some of the meters
had been removed or permanently damaged. The MWB also had to pay for additional labour and
infrastructure to reconvert all the prepaid meters into communal taps. Overall, the MWB had to
redo its sums and calculate a flat-rate charge for a new water service system.

The MWB had to reconvene the PSC and request their assistance with the financial
administration of the flat-rate system. The financial costs for MWB in terms of implementing
corrective measures were the following:

- Cost for an investigation into the causes of failure to the system
- Needed a financial audit of their income and expenditure
- Implement a system to curb the water losses owing to damages to infrastructure that resulted
  in leaks
- Repairs to infrastructure
- Purchasing of back-up stock
- Training of Water Service Provider staff
- Re-implementation and awareness of the programme

7.6 DWAF and the financial implications of the water service in Madlebe

The National Department of Water Affairs and Forestry could not turn a blind eye to the plight of
the communities of rural Madlebe. The media coverage on the epidemic was quite adamant that
the nature of the service of water had resulted in massive cut-offs and government intervention was necessary.

In response, the DWAF provincial department hired water trucks from Amanzi Water to provide the community of Madlebe with an alternative source of purified water. Fifty 25kl tanks were also put in the area to top-up the supply which was refilled regularly. During the March 2001 Water Week campaign, the minister of Water Affairs and Forestry, Ronnie Kasrils, personally visited areas around South Africa, including Madlebe, to educate communities about water conservation, water purification and sanitation. During his speech to the Madlebe community on the 19 March 2001, Kasrils pledged thousands of rands towards the community’s struggle to access basic water and sanitation. The pledge was followed by an agreement between the uThungulu Regional Council, DWAF, Amanzi Water and the provincial Department of Health.

Dealing with the epidemic ultimately had major financial implications for DWAF. To begin with, DWAF had approved a budget of R180 000 a month for three months. This was to be spent on the hiring of four trucks, purchasing of purified water and the purchasing of building material. The average cost to operate a single truck for a month was R30 000, including weekends. The project made allowances for 30 trucks for all the infected areas. The total estimated cost for the trucks over the three month period was pegged at R900 000.

Private contractors were also asked to tender for the construction of stands for the 5000 litre water tanks. A ceiling of R500 per stand and the reliance on local labour were the main conditions attached to the tender.  

7.7 The Provincial Health Department and the financial implications of the water service in Madlebe

The cholera outbreak in the areas covered by the Ngwelezane clinic and hospital, put these two regional health service providers under an unbearable financial strain. Apart from the demand for more personnel and long working hours, the actual treatment of cholera was an additional expense. Most of the people who had contracted cholera were treated intravenously. In addition, anal catheters had to be used in all the reported cases of diarrhoea to ascertain whether it was cholera related or not.

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61 DWAF media release 2001, pp. 3, 4
Furthermore, the Ngwelezane hospital established nursing stations in areas such as Matshana, Nquntshini and Singisi, in order to directly deal with the high number of incidences of cholera from these areas. Although establishing nursing stations was a costly exercise, it relieved the pressure from both the hospital and clinic. More importantly, it was a more effective way of dealing with the influx of patients as a result of the epidemic.

Further expenditure came in the form of nurses doing health education with the community. Education was accompanied by handing out bleach free to residents. The use of pamphlets to create awareness of the cholera and ways to avoid contracting it, as well as how to treat it, were printed and distributed to the communities. This was an additional expenditure that the health department incurred. There were still other health-related expenses linked to the cholera. These included:

- Sampling of water resources
- Treatment of cholera patients
- Collection of daily statistics

In addition to the human dimension of disease and deaths, the outbreak led to increased expenses for one of South Africa’s most cash-strapped provinces.

7.8 Summary of recent developments

By the end of January 2002 the situation in rural Madlebe was as follows:

- All the prepaid meters had been converted to communal taps to contain the outbreak.
- As a result of this conversion, the community was able to access purified water for free up until the end of March.
- April 2001 marked the first month of water payment via a flat rate system.
- Payment would be due at the end of each month and would be collected by the Induna and the PSC.
- Only those declared indigent could be exempted from the flat rate payment. According to the Induna, not more than 20 people in the area were indigent.
- MWB still remains the water service provider for the area and despite the shortcomings of the cost-recovery framework, will increase the charge from a flat rate fee of R20 to R25, in order to achieve a financially sustainable water service through the prepaid meters.
VIP’s were systematically being installed throughout the area, and the water trucks, were stopped by the end of April 2001.

On the 14th of January 2002 KwaZulu-Natal received R25 million to supplement the R332 million provincial budget for water and sanitation as an emergency funding intervention to fend off escalating cholera in the province.\textsuperscript{62}

\textsuperscript{62} Oellermann, Ingrid, “KZN gets R25m boost to fight cholera,” Independent Online, 15 January 2002
Section 8: Perspectives on the source of the cholera outbreak

Perspectives on the source of the cholera outbreak have not been well developed or argued in the press or elsewhere. Most of the perspectives thus far have been just short pronouncements by government, NGOs, trade unions and academics. This section attempts to elaborate and critically analyse these views based upon the more concrete research (both qualitative and quantitative) undertaken. Not only is this exercise important in terms of revealing the limitations of various arguments, the object of this section is to also reflect on the ideological underpinnings that inform the different perspectives. In broad terms, the object of this section is to investigate how the causes of the cholera outbreak have been understood.

From the analysis of the data, the authors of this report have identified four perspectives on the cholera outbreak. These are the contamination, dormancy, poverty and the political economy perspectives.63

8.1 The “contamination” perspective

According to Induna Madida, “the township (Ngwelezane) is the problem. Before, we did not have these diseases. They came when the township was built”64 The significance of the Induna’s statement can only be understood in conjunction with the Madlebe Tribal Authority Business Plan of 1998. This plan noted the concern of residents in utilising the water from the Empangeni stream and Empangeni Lake. Among other issues, the report noted:

*Owing to contamination65 by effluent from Ngwelezane, there is a cultural perception amongst the community that water from the Empangeni stream and Lake Empangeni is unsuitable for drinking. Any attempt to use this water, even with purification, is likely to meet resistance from the community.*

Upon further inquiry, an Empangeni official remarked that the two sewage works dispose of effluent into Lake Empangeni and that residents were very concerned about the smell from the lake.

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63 These perspectives may not be ‘pure’ and do cross over each other. We are merely trying to simplify and make coherent many complex understandings of the cholera outbreak.

64 interview, 2001

65 our emphasis
When looking at the geography of the Ngwelezane/Madlebe areas, more particularly, the location of Nquntshini and Ngqolothi, the contamination thesis makes sense. As previously pointed out, these areas were the first to be affected by cholera in August 2000. Lake Empangeni is adjacent to Nquntshini, with Ngqoloti about 1km away. Furthermore, both areas are adjacent to the uMhlathuze River, which is cited as the source of the outbreak! According to an anonymous Empangeni official, “it might be possible that seepage from Lake Empangeni flowed into the uMhlathuze River.”

According to the World Health Organisation (WHO) epidemiologist, Dr C. Mugero, the lake was tested thrice for cholera but the tests were, negative, positive and negative respectively. However, he explained, testing for an exact source proved difficult especially when they had to cover a 25km stretch. As “the source had to be water-borne” and since, “cholera is a water borne disease, we concluded that it was the uMhlathuze River.”

However, a DWAF report indicated a different source after pressure groups claimed that a DWAF water project was responsible for the cholera outbreak. DWAF, discovered that:

... seepage water from a ‘leaking pipeline’, infected people. The leaking pipe was exposed and only to find that the leaking pipe is not from the project’s water line but it was from a leaking sewage pipe. Empangeni TLC was then commissioned to repair the pipe.

According to the DWAF investigation, the main source of the cholera outbreak, where the first case was reported, is some 10km from the Madlebe scheme. This area, called Makholokholo, falls under the Mzimela Tribal Authority. In terms of the DWAF investigation, residents of Ngwelezane attended a traditional wedding ceremony in Makholokholo and as a result imported cholera to the Ngwelezane areas. It is, however, interesting to note that that Dr. Mugero had no knowledge of the above case and explanation.

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66  telephonic interview, 24 August 2001
67  DWAF is referring to the Rural Development Services Network
68  DWAF press briefing document, undated.
69  Telephonic interview, 24 August 2001
8.1.1 Rural Hospitals, sewage treatment and cholera

The Centre for Scientific and Industrial Research (CSIR) has conducted research into the waste disposal plants of rural hospitals. As institutions remote from reticulated infrastructure, rural hospitals are often responsible for the treatment and disposal of their effluent. Disturbingly, the 1998 to 2000 study found traces of cholera in raw sewage in the hospital in Mosveld and in the effluent discharged from Bethesda hospital. Communities in these areas were utilising water from sources close to the hospitals.

The CSIR monitoring of sewage treatment works also found that in most cases they had broken down. Hospitals were found to often run out of chemicals for the hygienic disposal of waste. The possibility raised by the study’s findings is the encouraged contamination of water by medical facilities treating patients infected with cholera bacteria. The recent admission by the acting Eastern Cape MEC for Health that the Umtata sewage works is the source of the cholera contagion in the Transkei region adds to the probability that sewage treatment works have been contaminating water supplies.\(^70\)

8.2 The “dormancy” perspective

In investigating the sources of the cholera outbreak, professionals could not directly link the spread of cholera from Empangeni/Madlebe (August 2000) to other areas such as Eshowe/Nkandla (mid-September) and Stanger and Port Sheptone (October 2000 11-13 respectively).\(^71\) Indeed, it was not clear whether the cholera was imported from the north to the south coast.\(^72\) The inability to link the “spread” of the cholera epidemic in its initial three month phase to the areas mentioned above, has led scientists to believe that endemic cholera had been activated due to flooding and humidity.\(^73\) The cholera epidemic, by implication, does not have a single source area.

The dormancy perspective provides a plausible explanation for the “unrelated” spread of the cholera outbreak. But it cannot rule out the importation of cholera from other areas. The dormancy perspective did not account for the fact that there had been an exponential increase in

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\(^{70}\) Mphumzi, Zuzile and Phumlani Mdolomba, “Umtata sewage cause of cholera says Mamase” Independent Online, 7 February 2002

\(^{71}\) Mugero, Charles and Hoque, Akm, Review of Cholera Epidemic in South Africa, April 2001

\(^{72}\) DWAF, press briefing, undated

\(^{73}\) This view is also, supported by DWAF. See Budget speech, 15 May 2001
cholera cases and deaths (1998-1999) just before the cholera epidemic of August 2000. Dr. David Hemson noted that there were, “…20 cholera cases and one death reported to the WHO in South Africa in 1998. There were 68 cases and two deaths in 1999.”74 Was the cholera outbreak of August 2000 not an epidemic in waiting?

8.3 “Poverty is the cause” perspective

Poverty is at the root of this cholera outbreak. This tragedy can be directly linked to the problems people still have in accessing safe and clean drinking water, especially in rural areas.

- Minister of Water Affairs, Ronnie Kasrils 75

Ronnie Kasrils was referring to the Madlebe Tribal Authority water scheme, where only 700 of households could afford a R51 registration fee to join the water scheme while 2000 families remain unconnected. The “poverty is the cause” thesis has a familiar ring. President Thabo Mbeki had recently declared that, “poverty causes AIDS.” It does appear that poverty has become the plausible excuse for the failure of government to provide for the basic needs of the population including water and sanitation needs. But to blame the cholera outbreak on poverty as a “root cause” is to avoid an answer to the vital question – what causes poverty?

At first glance, the cholera outbreak would seem to be caused by “poverty” as claimed by Minister of Water Affairs and Forestry…upon deeper investigation” we are able “to identify a more global cause of the problem.”76

The poverty perspective is valued only in as far as it acknowledges poverty as a decisive factor in understanding the current cholera pandemic. The argument loses credibility in this instance because it fails to recognise the culpability of current government policy and legislation in reproducing existing levels of poverty.

74 Hemson, David, Closing the Gap? Policy and Practice in Water & Sanitation, 2001
75 DWAF press release, 6 October 2000
8.4 **The “Political Economy” perspective**

Civil society organisations such as the Rural Development Services Network (RDSN), the South African Municipal Workers Union (SAMWU), the National Education Health and Allied Workers Union (NEHAWU), academics such as Dr. Dave Hemson (University of Durban Westville) and Dr. David Sanders (University of the Western Cape) give greater consideration to social inequality and government policies. These policies, they contend, perpetuate and deepen poverty.

The political economy perspective links the past and present socio-economic situation in KwaZulu-Natal to South Africa’s macro-economic context. Furthermore, the political economy perspective locates the cholera outbreak within its locale:

> This situation is a stark microcosm of South Africa’s dualism, reflected in its health system (and indeed its approach to development more generally). The very low fatalities rates (0.3%) attained so far through sophisticated and costly medical interventions equal the best statistics of the modern world. Yet, the rapid and uncontrolled spread, is due to social conditions equivalent to those seen in the world’s most underdeveloped countries... this cholera outbreak is an indictment on a country as wealthy as South Africa...

- Dr. David Sanders and Mickey Chopra

Despite the fact that South Africa is still a relatively wealthy country, for many citizens not much has changed since apartheid. Instead of embarking on a radical transformation programme, the current government approach to development has tended to maintain the ‘dualism’ of the past.

The victory of the National Party in 1948 saw the codification of the apartheid capitalist system. It has been generally accepted that the apartheid capitalist system exploited the black working class (who were the majority) so as the accrue profits for a white ruling class which, in turn, created a white labour aristocracy as a social base. Attempts to improve the conditions of living were, thereby, largely directed to the white population who benefited from the apartheid-capitalist state intervention through huge subsidies and cheap loans.

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76 RDSN, Rural Voice, vol. 1 no 1, P3  
77 Business Day, February 2001
Apartheid economic development left the former KwaZulu homeland largely rural and poor, while the Natal province flourished. This ‘dualism’ continued with the advent of the first non-racial democracy in 1994. The industrial and commercial functions of the uThungulu region is centred on the Richards Bay and Empangeni areas. These wealthy local councils historically served the white population and white business. With the end of official apartheid councils, new local councils such as the Empangeni/Ngwelezane Transitional Local Council were established. But since these new integrated municipalities did not have a transformative agenda, differentiated terms of service delivery were maintained.

The mandate of the ANC government was the Reconstruction and Development Programme (RDP). Among other goals, the RDP promised to transform this ‘dualism’ by providing a basic water and sanitation service for all South Africans within 5 years. The water and sanitation programme was to be funded through a system of cross-subsidisation by high volume users such as commerce and industry. However, by 1996 the new economic policy called the Growth Employment and Redistribution Strategy (GEAR) replaced the RDP. GEAR’s central policy features are a reduced role for the state, fiscal restraint (hence a cut in social spending) and the promotion of privatisation.78

Cuts in social spending greatly affected both the Health and Water and Sanitation budgets over the past seven years of the ANC government (see section on health and water and sanitation). Furthermore, policies set to realise “the rights to access” to basic needs as per the South African constitution became increasingly questionable:

*The basic policy of Government is that services should be self-financing at a local level and regional level. The only exception to this is that, where poor communities are not able to afford basic services, Government may subsidise the cost of construction of basic minimum services but not the operating, maintenance or replacement costs.*80

The Water Supply and Sanitation Policy of 1994 set the framework for existing policy on “cost-recovery” or the “user-pays” principle. The policy of cost recovery, therefore, has been central to the ANC government policy since 1994. These policies were adopted in spite of the legacy of apartheid capitalism, which produced huge socio-economic differences according to race and class discrimination. The introduction of cost-recovery was to greatly impede access to services

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78 See *Debating GEAR*, Khanya College, Economic Literacy Series.
79 Our emphasis
even where services were recently made available. According to the Rural Development Services Network (RDSN), which was the first civil society organisation to investigate the cholera outbreak:

... the implementation of the card system for water exacerbated the problem because of the inability of communities to pay for the water. This insistence on cost recovery is based upon the Macroeconomic policies of the government which state that in order for services to be provided, there needs to be effective cost recovery of services.81

The conversion of the nine communal standpipes around Ngwelezane Township to pre-paid metres and the inability of the over 2000 families of the Madlebe area to access water because they could not afford it, are directly linked to the cost-recovery policies of government. The impact of the government’s cost-recovery policies were not only felt within the water sector, they also affected the provision of sanitation services.

According to Mrs Nonhlanhla Mbuyaze, chairperson of the Kwambonambi Sanitation Committee:

...people feel that government should contribute more, as this is a government initiative aimed at reducing disease. Many people are not employed, so R600 [for a basic toilet] is a burden.82

The ANC government’s obsession with cost-recovery policies has resulted in an affordability crisis among service users, especially blacks. While the daunting service delivery challenges that the government is facing are appreciated, government policy reinforces the ‘dualism’ of the past in its attempt to deal with the huge backlog in service provision to the black majority.

8.5 Conclusion

The source of the cholera outbreak cannot be understood in terms of technicist explanations of the contamination. The contamination and dormancy perspectives only provide an account of the technical and natural conditions for the cholera outbreak. The social conditions which give rise to cholera falls outside the scope of their inquiry. These perspectives are largely descriptive of the manifestations and consequences of broader social inequalities. In other words, the explanatory

81 RDSN, Rural Voice, Vol. 1 No.1
82 Outlet, official newsletter of SANTAG, no. 31, November 2000
The power of any one theory should be measured against the extent to which they are able to sustainably contain epidemics of this nature.

A combination of the following social factors resulted in a cholera outbreak of epidemic proportions:

- Given the prevalence of cholera in the areas under study, as evidenced by the increase in cholera cases and deaths in 1998 and 1999, the environmental conditions were such that the cholera was not dormant but already prevalent.
- The flooding experienced was conducive to the rapid spread of cholera through the uMhlathuze River system and its tributaries.
- The concentration of the population in the Empangeni area, including rural Madlebe, was conducive to the rapid spread of cholera. As a commercial and industrial centre with a high rate of inward and outward migration, the exportation of cholera to other areas is a plausible but not the only explanation for the rapid spread.
- The conversion of the nine communal standpipes to pre-paid meters, firstly, clearly excluded those who could not afford the price of water. Secondly, the irregular and infrequent supply of water due to malfunctioning pre-paid meters limited access to water. A co-determination of these factors forced communities to access alternative, albeit unclean, sources of water such as rivers and streams.
- The 1998-20000 CSIR study on the standards of sewerage treatment at rural hospitals in KwaZulu provides the probable grounds for investigating the possible contribution of rural hospitals to the spread of the epidemic. Through the discharge of insufficiently treated hospital effluent in common water sources, cholera could be following a self-reproducing cycle.
- The Ngwelezane sewage treatment works may be the source of the outbreak in the area following the disclosure that sewage overflowing from Umtata’s treatment plants contaminated the Umtata River.
- The ‘dualism’ of service from the Empangeni/Ngwelezane TLC and Mhlathuze Water Board is clearly expressed by a failure to provide these affected black communities with a supplementary service of water when the pre-paid systems were malfunctioning. Furthermore, the Empangeni/Ngwelezane TLC insisted on the conversion of the nine communal standpipes to pre-paid systems even though the municipality had R98m in its reserves.
The Madlebe Water Supply Project and other rural projects were delayed because of budget cuts. Furthermore, cost-recovery measures hindered access to water and sanitation for the uThungulu region.

The social inequalities of the past are being perpetuated through conservative neo-liberal policies such as GEAR, which restricts social spending. Yet to eradicate water-born illnesses such as diarrhoea and cholera would require that the government spend R5bn on water infrastructure and 3bn on sanitation for a basic level of service. A further R600m annually is required for maintenance and operation costs.
Section 9: The implications of the study

- **User pays vs. access**

Water and sanitation policy in South Africa has enshrined an economic conservatism that prescribes that the ‘user pays’ and that development should be market driven. The idea that the user must pay for the operations and maintenance costs of providing the service presumes that they can. The ‘user pays’ principle demonstrably led to a high rate of project failure in the country. The cost-recovery principle forced 2000 families in the Madlebe Tribal Authority areas to opt out of the newly developed water supply programme.

Similarly, contributions for sanitation projects from homeowners have led to a low response by households for appropriate sanitation. Poor households cannot be expected to demonstrate their priorities through a willingness to pay. Cost recovery has ultimately led to poor households choosing to buy food instead of paying for more ‘luxury’ items such as water or a toilet. The user pays approach has led to a neo-liberal re-definition of citizens as clients who can only exercise their rights if they have money to do so. In fact, the progressive ‘rights to access’ in the South African constitution has degenerated into the right to exclude access to basic services of people without money.

Despite the abolition of legal apartheid, the user pays principle still reinforces the ‘dualism’ of the past. It is mostly black citizens, as the recent cholera outbreak showed, who cannot afford to exercise their right to access. In terms of South Africa’s water and sanitation policy, the user pays principle has to be scrapped in light of its absolute failure to enhance “rights to access”.

- **Municipalities and neo-liberalism vs. non-racialism**

The merger between the Ngwelezane Township and Empangeni to form the Ngwelezane/Emangeni Transitional Local Council (TLC) did not lead to the ending of apartheid style service delivery. The nine communal standpipes around the Ngwelezane Township serviced the Madlebe Tribal Authority areas, but because of its spatial immediacy to the township, it fell under the jurisdiction of the TLC.
Although the municipality had R98m in reserves, it decided to transform the communal taps that used to provide free water under apartheid into pre-paid meter systems. The conversion of communal taps to pre-paid meters eventually became highly unsustainable and provided an erratic service. This led to the general decline in consumption of clean water by communities.

Despite the fact that water interruption due to faulty pre-paid meters lasting up to three weeks, the municipality often failed to provide an alternative service to its ‘clients’ through obvious means such as water tankers. Instead, those communities who could exercise their ‘rights to access’ in monetary terms were disregarded due to ‘cultural’ perceptions that, as black people, they could go back to using traditional water sources. This case was indicative of how neo-liberalism (conversion to pre-paid meters) reinforces the provision of a second class service to black communities even where they are transformed into clients.

The introduction of pre-paid meter technology has provided black communities not only with poor water services, but moreover has proven to be costly in terms of lives and illness due to water-borne diseases such as diarrhoea and cholera. Pre-paid meters have proven to be wasteful as they are expensive to implement and the cost borne by the ‘client’ are ultimately displaced to health costs which amounts to about R4 billion per annum.83

• **Water cut-offs vs. cholera**

The conversion of the nine “free water” communal standpipes to pre-paid meters saw many households being denied the provision of a clean water supply. Rather than accelerating the delivery of water, the conversion to a meter system raised new obstacles to access. Besides the physical cut-off of “illegal” house connections, the conversion of the free communal taps is as good as an act of a water cut-off as well. Where these households have had access to free water for about 17 years, the disruption caused by the new system effectively meant that their access was cut-off.

Water cut-offs increased the vulnerability of communities to water-borne diseases such as cholera. The cholera outbreak coincided with zero consumption at 4 of the 9 communal taps.

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83 RDSN *Water for All, meeting basic water and sanitation needs: Discussion document, June 2000*
• **Legality vs. illegality of water cut-offs**
Given the denial of water provision to these rural communities and their consequent vulnerability to water-borne diseases, the grounds for a class action against the municipality’s neglect appears to have been laid. Water cut-offs, whatever the justification, could be declared illegal and against the spirit of the constitution as the cuts endanger the health and lives of citizens. A legal precedent for the prohibition of water cut-offs for reasons of non-payment is provided by the United Kingdom’s Water Industry Act of 1999.

• **Provision of water and sanitation vs. Hygiene education**
The Department of Water Affairs has admitted that it has also not progressed well on the provision of sanitation services. The cholera outbreak has, unfortunately, worked to prove the importance of water and sanitation in reducing disease through the safe disposal of effluent. Another important factor is the role of hygiene education. While the infrastructure may be provided, food chain transmission can still cause the spread of cholera. DWAF, along with the provincial Department of Health and the Department of Education, should therefore integrate a hygiene education programme in their water and sanitation provision strategies. But it is commensurately important to recognise that if there is no infrastructure to support appropriate hygiene, any hygiene education would be futile.

• **Water-borne disease vs. HIV/AIDS**
Inadequate water and sanitation service provision greatly affects the lives of people suffering from HIV/AIDS and equally true, the basic provision of water and sanitation can dramatically have a positive impact on the life span of people suffering from HIV/AIDS.

But while the vulnerability of people living with HIV/AIDS to a range of opportunistic diseases is a widely accepted medical fact, the extent of the relationship between the cholera outbreak and HIV/AIDS has as yet to be fully investigated.

• **Water-borne diseases vs. rural hospital sewerage waste**
The state of rural hospital sewerage plants needs to be thoroughly investigated by the Department Health. Given that rural hospitals lack the necessary chemicals to treat waste requires that adequate attention and funds be dedicated to the sanitary operation and maintenance of these systems.
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## Appendices

### Appendix A

**Water Services (KZN) Delivery (Water & Sanitation) Since 1994**

<table>
<thead>
<tr>
<th>District Municipality</th>
<th>Population Served</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WATER - RDP standard</td>
<td>WATER - Emergency supply</td>
</tr>
<tr>
<td></td>
<td>To August 2000</td>
<td>To December 2001</td>
</tr>
<tr>
<td>Amajuba</td>
<td>0</td>
<td>15,781</td>
</tr>
<tr>
<td>DM 43</td>
<td>5,780</td>
<td>3,480</td>
</tr>
<tr>
<td>Durban Metro</td>
<td>8,000</td>
<td>8,000</td>
</tr>
<tr>
<td>King Shaka</td>
<td>28,926</td>
<td>40,897</td>
</tr>
<tr>
<td>Ugu</td>
<td>61,557</td>
<td>74,928</td>
</tr>
<tr>
<td>uMgungundlovu</td>
<td>189,272</td>
<td>192,891</td>
</tr>
<tr>
<td>uMkhanyakude</td>
<td>79,564</td>
<td>128,908</td>
</tr>
<tr>
<td>uMzinyathi</td>
<td>28,304</td>
<td>35,040</td>
</tr>
<tr>
<td>uThukela</td>
<td>8,300</td>
<td>89,061</td>
</tr>
<tr>
<td>uThungulu</td>
<td>65,269</td>
<td>108,991</td>
</tr>
<tr>
<td>Zululand</td>
<td>62,133</td>
<td>99,939</td>
</tr>
<tr>
<td>Provincial</td>
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<td>0</td>
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<tr>
<td><strong>Total</strong></td>
<td>537,105</td>
<td>797,916</td>
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Source: DWAF, monitoring and evaluation, KZN
Appendix B

**Is government going to provide Free Water for Empangeni residents?**

The newly formed uMhlathuze local municipality, a merger of the previous Empangeni and Richards Bay municipalities has implemented the free water from 1st April. It is from the rural areas around the Empangeni area that the first cholera cases were recorded in August last year. The free water model must therefore be taken very seriously as an attempt to overcome the problem of lack of access to water. While the two municipalities merged, separate tariff structures for water have been developed and an ‘investigation’ has been set up to see how to close the gap over a number of years!

**Tariff structure for Empangeni**

- From 0-6 kl per month = R0.0
- From 7-30 kl a month = R4.85 a kilolitre (per thousand litres)
- More than 31kl a month = R5.78 a kilolitre

**Tariff structure for Richards Bay**

- From 0-6kl per month = R0.0
- From 6-15kl a month = R0.76 a kilolitre
- From 15-30kl a month = R2.00 a kilolitre
- More than 30kl per month = R2.34 a kilolitre

**Tariff structure for rural areas**

- Flat rate = R20

The working class residents of the Ngwelezane Township which falls under the Empangeni municipality for example, not only have to pay for a real increase in price for water but are paying much more than the largely white middle and upper class area of Richards Bay. Commercial enterprises in Empangeni are currently paying R165 service charge and R2.90 per thousand litres. Rural communities who were effected by the cholera have to pay a flat rate of R20, which means that the rural poor is paying the highest price for water in the newly formed uMhlathuze municipality. It appears therefore, that the poor are cross-subsidising the rich!
## Appendix C

### Madlebe Communal tap stands consumption patterns

**April - December 1999 (k/月)**

<table>
<thead>
<tr>
<th>Tap no.</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<td>234</td>
<td>240</td>
<td>169</td>
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<td>210</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>250</td>
<td>283</td>
<td>230</td>
<td>104</td>
<td>160</td>
<td>123</td>
<td>124</td>
<td>216</td>
<td></td>
</tr>
<tr>
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<td>300</td>
<td>104</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>119</td>
<td>25</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>255</td>
<td>45</td>
<td>181</td>
<td>61</td>
<td>78</td>
<td>107</td>
<td>82</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>96</td>
<td>15</td>
<td>21</td>
<td>35</td>
<td>93</td>
<td>33</td>
<td>15</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>372</td>
<td>153</td>
<td>173</td>
<td>106</td>
<td>191</td>
<td>312</td>
<td>508</td>
<td>101</td>
<td></td>
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<td>350</td>
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<td>114</td>
<td>184</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

**TOTAL** | 2498 | 1594 | 845  | 475  | 842    | 1039      | 1136    | 851      |

### Madlebe Communal tap stands consumption patterns

**Jan - November 2000 (k/月)**

<table>
<thead>
<tr>
<th>Tap no.</th>
<th>Jan</th>
<th>Feb</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>259</td>
<td>220</td>
<td>231</td>
<td>196</td>
<td>227</td>
<td>187</td>
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<td>65</td>
<td>55</td>
<td>75</td>
<td>51</td>
<td>52</td>
<td>59</td>
</tr>
<tr>
<td>3</td>
<td>120</td>
<td>44</td>
<td>74</td>
<td>48</td>
<td>63</td>
<td>37</td>
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<td>23</td>
<td>64</td>
<td>44</td>
<td>46</td>
<td>60</td>
<td>94</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>23</td>
<td>55</td>
<td>15</td>
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<td>780</td>
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<td>202</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

**TOTAL** | 1,242 | 2,219 | 1,758 | 1,410 | 1,352 | 398 | 361 | 575 |