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Neither Public nor Private: Unpacking the Johannesburg Water Corporatization Model

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Commercialization, Privatization and Universal Access to Water

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Executive Summary

Local authorities across South Africa have undergone enormous transformation in the post-apartheid period. Ten years into democracy, most local authorities are contending with the difficulties in providing and improving the quality of water and sanitation services to recently amalgamated areas that historically received none or an abysmal quality of service. The national policy guidelines driving local authorities uphold several important equity principles such as a free allocation of basic water services and in manner that is developmental, i.e.: that the manner in which services are delivered is inclusive and participatory. Local authorities are struggling to put these principles into practice as the finance and human resource constraints they are facing often lead them to put efficiency objectives in the forefront, with the hope that the equity issues will be dealt with down the line. The patience of service users in historically disadvantaged areas is, however, wearing thin, given that the country is 10 years into its democracy and the fruits of what has been delivered can appear negligible to them.

The City of Johannesburg is the financial epicentre of the country and has some of the highest concentration of skills in the country. Despite this abundance, Johannesburg City Council is confronted with high levels of inequality and poverty amongst the population it serves and is still struggling with how to balance equity and efficiency objectives. As part of a major restructuring process in the late 1990s that was driven by the Igoli 2002 model, the city corporatized 14 public functions in 2001 in order to devolve operations to separate companies. The intention was to improve on the efficiencies of how these core services were run. The City remains the owner of Johannesburg Water, pty, (JW) and delegated its shareholder responsibilities to an appointed board of directors. The Contract Management Unit was set up as an in-council multi-sectoral monitor to oversee the service delivery standards of Johannesburg Water, along with its 13 other sister companies.

The teething problems associated with this corporatization model are rooted in the governance of this institutional arrangement. First, the autonomy of Johannesburg Water is limited by the shared services it has had with the city, such as billing, credit control and meter reading functions for the bulk of the city's residents. The inability of JW to take control over these functions undermined its ability to deal with critical areas related to improving the revenues of the company. The city has learnt an expensive lesson in retaining functions that it itself has been unable to improve and as such, is only now beginning to transfer the revenue functions over to JW. Second, the authority of the Contract Management Unit, as a quasi-regulator is limited by remaining within the City Council. While the CMU benefits from the proximity to political councillors, it is nevertheless constrained in passing judgement on the behaviour of Johannesburg Water because it must navigate through numerous political and bureaucratic sensitivities. Third, in the first few years of operation, the capacity of the regulator was limited by virtue of the City not placing enough importance on this regulatory function, perhaps because it felt that it still ultimately owned the Corporatized entities. The CMU capacity problems were rooted in a lack of human or financial resources to operate effectively. These difficulties were compounded by information asymmetries related to the bulk of the sectoral expertise migrating to Johannesburg Water when it was created. The outcome of this situation has left a vacuum of specialized knowledge within the city, a necessary feature for providing effective oversight.

The autonomy, authority and capacity issues of the regulator have created a difficult environment for the city to develop enforcement mechanisms for its contractor, Johannesburg Water. A second outcome of these regulatory difficulties is the distance between the City and the Board of Directors it has appointed to represent it as shareholder. The former has outlined clear equity objectives that are driven by political will, while the latter has interpreted these objectives narrowly as it has prioritised efficiency objectives with the intent of making Johannesburg Water more commercially viable. The public and private sector tension embedded in the distance between the City and the Board cuts to the core of the governance difficulties of the corporatization model.

Part 1

1. Introduction

Countries around the world have selected privatisation models to improve public services because of the efficiency gains that are said to be inherent to the model. A growing number of studies, however, point to the negative social implications of the greater efficiencies that are a condition for achieving profit-maximizing behaviour. Corporatization is gaining currency as an institutional model that promises similar efficiency gains, because it can permit greater state involvement than the privatization model, and in doing so can mitigate the negative social risks. This study attempts to examine this potential by looking at how the City of Johannesburg has grappled with the delicate balancing act of seeking greater efficiencies while paying attention to its social obligations, particularly to historically marginalized parts of the City. To examine this question, Johannesburg will be used as a case study as it is the first and only local government in the post-apartheid period that has corporatized through the legal establishment of a water and sanitation utility as well as brought in a management contract. Durban ring fenced its water and sanitation activities in 1992 and turned them into a business unit within the municipality and Cape Town underwent a similar process in the late 1990s. Johannesburg, has by contrast, been the boldest in the way in which it has corporatized, i.e.: by not only setting up a separate utility, but bringing in a five year management contract through a consortium led by Suez to firmly establish the efficiency gains associated with private sector management.

A key theme in the service delivery literature has been the growing mobilization of local government politics in support of economic development and the subordination of social policies to economic policies (Mayer 1995: 232). One of the changes in the provision of public goods has been the erosion of local government as the exclusive provider of public services and the simultaneous growth of non-state actors as potential competitors in the provision of services (Kearns and Paddison 2000). In an increasingly competitive world, City governments (both elected members and officials) have had to become more entrepreneurial, often restructuring collective consumption in such a way that it conflicts with more traditional notions of local welfarism (Laws 1998; Short and Kim 1999).

The introduction of new players --both public and private-- in the competition for providing public services has coincided with local government devolution of services to external providers, where voluntary and private sector providers bid for contracts. The economic ideology behind the privatization of public services is associated with the notion that minimizing state interference can increase operational efficiencies. Competition does not apply to natural monopolies like the water sector due to the high sunk infrastructure investments required for distribution purposes (Parker and Kirkpatrick, 2003:2). Given the single network constraints that make competition impossible, the closest thing to competition in the sector is through a bidding process for the management and distribution of water. The idea is that through competitive bidding, firms that enter into a monopolistic service delivery will have to promise to emulate the market in terms of efficiencies. The introduction of competition in the distribution side of water is manifest in various forms of state devolution: commercialization/corporatization, leases or affermages, concessions and outright sale of state assets. In this study, I will focus only on

corporatization, which has been neglected in the literature as a separate process (Yarrow 1999; Ramamurti 1999).

1.1 Conceptualization of Corporatization

The aim of corporatization is to increase the organizational flexibility and financial viability of a given service by giving it an existence that is legally separate from that of government (Bakker with Cameron 2002: 6). There are many variations of this corporatization model, such as a business unit within a government department, a crown corporation or corporatized utility (ibid: 17). Table 1 highlights the private to public range within the corporatization model. What they have in common, however, is a particular approach to accountability: government becomes the single client for a publicly-owned yet institutionally separate service provider. In the North, the public service ethos is often retained in corporatization models, such as through universal provision requirements and ensuring access to low-income users, despite the fact that the institutional model is run along business lines (ibid). This balance, however, is difficult to achieve for countries across the Global South that have selected corporatization as the model for the delivery of essential services. In these parts of the world the ability of states to adhere to a public market ethos (universal provision regardless of ability to pay) within a corporatized model is constrained by lack of human resource capacity, insufficient financial resources, at times, lack of political will and a demand structure in which, if not the vast majority of users, are extremely poor. As such, cost-recovery imperatives tend to dominate the distributional dilemmas of service delivery arrangements in many countries in the Global South. South Africa is unique in selecting the corporatization model for its efficiency gain, but by doing so within a national framework that is committed to the universal provision of essential services in limited quantities.

Corporatization involves a three-phased approach to managing service delivery. The first is ring fencing: all the costs incurred in providing a service are identified and centralized for the sake of greater transparency. The second is insulation from political interference, which involves transforming the sector into a business unit and nourishing a corporate culture for running a specific sector autonomously. The third element often involves institutional removal from the state in order to separate the politics of policy development from operations (McDonald and Smith 2002). The historical track record is that the process of corporatization is often the first step in the privatization process by virtue of commercializing a state department to become sufficiently economically viable to lure private sector investments (Shirley 1999, Moran 2000). Corporatization can, however, equally be an alternative to privatization, capturing many of the efficiency gains claimed in the process of privatizing, yet avoiding the political debates that accompany such moves (Moran 2000: 57).

Corporatization, as it has been applied in South Africa, has been approached as an alternative to privatization rather than as a precursor because the cost-recovery methods employed by the corporatized entity are perceived as sufficient by some local authorities to achieve increased efficiencies. The question is whether the quest for increased efficiencies becomes an end in itself or whether this objective actually translates into a greater ability of a corporatized entity to deal with equity concerns. Whether the City's social objectives are upheld by a corporatized entity depends on the nature of the relationship between the client and contractor, through form of a binding agreement, and the regulatory mechanisms set up to provide oversight of this agreement.

This piece will examine these elements in the Johannesburg context, in an attempt to assess whether the City has set up an effective institutional framework to hold its water provider accountable to balancing efficiency gains with equity concerns.

This review will in the first part of the paper, provide a brief overview of the service delivery history in Johannesburg during the 1990s in order to understand the reasons for why it chose the corporatization model in 2001. The second part of the paper will focus on the institutional transformation of the water and sanitation sector in order to identify the key areas where greater efficiencies were required. Second, within this section, the review will focus on the governance framework that shapes the accountability mechanisms between Johannesburg Water and the City. Third, the piece will outline the main challenges facing the company and the efficiency mechanisms it has put in place to address them. Fourth, the review will focus on the equity challenges facing the utility and how it has chosen to address low-income service users. This section will share the findings from a household surveys in four township areas in order to highlight some of the key service delivery issues that low-income households are struggling with.

Table 1: Business Models For Water Supply Infrastructure

Business Model	**Scale**	**Who owns the infrastructure**	**Who operates the infrastructure**	**Legal status of operator**	**Legal framework**	**Who owns the operator's shares**	**Example**
Government utility – direct management	Local or regional	Municipal or regional government	Municipal or regional administration	Government department	Public Law	n/a	Canada
Municipal Board or Commission	Local	Municipal government	Commission or Board	Public agency	Public Law	n/a	Peterborough, Toronto (future)
Co-operative	Local	Users/ Cooperative society	Users or delegated authority	Cooperative society or corporation	Varies	**n/a (or users)**	**Denmark**
Crown corporation	Provincial or national	Government or utility	The corporatized utility	Usually defined by special law	Public Law	Government	Ghana
Corporatized Utility	Municipal or regional	Government or private company	PLC as permanent concessionnaire	Corporation	Corporate Law	Local/provincial government	Holland Wales Edmonton
Government utility – delegated management *see Table 2*	Varies	Government or private company	Government and/or temporary private concessionaires	Corporation	Corporate Law	Private shareholders	France
Direct Private Utility	Varies	Private company	Private company	Corporation	Corporate Law	Private shareholders or investor-owned	England

Source: Bakker, K., D. Cameron, 2002. "*Good governance in municipal restructuring of water and wastewater services in Canada"*. Program on Water Issues, Munk Centre for International Studies, Working Paper #1. November.

2. The South African Service Delivery Context

South African municipalities today bear the legacy of apartheid through high levels of inequality in access to public services. Separate, racially based local authorities were designed to reflect and reinforce residential and economic separation. Black urbanization was strictly regulated and peripheral townships were denied industrial, commercial and retail development. This limited the "Black" community's tax base, access to jobs, and forced people to shop in "White" areas. With regard to the built form, the townships lacked essential services and had poorly maintained infrastructure. Constraints on land availability and housing infrastructure caused severe overcrowding. Overloaded Black Local Authorities (BLAs) could not cope with growing service demands during the 1980s and were discredited by mismanagement and corruption (Smith and Hanson 2003: 1521).

The massive state bureaucracy implementing this inequitable approach to service delivery was highly inefficient and difficult to maintain due to growing civic unrest, prompting a decline in revenues from state-owned enterprises (Tomlinson 1994). Township communities responded to deteriorating quality of public services with mass boycotts of rent and service charges and large-scale invasions of surrounding land. Turok notes that this was "part of a wider withdrawal of consent and mass protest, which was precipitated by a profound and financial political crisis" (Turok 2001: 5). The municipal service boycotts and housing crisis contributed to prompting the negotiations that led to a transition of democracy in the 1990s.

A decade later, frustrated local authorities are quick to blame non-payment in township communities as part of a 'culture' of non-payment that harkens back to the politically-motivated service boycotts of the 1980s. For instance, officials often see the current day problem of high non-payment rates in township areas as a 'cultural' residue from the apartheid period when households refused to pay because the black local authorities (barely) servicing them were seen as illegitimate. Ascribing township non-payment in the post-apartheid period, however, to a 'cultural' residue from the 1980s is a misreading of the reasons for why people in these areas are not paying. Poverty, poor communication with local government, inability to understand bills, high levels of debt leaving households feeling there is little value in even paying current accounts and dissatisfaction with the quality of services being received are a few other reasons that contribute to the non-payment problem (Smith 2003).

The exclusion of the urban poor from access to water in rapidly growing cities in developing countries is a significant aspect of urban inequality. A primary goal of the government led by the African National Congress has been to redress the impacts of apartheid through a more equitable distribution of public services. The Constitution mandates the decentralization of responsibility for service delivery to local authorities. Yet since the 1996 adoption of the Growth, Employment and Redistribution (GEAR) program, the national government recentralized the financing mechanisms for much of this delivery, leaving local authorities in a situation where they had more to do but with fewer resources. For instance, national government financing for essential services was dramatically cut (by 85%) between 1991 and 1997 (Intergovernmental Finance Fiscal Commission 1997).

Given this macroeconomic climate of fiscal austerity, South African local and national authorities put much attention to seeking alternative service delivery models.

The period from mid 1995 to 2000 is a moment in the South African service delivery history where the drive for private sector involvement was perhaps at its strongest. This moment also happened to coincide with three consecutive phases of local government transformation and municipal amalgamation of defunct black local authorities into white local authority administrations. The first was guided by the Local Government Transition Act of 1993 and was concerned with the political unification of municipalities that had been racially divided under apartheid. Political change was the focus of this period, often at the expense of municipal functioning. The second significant turning point was the introduction of the 1998 developmental local government White Paper, which spurred a series of national legislative innovations such as ward committees, a code of conduct for councillors, integrated development plans as institutional mechanisms for democratising service delivery. The third wave of change introduced a new round of re-demarcation of municipalities and the first fully democratic local government elections in December 2000 (Atkinson 2003: 8). The newly demarcated municipalities (from 843 to 284) had to integrate the transitional local councils and transitional rural councils into unified administrations covering much greater areas and more importantly, larger and poorer populations. Doreen Atkinson from the Human Science Research Council (HSRC), notes that this third wave of change is "probably the most difficult yet: it requires municipalities to live up to the high standards set by the 'local government development' paradigm" (Ibid, 2).

During this period of local government restructuring, the Development Bank of South Africa (DBSA) and the Municipal Infrastructure Investment Unit (MIIU), two powerful national level lending institutions, were influential in promoting private sector involvement in the provision of public services. Their influence helped to spark long-winded negotiations in secondary cities and towns to introduce BOOTS, affermages, management contracts and concessions as a solution to the financial crisis facing smaller local authorities in trying to rapidly expand services to previously excluded areas.

While some smaller local authorities, such as Nelspruit or the Dolphin Coast, have embraced the far end of the privatisation spectrum through concessions, the country's three largest metropolitan areas in the country turned to corporatization as an institutional model to guide service delivery transformation. There are several reasons for why Durban, Cape Town and Johannesburg chose the corporatization model. Before turning to these reasons it is important to note that Durban and Cape Town chose mild versions of corporatization by virtue of creating business units that remained within the local government. Johannesburg, on the other hand, developed a utility that remained municipally owned but was completely operationally separated from the city council.

First, the corporatization model can devolve the responsibility of managing a given sector to an external entity but the utility, being municipally owned, still requires significant oversight responsibilities. In corporatization, oversight is inherent to the model since the government is both client and owner. This managerial complexity may have left smaller local authorities shy in considering corporatization as a model because of the actual implementation challenges. As metropolitan areas tend to have a larger concentration of highly skilled officials, the administrations of cities like Cape Town, Johannesburg and Durban have perhaps felt more confident in being able to take on the governance challenges of a corporatization model.

Second, engineers in particular, were frustrated in having to contend with inefficiencies in operations and the drawn out decision making processes of the centralized support services provided by city council. In particular, operational managers sought to escape the restrictions imposed by municipal finance systems (PDG 2001:46). Since 1996, there has been a weak return on capital investments for water services revealing a serious problem with the maintenance of infrastructure and gradual process of asset stripping. The mounting concerns of local authorities about under-investment in operational expenditures has been a significant push factor for moving to a different institutional structure that removes operational and financial decision-making from political pressures and interference.

Third, there were fears at the local political level in the new dispensation that too many old-time white bureaucrats from the apartheid period were in charge of technical services and could thwart the government's redistributive agenda. As part of a larger transformation programme, these politicians wanted to ensure greater employment equity in the managerial positions within technical services. In light of the relative skills scarcity in swiftly moving people from previously disadvantaged areas up the managerial ranks, politicians were open to infusing international best practices into the new companies or business units that would be created under the corporatization model.

Fourth, these large urban areas tend to have a greater concentration of urban social movements that are more articulate in mobilizing public opinion against privatisation. As such, corporatization in these cities may well have been more politically palatable than a privatisation model.

As noted above, recently amalgamated local authorities facing huge service delivery backlogs at a time when national government transfers were in decline was a strong driver prompting some local authorities to decentralize water and sanitation services to external providers. Since the late nineties and early 21st century, the national climate of fiscal austerity has shifted towards becoming a more expansionary state. Johannesburg's inopportune fate within this changing external environment is the outcome of a particular configuration of powers and financial transfers between national, provincial and local government. The National Treasury sets the funding formula for provinces, which at the moment is targeted towards poor provinces. Gauteng, of which Johannesburg is the capital, is considered one of the wealthiest provinces in the country. The amount allocated to each province from national is weighted according to the population of the province earning under R1100 per month ($166). Even though Gauteng is affluent, the concentration of low-income migrants flowing to Johannesburg in search of employment means that the city has a high concentration of low-income households even though the city generates significant wealth (Bethlehem 2004).

Transfers from both national and provincial to local government make up about 15% to 16% towards local government resources (Wheelan, 2003: 2). A non-conditional grant called the equitable share is allocated to local government and is calculated using the formula of percentage of indigent households (Van Ryneveld et al, 2003: 27). The equitable share is linked to the number of poorer households and therefore relies on the ability of a local authority to be able to enumerate households that are living below the poverty line, a challenge that has been difficult for many

administrations in terms of achieving a sense of accuracy in numbers. The S-Grant was created as a conditional grant out of the equitable share allocation to ensure that local authorities spent these monies on basic services as opposed to using it to balance mismanaged budgets. Nevertheless, while the S grant is targeted to municipalities to assist them in addressing service delivery backlogs, these authorities are in no way bound to transferring such resources to the actual service providers. It seems therefore, that while local governments may have decentralized service delivery to external players in some instances, they have not necessarily devolved the grants from national to these service providers. Unfortunately, the intergovernmental bottlenecks in financial flows are borne by low-income service users.

2.1 Changes to local government

Johannesburg is the financial epicentre of South Africa and is the provider of 13% of the GDP for the country. Nevertheless, the City's legacy of inequality in access to services has left Johannesburg deeply polarized. Before the country's democratic elections, affluent white populations lived in the 'leafy' northern suburbs where after years of receiving the bulk of Johannesburg's resources, they enjoy a standard of municipal infrastructure and services on par with the world's wealthiest City districts. In the meanwhile, the poor of the City, predominantly African, live mainly in township areas to the South and on the periphery in the north (City of Johannesburg Council, 2001: 5).

The five low-income settlements where the City's poverty is concentrated are Soweto, Alexandra, Ivory Park and Diepsloot to the North of the City and Orange Farm to the South of the City (Johannesburg Water business plan, 2002). These parts of the City experienced systemic underdevelopment, where the declining resource base failed to meet Johannesburg's ever-growing service needs (ibid, 7). Despite the City's service delivery efforts, the rate of people migrating to Johannesburg (4.1% per annum between 1996 and 2001), coupled with the fact that households in South Africa are getting smaller, meaning service delivery demand is increasing[1]--is outpacing the provision of housing and the ability of the City to meet service backlogs (Draft IDP, 2004/05). This is illustrated by the continuous increase in the number of families living in shacks in formal and informal settlements. Despite the increase in the capacity of the local authority to meet service needs, according to the 2001 census, the proportion of households with access to basic services is decreasing. For example, although over 200 000 additional families in the City received electricity between 1996 and 2001, the percentage of households with electricity has decreased form 86% to 79% (Draft IDP, 2004/05).

3. Johannesburg's institutional transformation

In the early 1990s, the Johannesburg area consisted of thirteen (13) local authorities that were racially divided along African, Coloured, Indian and White racial lines. After the first local government elections in South Africa in April 1994, political

[1] Stats SA's interpretation reading of the 1996 and 2001 census data is that the average household size has declined from 5.2 to 3.8 meaning households are getting smaller but the number of households is increasing therefore putting more pressure on local authorities to meet increasing service delivery demands.

agreement was reached that the thirteen local authorities be amalgamated to form a metropolitan area called Greater Johannesburg. The resulting area was roughly 1380km^2 with an estimated population of 2 800 000. The City at the time produced 11% of the country's GDP. The City was initially divided into seven Municipal stub-structures as an interim governance measure unto the first democratic municipal elections in November 1995. Thereafter Greater Johannesburg was divided into a governance structure of four autonomous regions or Metropolitan Local Councils and a Metropolitan Council. The new councils became effective in July 1996.

The four operating councils and Metro coordinating council faced various problems such as confusion and duplication of roles between local councils and the metro council; competition for resources between councils, weak and complex institutional arrangements; inadequate administration of the treasury function resulting in over expenditures; withdrawal of provincial funding from major disadvantaged areas previously administered by the Gauteng Province, such as Soweto, Alexandra and Orange Farm; and finally, the non-payment of rates and service charges leading to growing arrears. (Johannesburg Water business plan, 2002)

By 1997, the City moved into a severe financial crisis leaving the GJMC in a situation where it was unable to pay major creditors. One of the causes of this situation was that the Metropolitan area had set out to correct the apartheid legacy of service disparities without due consideration of the cost implications (City of Johannesburg, 2003: 7). In the absence of external financing, the Metro had tapped into its reserves and diverted operational expenditures to fund its capital programme. Significant public investment was put into building social infrastructure but without attention to the necessary operational budgets required to keep these facilities functional.

During the 1997 and 1998, short-term solutions were put in place by blocking all but essential capital and operating expenditures, freezing posts and putting in a tighter reign over activity level spending decisions by managers. While these cutbacks helped restore financial stability, the huge development challenges facing the City still remained. In hindsight, the 1995-97 period was dubbed the period of 'growth without sustainability' while the subsequent 1997-1999 period was dubbed 'sustainability without growth' (ibid, p.8). The City realized that it had to develop a strategy to address its institutional weaknesses in order to avoid falling into another financial crisis.

In January 1999, Khetso Gordan was appointed as the City Manager to form a team to resolve the City's financial and organizational problems. The strategy for moving forward that was put in place was the *iGoli 2002* model. The strategy focused on five key problem areas: financial stability, service delivery, frameworks of accountability, administrative efficiency and political leadership. For the purposes of this paper, we will only focus on the service delivery element of the iGoli 2002 strategy. The iGoli 2002 model had to address a service delivery situation whereby the late 1990s "24% of African residents lived in informal dwellings; 17% had no access to electricity; 15% were without flush toilets and 13% were without tapped water (ibid, 9).

Much of the challenge was to extend infrastructure to historically under serviced parts of the City (predominantly African), while also improving maintenance on sunk infrastructure in historically advantaged parts of the City (predominantly white). Infrastructure decay was also posing an increasing threat to the return on tradeable

services. For instance, substandard water infrastructure in many low-income areas of the City due to historical underinvestment, was contributing to an unaccounted for water rate, estimated at 43%, leading to a loss of R1, 15 billion potential sales at the time (ibid, 12).

Savage et al, (2003) have pointed to three main challenges facing the City's service delivery situation: inadequate information, strategy weaknesses and inappropriate service delivery institutions. First some of the problems contributing to this dismal situation were due to poor information, such as lack of raw data, and a weak information processing capacity to understand external development patterns and trends, such as demography, social problems and so forth. Second, during the 1997-1999 period, the City focused on operational crisis management, without much attention to a medium to longer-term delivery strategy. There was therefore no attention to which delivery needs had to be prioritised and why, what the costs would be for meeting these needs and the necessary programmes and projects to enable such development. Third, the research conducted through the development of the iGoli 2002 strategy noted that there was insufficient attention to the differential nature of service delivery sectors. As such, different service administrations operated along narrow bureaucratic confines rather than being attuned to country-wide developments in their sector, seeking opportunities for innovation, assessing where efficiency gains were possible or inquiring as to the specific needs of citizens (ibid, p. 10).

3.1 The iGoli 2002 model

A core theme of the iGoli 2002 model was that a new institutional design would address the factors that underpinned the City's financial crisis. A redesign of the City administration was proposed in which the main theme was a decentralization approach driven by financial ring fencing and institutional autonomy. The thinking here was to better integrate the historically separate functions of accountants and engineers by bringing together financial planning and management and service infrastructure planning and management into the same business process. The model therefore proposed that the managers of a service be given full control over both the costs and customer/revenue base associated with the service.

In order for the City to make economic decentralization possible, this meant handing over all operational matters to a service provider responsible for administering service delivery across the City. While operational issues would therefore be devolved, the City would retain substantive control by keeping authority over the selection between policy priorities, determination of options for resource allocation, service strategies, and standards of delivery. As the City would retain its service authority function, it would therefore 'hold to account' service managers that failed to perform according to the parameters set by City policy, resources, or standards (ibid p. 14). Clearly, the innovation here was to separate policy and strategy, which remained with the City, from implementation, which was left to managers.

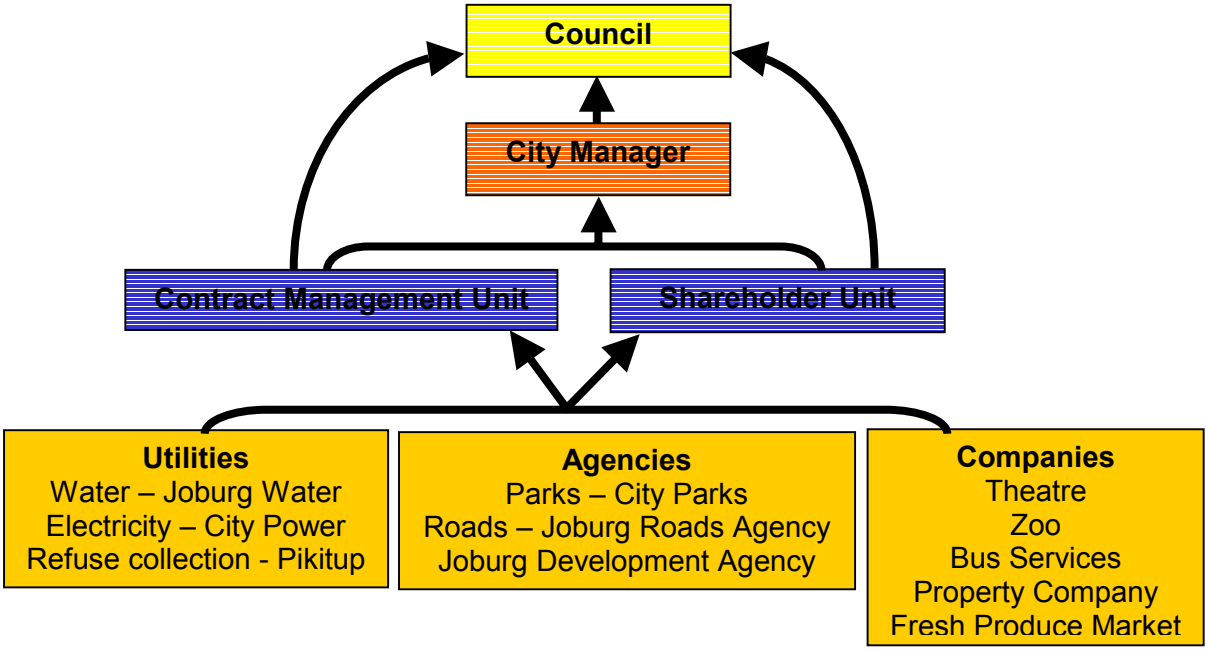
At the time in which the model was being explored, the City Manager looked at a variety of different models. Numerous international advisors were brought in to explore the best options for Johannesburg. For instance, a World Bank team of consultants, suggested that concessions for the tradeable services (water, electricity and refuse collection) was the best option for the City considering the financial investments required to address historical backlogs in infrastructure investments as

well as to cater for the City's growth. This model was explored by the City Manager but was turned down by the City's politicians, as it was perceived as too risky should institutional difficulties arise with the selected concessionaires. Corporatization was therefore chosen as the compromise model that would enable the City to retain control by virtue of being the sole shareholder of a utility, but would also devolve operational issues to the utility to enable it to 'run like a business' without the administrative constraints of City council procedures.

The principles emerging from the research behind the iGoli 2002 model were translated into a set of structural arrangements. The primary design feature of the iGoli 2002 model was to create a dividing line between the client and contractor. The client--City Administration, including the Council, Executive Mayor and Mayoral Committee, would determine the City' service delivery requirements, while 'contractors' would be given the mandate to meet these requirements (Savage et al. 2003: 17). This design feature translated into setting up utilities, agencies and corporatized enterprises (UACs) as independent companies to manage the larger service functions. Utilities were established for the City's trading services: water and sanitation, electricity and refuse collection. Agencies were established for important services traditionally funded from rates accounts, such as roads and storm water (Johannesburg Roads), and parks and Cemeteries (City Parks). Corporatized entities were then established for services that could attract user fees, but which still required large subsidies from the rates account, such as the civic theatre, zoo, bus services, and so forth. These companies operated as 'businesses' under the Companies Act, but were wholly owned by the City as the sole shareholder, and as such, were held accountable to the policies set out by the City. The airport and gas were fully privatised through divestiture arrangements.

A second design feature was the establishment of eleven (11) administrative Regions in its area of jurisdiction to ensure that residents have access to their Ward Councilors as well as People's Centres. The latter is a walk-in complaints centre to facilitate

Figure 2: Governance framework for the iGoli 2002 model



interaction between the local authority and residents in terms of service delivery. A third design feature was to set up a small but strong contract management office that would provide an oversight function. The core function of these units was to monitor the contractors (UACs) on behalf of the client (the City) by ensuring that the former had the necessary business conditions to fulfil their mandate, define tariffs in line with the City's policies and apply penalties to clients where there was non-compliance. Figure 2 highlights the lines of accountability of the City's corporatized entities.

The section above has highlighted the institutional transformation that brought about the creation of Johannesburg Water, one of three utilities that were created. The next section will focus specifically on the trials and tribulations of the iGoli 2002 model as it moved into implementation. The focus will be on the water and sanitation sector.

3. The Regulatory Environment

3.1 The legislative framework for alternative forms of service delivery

The cooperative governance framework with respect to water regulation is primarily held as a relationship between the national department of Water Affairs and Forestry (DWAF) and local governments. DWAF has historically legislated through regulation in terms of establishing national guidelines, setting national norms and standards, minimum levels of service, minimum reporting requirements and tariff policy. The issue of enforcement, however, has remained a municipal function. DWAF is currently in the context of institutional transformation and is setting itself up to play a greater regulatory role, over and above setting the legislative context for the bulk and reticulation components of the water sector.

Over the course of the late 1990s, DWAF began promoting the division between a water service provider and water authority. Since 1996 numerous acts have been adopted which lay down national standards for service provision and provide local authorities with a framework for setting up alternate service arrangements. The primary legislative pieces that govern how local authorities must deliver themselves or regulate an external provider in delivering water are:

- The bill of rights in the constitution (1996) provides access to water as a basic right for all (section 27, chapter 2). The Reconstruction and Development Programme (RDP) define 'basic provision' as 25 litres per person a day, available within 200 metres. The focus for this delivery objective is on co-operative governance, where municipalities can charge for services provided, but the power to impose such charges (and limit the price of these charges) may be regulated by national legislation. This introduces the notion of user fees for essential services.

- The Water Services Act (1997) gives national government the legislative and executive authority to oversee the effective performance of municipalities in their functions as a water service authority. The act distinguishes between the water services authority and the operational responsibilities of the water services provider. Section 19(2) in particular mandates water service authorities to seek economies of regional scale through public sector provision before turning to alternate service providers.

- The Municipal Systems Act (2000) 68 (1) protects the poor by controlling the price of essential services such as water. It sets out to ensure that poor households have access to basic services through: 1) tariffs that cover only operating costs; 2) lifeline tariffs for basic levels of service; and 3) any other direct or indirect method of subsidization of tariffs for poor households. The act identifies the sequence of events local authorities must follow in setting up service delivery alternatives. This portion of the act strongly emphasizes public consultation with labour and communities prior to contracting an external provider. Finally section 78 of this Act, provides guidelines that local authorities must follow if they seek to engage with an external provider for the provision of water and sanitation services. The 78 processes entail a review of both public and private sector options before a decision for contracting out can be made (Smith et. al., 2003: 16).

These regulations are meant to guide local governments in fulfilling their functions as water service authorities. It also provides the parameters in how to form partnerships with the private sector while still retaining government obligations to the public. The Palmer Development Group report on corporatization, (PDG 2001), however, identifies a number of difficulties facing local authorities in setting up service delivery alternatives. These difficulties are largely due to the administrative residues of an apartheid bureaucracy, and the post-apartheid restructuring process. First, shifting national legislation makes it exceptionally difficult for local authorities to comprehend the legal framework within which to set up alternative service delivery arrangements. Second, complex economic and governance issues relating to the price and quality of water services are difficult for local authorities to devise, implement, and uphold. Third, current municipal accounting systems are a major hindrance to providing sufficient information on which to base decisions (Ibid, p. 45).

3.2 The Local Governance Framework

As noted above, DWAF established the national regulatory environment by virtue of drafting the legislation guiding local authorities. When the iGoli 2002 model was devised, it envisaged a small but strong unit to play an oversight role over the 14 corporatized units. In 2001, the Contract Management Unit (CMU), situated within the Office of the City Manager, was created to provide a monitoring function over the UACs, but wound up playing more of a facilitator rather than oversight role. As of mid 2003, the Shareholder Unit was set up out of the CMU as a separate entity in order to provide greater distinction between the referee and player roles of the city. The SHU is responsible for the corporate governance and financial viability of each of the UACs. By contrast, the CMU is tasked with monitoring the service delivery standards of the UACs to ensure that they are complying with both local government and national legislation. The CMU works with the City's Treasury, which is responsible for overseeing the tariff setting process of the UACs. Finally, the CMU also provides legal assistance in setting up service level agreements amongst UACs, as well as between UACs and the City.

The CMU and SHU have only recently begun to move into a regulatory function as of 2003. This regulatory evolution was not necessarily designed to occur like this, but rather has been an outcome of a 'learning by doing' approach. The City made a deliberate choice to keep the function of regulation within the City but did not initially attribute sufficient importance to the magnitude of these two entities work entailed in overseeing 14 companies. The City's decision makers may have believed that by virtue of its ownership, it would have inherent and therefore sufficient oversight role of the UACs.

The regulatory challenge facing the Johannesburg corporatization model has to do with the degree of autonomy the City council is willing to allow. On the one hand the City has been in the process of decentralizing its core functions to external entities, but on the other hand has been very careful to centralize certain control functions such as regulation and revenue collection. The politicians guiding the restructuring of the City were eager for greater efficiencies in the water sector but at the same time, were aware of the enormous importance that the delivery of water and sanitation have for its residents, particularly those that had never received proper services due to apartheid policies. The result of these tensions was that the City has limited the autonomy of the utility and the authority of the regulator.

With respect to autonomy, Johannesburg Water was set up under the companies act to 'run like a business' with its own board of directors. As the City is the sole shareholder, it appoints the board of directors, and the Managing Director of the Company. While the board is ultimately responsible for overseeing the operations of its company to ensure that it is commercially viable, it must ensure that the company adheres to the City's policies. These policies are constantly 'in the making' and present new challenges to the board in terms of interpreting how to implement such policies within the best interests of the company. For instance, the Mayor in early 2004 announced a series of mayoral priorities. One of these is HIV/Aids awareness and must be incorporated into all of the UACs business plans. Developing a company-wide HIV/AIDS policy for all staff of the water utility is a concrete example of how this Mayoral priority has been implemented. Incorporating an HIV/AIDS policy into a service delivery strategy that extends beyond the Human Resource component of a company to the wider public is more reflective of the spirit within

which the priority was established, ie: if the concentration of households living with AIDS is in low income areas – what are the implications on their water consumption habits and what should the companies consider with regard to the existing tariff structure? The difficulty with this scenario is that the City's developmental aspirations in terms of minimizing risks associated with HIV/AIDS may be a public health priority established by the mayor, but is not necessarily the same priority that a board of directors may feel is appropriate for the company it is governing. The distance of the board of Johannesburg Water from the City can, on the one hand, be valuable in terms of enabling the board to focus on the core business of water and sanitation. On the other hand, this distance from the City can lead to the board's narrow interpretations of Mayoral priorities, and can therefore lead to greater emphasis on the commercial elements of the company while downplaying the developmental aspects of service delivery that are mandated by the shareholder.

Another autonomy-related issue that has been the single most difficult and frustrating experience for Johannesburg Water relates to billing functions. When the City endorsed the initial iGoli 2002 idea of creating a separate utility in 1999, it was with the intention of enabling the utility to operate autonomously by giving it control of revenue collection functions. When local government elections occurred in 2000, a year after the development of the model, the new political configuration of the City was less enthusiastic about devolving such significant control to the newly created utilities and feared the political risks involved were the UACs unable to manage the City's services well. The signed SDA in 2001 agreed to transfer billing functions to JW, but the political unease regarding this scenario prevented the transfer of this critical function. In effect, only the top 14 000 customers of the utility were transferred, giving it control over only 30% of its revenues. The inability of the company to control a larger proportion of its revenue base has left it relatively powerless in being able to address significant commercial losses, resulting from poor data, erroneous billing patterns and high non-payment levels. These are issues that the company felt it could easily have improved on had it been granted greater autonomy in running the revenue collection function of its business. It is only three year's into the company's creation that all of its customers are being transferred from the City in order to enable it to carry out meter reading, pre-edits of billing, credit control and revenue collection functions. The lesson learnt here is that Johannesburg Water's earning of political trust from the City has been a long and arduous process that is immune from any contractual obligations that the City may have signed with Johannesburg Water.

One reason to try and explain the political trepidation of the City with regard to its slowness in handing over core functions to the utilities is the relative power imbalances related to knowledge. The City is the service authority and must position itself accordingly in its relationship with Johannesburg Water as the service provider. The ability of the City to carry out its service authority function is, however, constrained by the fact that the City is in a weak position to scrutinize the mountain of data it receives from Johannesburg Water through regular quarterly and interim reports because it lost much of its specialized knowledge to the company when it was formed in 2001. The issue of information asymmetries is a common problem that most regulators face with respect to the service providers they are overseeing (Parker and Kirkpatrick 2003:2).

Another capacity related issue has to do with the relationship between the CMU/SHU and the City. The iGoli 2002 model did not pay sufficient attention to the enormous task of regulating 14 public functions operating at arms length from the City. When the CMU was first created, it was largely under-capacitated, under-resourced and therefore heavily reliant on consultants to carry out its day-to-day activities. The CMU and SHU have more recently begun to build their capacity through the hiring of professionals but they are both, as regulatory institutions, still learning about how to manage the tensions of playing both a facilitator (nurturing) and regulatory (watchdog) role.

The lack of autonomy of the SHU and CMU combined with their slow building of capacity inevitably constrains the authority they have in regulating the UACs in general and Johannesburg Water in particular. With respect to authority, the limited range of options for enforcement for non-compliance is one of the constraints facing Johannesburg's current regulatory environment. Should a company grossly violate the principle of the Service Delivery Agreement, the SHU has the discretion, in representing the interest of the shareholder, to dismiss a board of directors and a Managing Director of the Company. For smaller acts of non-compliance relating to service delivery, the CMU can take an issue through dispute resolution or the SHU can exercise its right to reduce a Managing Director's or board of directors' compensation by withholding performance bonuses. These are two mechanisms that are, and have been, exercised by the CMU and SHU.

The limitations to the authority of the SHU and CMU remaining within City council is that they are vulnerable to political interference should they want to raise an issue with a company. Furthermore, should there be political support for disciplinary measures, the shareholder could choose to fine the company for non-compliance. The problem with this scenario is that there is a lack of credible threat to the UACs as it would not be in the interest of the City to fine a company that it owns for non-compliance. Such a model of enforcement is more appropriate when there has been a full divestiture (sale of assets) so that the company must suffer the full consequences rather than returning to the City to request additional subsidies to be able to pay for the fine. This example highlights the City's difficulty in finding mechanisms that can act as a veritable penalty to a company that it owns but where the enforcement of these penalties will not negatively affect the City itself.

Given these problems, it is interesting to note that in a paper entitled "Economic Regulation of Water Services in South Africa", the Palmer Development Group notes in reference to the gaps in South Africa's regulatory framework that Johannesburg should be used " as a role model for the development of the methodology for the economic regulation of public water utilities" (PDG, 2004: 15) This recommendation is perhaps due to the fact that Johannesburg is the only city where its water provider is designed to operate on a rate of return on assets. While in theory Johannesburg Water has been set up this way, in practice, the rate of return to the city has been less than adequate. By international standards, Johannesburg has a long way to go in the evolution of its regulatory structure and has much to learn from international examples.

Australian cities have been pioneers in corporatization by virtue of a national program to foster competition in state-owned enterprises through commercialization. The restructuring of the Melbourne water sector was part of a national process of

commercializing state-owned enterprises. In 1995, the water sector in Melbourne was split into five state-owned enterprises including the Melbourne Water Corporation, Melbourne Parks and Waterways, and three water and sewerage companies (PDG, 2001:27). Each company operated on commercial principles and is responsible for retail water supply to customers and sewerage collection and treatment. The high levels of performance of these corporatized entities have also kept prices affordable for low-income service users. The corporatization model, in this case, has been able to address both equity and efficiency issues due to the strong regulatory capacity performed by the Essential Services Commission (ESC). This provincial body operates as both the water price and service regulator and monitors the performance service standards of the Melbourne service providers (Reina, 2002: 15).

Namibia has had a less successful attempt at corporatizing its water services. In 1997, the National Water Corporation was established in Namibia as a state-owned enterprise and took over the responsibility for the bulk water supply to cities from the Department of Water Affairs. Namwater is a wholly owned government company with the Ministry of Agriculture being the shareholding ministry. The corporation's functions are to manage the country's water resources, provide bulk water supply to customers, provide facilities and lease rights and operate, manage and maintain the country's bulk water works (LaRRI 2000: 43). Operating in a highly monopolistic environment, Namwater uses full cost accounting to measure the efficiency of each component of the organization. A competitive environment is established through each internal service provider's performance being measured by costing each product against market prices in the private sector. If they are found to be inefficient, Namwater will outsource the service.

In an effort to ensure cost-recovery, Namwater in 2002 set tariffs at full cost. This has led to the increase in the price of water by 40% since Namwater took over bulk water supply (LaRRi 2002: 43). Poor municipalities have been negatively affected by bulk water price increases leaving fewer resources to maintain existing infrastructure. Local authorities have responded by transferring the cost of these increases to consumers. High prices for domestic consumption have led to increasing levels of non-payment for services in poorer communities, which has further stressed the financial resources of poor municipalities (Forrest 2001).

The urban and national contexts of service delivery are important for understanding the strengths and weaknesses of these examples of corporatization. The success of the Melbourne Water Corporation can be attributed to the city's relative affluence and a political tradition of a social democracy where consumer interests are well articulated. Highly skilled and trained officials have been able to corporatize essential services within a sophisticated regulatory environment. Legislation has enabled authorities to monitor external providers in a manner that balances equity with efficiency. By contrast, Namibia's legacy of unequal distribution systems has left 38% of Namibian households living in poverty (Hansohm et. al. 1999). Apartheid's unwieldy bureaucratic system continues through the form of a monopolistic environment for state utilities. The weak legislation to ensure subsidies from national to municipal levels has limited the ability of Namwater to effectively protect the urban poor against water price increases.

These two case studies reveal that corporatization can work in the right context. The model's benefits are significantly challenged when operating in an environment with

high levels of inequality or with an overly bureaucratic system and poor legal framework to monitor an external provider. The Namibian example is closer to representing some of the challenges confronting South African authorities regarding water distribution and as such holds important lessons for what a municipal multisector regulator like the CMU should not do.

This first section has elaborated on the institutional transformation that was a precursor to the creation of Johannesburg Water. The next section will focus on Johannesburg Water in order to assess its performance in meeting significant service delivery challenges.

Part II: Johannesburg Water

4. The Business of Johannesburg Water

Johannesburg Water (Pty) Ltd (JW) was set up as the Water Service Provider (WSP) through a Utility company that was mandated to provide water and sanitation services to the residents of Johannesburg. JW was established in January 2001 when the City of Johannesburg (CoJ) entered into two contracts with JW – these being the Sale of Business (SoB) Agreement and the Service Delivery Agreement (SDA). As the City remains the sole shareholder of the company, upon the signing of the SDA, the City transferred to JW its water and sanitation assets and over 2500 employees and JW is managed in accordance with the Companies Act by a Board of Directors (Stills et, al: 2003, 2).

The Johannesburg operations area covers some R1650km2. There are two topographical drainage basins that govern the operation of wastewater services. As part of its annual core business, JW purchases 480 000 ML of purified water from Rand Water, the bulk provider to the region, and reticulates it to the residents and businesses of Johannesburg through a network of 9800km of distribution pipes and 100 reservoirs and water towers. It also collects and treats 310 000 ML of wastewater annually using a 920 km network of sewers and seven wastewater treatment plants and two sludge handling facilities, before returning the effluent to the local river system (Johannesburg Business Plan, 04/05).

While corporatization may well have been the compromise model, the City wanted to ensure this new water and sanitation utility was infused with international best practices. As such, the City chose to bring in an international management contract for five years at the same time as the birth of the new water and sanitation utility. The aim of the management contract was to provide management expertise in critical areas of the company and to transfer this human resource capacity to JW over a five-year period. The intent was that the management contract should capacitate the Utility to give the board of JW the option of running the Utility as a stand-alone entity after the end of the Management Contract.

5.1 The Management Contract

The Management Structure was set up to improve the operations of JW in terms of 'international best practice' in the water sector. At the time that JW came into being it consisted of five different municipal council water administrations with very different ways of functioning, most of which had little regard for the customer. The Management Contract aimed to integrate these different management structures, improve on operational efficiencies and begin branding the newly corporatized water company as part of a strategy to become more customer focused.

The contract was awarded to a joint venture formed by the Suez Group of France and their subsidiaries in the United Kingdom and South Africa – Ondeo Services UK and Water and Sanitation South Africa (WSSA) respectively. Subsequent to the establishment of the joint venture, known as JOWAM, 27% of the shareholding has been sold to black empowerment partners. These groups consist of Mowam (10%), Nhuthoko (10%), Tholo (4%), and Powerhouse utilities (3%).

Approximately 13 professional staff from the Suez Group were deployed within the Johannesburg Water structures, including at executive management levels. The contract commenced on 1 April 2001 and will expire on 30 June 2006 with a gradual phase out of JOWAM staff over the course of the contract. As of June 2004, there are two senior staff remaining from the Suez Group, the CEO of JOWAM and the deputy general manager finance, both of which will stay on until the end of the contract.

The compensation to the Suez Group for the management contract is structured through a Management Fixed Fee, and two different types of incentives. These consist of a Management Fixed Fee, Part A Incentive Compensation and Part B Incentive Compensation. The Management Fixed Fee for the term of the contract is R25 million to be paid out on a monthly period until the end of the contract[2]. Johannesburg Water will also pay JOWAM an additional fee of R5 million as a one-year supplement to the Monthly Management Fee.

Part A Compensation is paid to JOWAM for any measurement year and is not to exceed R4 million a year and will culminate by the 5th year to no more than R20 million (pre-inflation). It is determined by results against annually set targets for the following five factors:

- Capacitation and human development
- Decreased wastewater spillage and overflow
- Improved customer service
- Implementation of an annual capital investment programme
- Improved operations and facilities.

The maximum monetary value of each incentive compensation factor is R800 000.

Incentive B is formula driven and measures improvement in the operating margin with the proviso that in the first measurement year bulk water purchases are substituted for operating expenses. This is to avoid providing a perverse incentive to under spend on operations in the first year of operations. JOWAM bid that it would only be compensated 0.18% of the revenue earned by the company, which is a very modest remuneration were the management contract to significantly contribute to the financial turnaround of the company. It is important to note that the Management Contract did not entail connection rates as a target since the operators were not committing their own capital investment and did not want to be dependent on the uncertainties of the City's fluctuating budget indicatives.
A Johannesburg based consulting company, Dynacon Technologies, acts as the Independent Auditor and works in partnership with Halcrow (UK) to conduct yearly audits on the management contract. The operator offers judgment on its own performance and this opinion is assessed once the IA has conducted its audit. The opinions of the IA and operator are then presented to the board of directors of JW for review.

The Suez group won the bid for the management contract for several reasons. First, it was perceived by the evaluation team within the City as having the most to offer in terms of the technical expertise of the team that would come to work in Johannesburg.

[2] As the contract period is for 65 months, the 'Monthly Management Fixed Fee' amounts to R307, 923 per month. This is based on a combination of the following factors, such as, the core inflation price index, foreign retail price index, currency exchange rates.

Second, the Suez group was the only consortium that proposed phasing its staff out gradually over the course of the contract. The onus was therefore on the company to ensure a transfer of expertise and knowledge to JW from the outset, thus minimizing the risk that Johannesburg Water would be left rudderless at the end of the contract. Third, the Suez group engaged in 'strategic bidding' for incentive B by proposing that it recuperate only 0.18% of the annual company revenues during the length of the contract. Vivendi bid 1.25% and Thames Water bid 5%. Vivendi and Thame's fixed cost input resulting from higher staffing input in the contract has a direct relationship to the higher bids for incentive B. Upon investigation all these companies put in a very conservative bid with regard to net return from the project.

In light of the Suez consortium's peculiar bid, which proposed such a modest reward for so much hard work, it is worthwhile to consider a hypothesis about their motives. Through a series of interviews with senior officials within JOWAM, Johannesburg Water, the CMU and consultants working for the latter, it is the view of the author that the Suez group's bid was structured as favourably as it was for the City because the principle company, Suez, was adamant in wanting to penetrate the Johannesburg water sector. It wanted to have the experience of having the city-the urban gateway to Africa, on its track record.

While the immediate move to a concession may not have been politically favourable at the time, it could have been the thinking that there might have been an opportunity for a more lucrative engagement, such as through a concession, further down the line. Water concessionaires rarely earn an income before an initial 10-year period of investments (Simms, B. 2003).[3] Rather than waiting five years for the post-management contract phase to tender for a possible concession, the Suez group might have figured that the management contract would give the consortium an incredible comparative advantage in any such further bids by virtue of having five years in which to really understand how the water and sanitation networks of the City worked. Its knowledge of the weaknesses in the City's water and sanitation systems would then enable the consortium to craft performance incentives that would optimise the group's revenue returns in a future contract with the City. The only shortcoming of this thinking is that since the management contract was agreed to in 2001, concessions increasingly moved into disfavour within the international water community as well as the domestic decision-making environment, thus making the possibility for a post-management contract transition into a concession far more elusive. While the evidence for the conjectures offered above is not conclusive, ie: the evidence is only through informal and formal conversations with senior officials, the situation does offer an interesting insight into the longer-term motivations underlying multinational water companies when they choose to enter into management contracts.

As the performance of the management contract is so deeply integrated into the operations of the company the assessment below will focus on the work of Johannesburg Water to identify, where possible, how innovations were introduced by the Suez group.

5.2 The company's challenges

The single biggest challenge facing JW is the high unaccounted for water rate, which was estimated at 43% when Johannesburg Water was created in 2001 (Johannesburg

[3] Interview with Brian Simms, the CEO of BiWater operations in the Nelspruit concession, February 2003.

Business Plan, 2002). This problem is linked to both commercial and technical losses. The reasons for the former are in large part due to the inability of the company to take control over its revenue functions in a context of high non-payment rates in deemed consumption areas (unmetered) that happen to coincide with previously disadvantaged areas. The reasons for this are noted in the governance section above. Currently, JW undertakes the commercial function of metering, billing and collection for its top 14 000 customers, which account for 30% of JW's turnover. While JW has made great strides in improving the quality of the data and billing for these customers, it has been unable to do the same for the service users that are still being handled by the City's Revenue Management Unit. This has put the JW in a situation where it has been powerless to improve on the efficiencies in revenue collection functions-an area where it certainly has the ability but not the authority to do so. As of early 2004, the City agreed to transfer an additional portion of JW's customer base so that it can have control over 60% of its revenues. The final transfer of functions such as meter reading and credit control will be completed by the end of 2005. This situation will hopefully, open up a significant opportunity for the company to improve its revenue collections and by consequence, its financial situation.

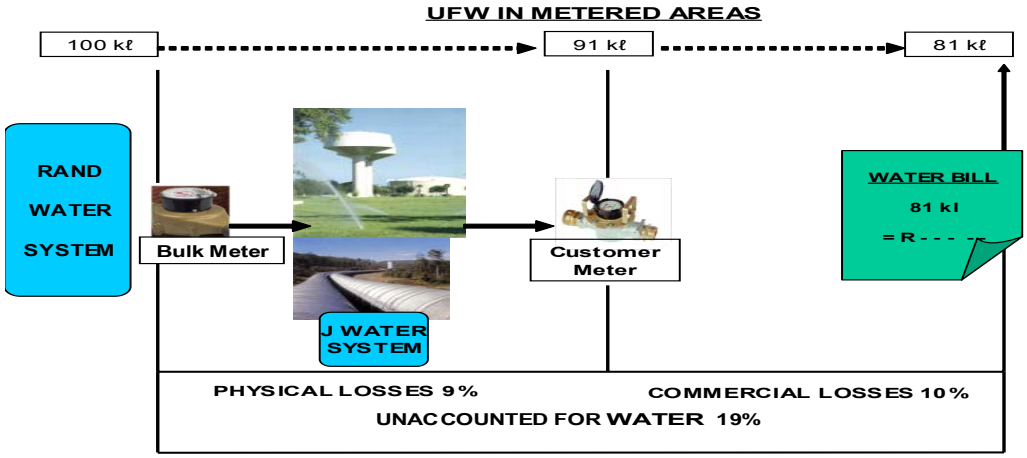
A second challenge facing JW has been the high degree of physical losses. In metered areas, investigations into the network have indicated that the loss per km of pipe on average is 10kl per km. In deemed consumption areas this is double, which is why JW is replacing decaying infrastructure as part of the Gcin'amanzi project which is discussed below.

5.2.1 Metered Areas

The first diagram of UFW represents the case of metered areas. In this example 100 kl of water is purchased in bulk from Rand Water whilst only 91 kl is reaching the customer meters. Therefore 9 kl have been physically lost through JW system. Physical losses represent 9% of the volumes purchased in bulk. The commercial losses correspond to the difference between volume reaching the customers' meters (in this case 91 kl) and the volumes actually billed to the same customers (in this case 81 kl). Commercial losses are equal to 10 kl and represent 10% of the volume purchased in bulk. (Source: Johannesburg Water, Quarterly Report, January – March 2004, p. 15)

UFW is the sum of physical and commercial losses, i.e. 19% in the case of metered areas.

Figure 3:

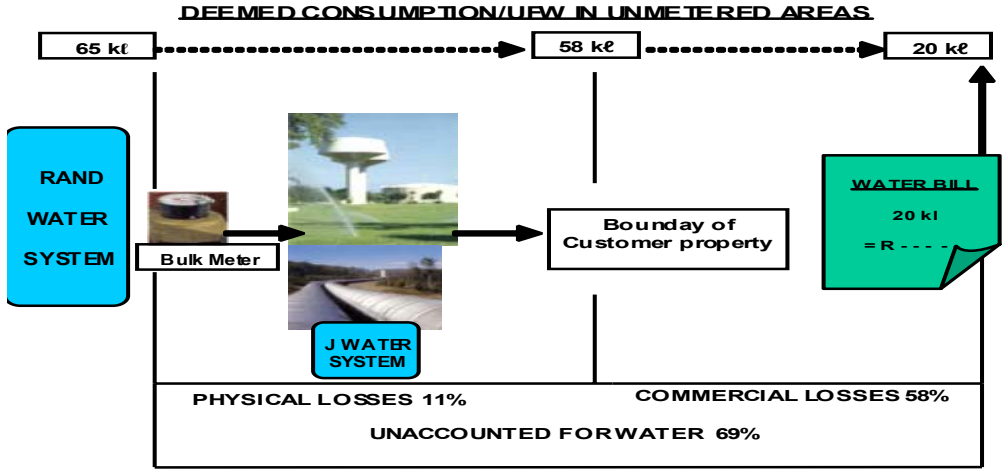


Source: Johannesburg Water, Quarterly Report, January – March 2004, p. 15

5.2.2 Deemed Consumption/Un-metered Areas

Johannesburg Water supplies water and sewerage services to five formal lower-income working class areas. These are Soweto, Alexandra, Orange Farm, Ivory Park and Diepsloot. For the past decade, water consumption in these areas has been billed as 'deemed consumption' meaning households were billed a flat rate. Soweto was billed on 20kl per month at a flat rate equivalent today to R110 for water, sanitation, rates and refuse collection services. Alex was deemed on 10kl per month, and Orange Farm used to be billed on 5kl deemed before the 6kl free allocation of water was implemented. This amount did not necessarily reflect real consumption as in many instances, actual consumption was far lower or in the case of small businesses, and child-care centres, consumption was far higher. What compounded this unreflective billing for the water provider of the City was poor consumer education about conserving water. Open communal taps with water running night and day has been a common occurrence in these areas. This has been particularly true for the areas of Soweto and Alexandra with estimates of average household consumption patterns of

Figure 4:



Source: Johannesburg Water, Quarterly Report, January – March 2004, p. 15

80 kl per month and 65 kl per month respectively.

In Figure 4, 65 kl of water is purchased in bulk from Rand Water whilst only 58 kl are reaching the boundary of customer property. Therefore 7 kl have been physically lost through the system. Physical losses represent 11% of the volumes purchased in bulk. The commercial losses correspond to the difference between volume reaching the customers' property boundary (58 kl) and the volumes actually billed to the same customers (in this case 20 kl). Commercial losses are equal to 38 kl and represent 58% of the volume purchased in bulk. UFW is the sum of physical and commercial losses, i.e. 69% in the case of unmetered areas.

Table 2: Results in terms of commercial and physical losses.

	Physical Losses	**Commercial Losses**	**UFW**
Metered Areas	9%	10%	19%
Un-metered Areas	11%	58% (1)	69%
Total JW			36%

Based on the general UFW calculations, table 2 are the ratios (in percentage of bulk purchases) estimated over the first nine-month period of this financial year. In the case of unmetered areas, commercial losses include also on property losses whilst physical losses are only related to Johannesburg Water system (Johannesburg Water 2004:6).

Source: Johannesburg Water, Quarterly Report, January – March 2004, p. 16.

5.2.3 Strategies to deal with Unaccounted for Water

The core of the turnaround strategy in deemed consumption areas is the 'Operation Gcin'Amanzi' project, meaning conserve water in Zulu. This project is targeted as a massive infrastructure repair and upgrade of Soweto in order to address the 'uncontained water' supply problem.

The project has a three-pronged strategy to first, reduce leaks due to on-property losses through a once off repair and replacement of domestic plumbing. Second, address physical losses resulting from decrepit infrastructure, by replacing old leaking infrastructure, including valves, pressure reduction equipment and the replacement/resizing of more than 500 large meters. Third, to address the commercial losses through the introduction of a prepaid metering system across Soweto.

The Gcin'Amanzi project is bold in its objectives to improve the infrastructure affecting water and sanitation services to 162 000 households[4] which translates to approximately 1 million people (Harrison 2004).[5] The project's efficiency objectives are to reduce the UAW rate in order to lower the purchase of bulk water from Rand

[4] More recent estimates of the number of households in Soweto are 301, 690 – including Stats A, Census 2001, figures of 237, 599, excluding Diepsloot and Meadowlands. With these included, the figure moves to 301, 690.
[5] Personal communication with Human Development Specialist, Kirsten Harrison, Corporate Planning Unit, June 10th, 2004.

Water, as well as a proportionate reduction of inflows into sewerage works (hydraulic loading) and contribute to a reduction of sewage purification costs to Johannesburg Water.

The company's decision to combine a once off repair to indoor plumbing fixtures to reduce leaks with the installation of prepaid meters is a novel approach in addressing both commercial losses through non-payment as well as physical losses. Johannesburg Water claims that unless these two issues are addressed, the company faces high financial risks. Given the magnitude of the problem in Soweto with both a payment rate of 13% and uncontrolled water supply, the company has framed the Gcin'Amanzi as the 'make or break' project with projections that it will ultimately achieve R158 million savings per year upon completion of the project (Johannesburg Business Plan 04/05). The company estimates that both the efficiency gains and financial savings that can be achieved through the programme will provide the impetus for the financial turnaround of the company.

The controversy around installing prepaid meters in an area with high levels of poverty has prompted the company to take a novel approach by twinning efficiency gains with equity concerns. It has tried to mitigate the negative effects associated with high levels of poverty and the related affordability problems by setting out a series of subsidies for households living in deemed consumption areas. By introducing prepaid meters with a subsidy package, Johannesburg Water aimed to balance a number of objectives, such as making water and sanitation more affordable, achieving greater efficiencies by addressing the non-payment problem and introducing water demand management to the area. This strategy will be discussed in detail in the next section.

The Gcin'Amanzi project may be the most significant attempt of the company to tackle its UAW problem but in the interim, numerous efficiency gains have been made in other parts of the business-much of which is related to the management techniques and programmes put in place by JOWAM.

First, with respect to improving the City's Waste Treatment Works, JOWAM has been very effective in reducing the frequency of spillages. JOWAM has also put a depot based incentive system that is operationally driven to determine where the hotspots are in the City in order to be able to more readily respond to such spillages when they occur.
Several factors have been monitored to ensure improvement in respect of cost effectiveness at the Waste Water Treatment Works of Johannesburg Water. These include: using less than 40kg/ml of ferric chloride; using less than 4.6kg/dt of polyelectrolyte and implementing a Northern Works power system upgrade. JOWAM has also put in place mechanisms that have much improved the quality of data with regard to meeting these objectives. This has allowed the Independent Auditor to interrogate this aspect of operations within the management contract much more effectively as it now has good data to work with.

5.3 Equity Concerns

5.3.1 The challenge of making water affordable to the poor

Local authorities across South Africa have made significant strides in promoting water conservation by imposing block tariffs, whereby "the more you use, the more you pay". This policy has helped to reduce water wastage and created pricing structures that aim to cross-subsidize low-volume users with the higher rates charged to high volume users. Block tariffs have had positive impacts in allowing local authorities to reduce their own subsidies to the water sector as this tariff structure can cross-subsidize itself, thereby freeing up scarce resources for other non-income based services. This tariff approach is what finances the universal provision of the first six kilolitres free, a guideline announced by DWAF in 2001 and implemented by local authorities across the country through a block tariff structure.[6]

Unfortunately, the block tariff and free water policy fails to take into consideration the demographic dynamics of poverty. In the South African context, poverty is often accompanied by high-density households in township dwellings. These households can range from 3 (3.8 is the national household average, according to the 2001 South African census) to 30 people-- all using one water tap. Inevitably, the water consumption in these households is very high as are their water bills. By contrast, it is increasingly common that high-income households are becoming more nuclear— fewer members of extended family living under the same roof-- and therefore consume far less water. Ironically, these smaller households are the beneficiaries of a water tariff that was designed to cross-subsidize the poor. In short, low-income households do not necessarily correlate with low consumption of water. Nevertheless, tariff structures across the country have been restructured to subsidize the cost of the first six kilolitres free by raising the cost of water per kilo litre once consumption moves into the second and third block of the tariff. This is where poor high-density households have been hit hard by a policy that was designed to assist them (Smith et al, 2003: 17).

Despite this challenge facing all South African local authorities, Johannesburg has tried to compensate by ensuring that affluent households bear the bulk of the burden of tariff increases. Figure 5 below illustrates the tariff increases since 2000 and how they have affected households consuming 10kl a month, 20 kl a month and 50 kl a month. In order to cross-subsidize 6kl within the tariff system there was a 5% real increase on industry and high-income users for the 2001/02 financial year when the 6kl free water was implemented (Kulyk 2004)[7]. The bulk of the cost to Johannesburg Water in subsidizing services is through financing free basic services to formal and informal settlements. At present, the cost to the company is R95 million per annum, little of which is covered through national and local subsidies to the company to service the poor[8].

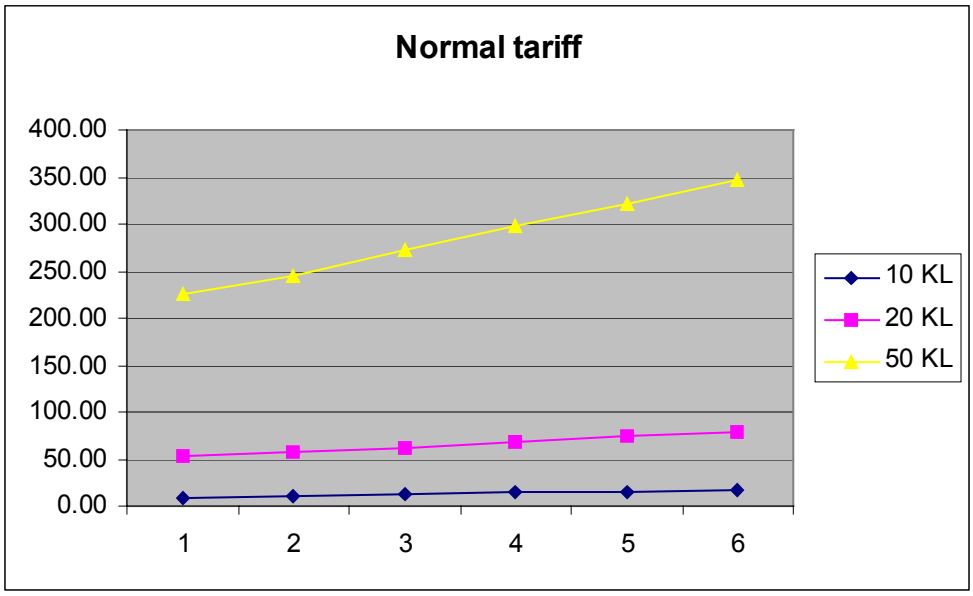
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[6] This guideline was established to ensure that a household of 8 could allocate 25 litres per person per day. While this basic allocation is an important beginning for the country's efforts to provide an essential service to all, regardless of cost, it is still just half of the World Health Organization's (WHO) standard of at least 50 litres per day per person.

[7] Interview with Heleen Kulyk, Acting Managing Director of Johannesburg Water, June 7th, 2004.

[8] Personal communication with Heleen Kulyk, Acting Managing Director, Johannesburg Water, June 7th, 2004.

Figure 5: Tariff increases from July 1, 2001 to July 1 2006



Source: Jean-Marc Lotthe, Executive Customer Management, Johannesburg Water.

The difficulty with sustaining this subsidy arrangement is that the bulk of rapid migration of people to Johannesburg is poor. At present, 1/3rd of the population is cross-subsidizing 2/3rds of the population with regard to the current tariff structure.[9] Given the existing socio-economic circumstances of the majority of people migrating to Johannesburg, the current cross-subsidy schemes that Johannesburg Water is balancing will not be tenable unless the National Treasury takes into account a more accurate figure for the number of poor people living in the City.

At present the National Treasury assumes that the number of poor people living in Johannesburg is approximately 360 000 people and has used this figure to design an intergovernmental grant that can help the City of Johannesburg defray the cost of subsidizing services to the poor. A more realistic figure of the total number of poor people based on more recent estimates since the 2001 census is approximately 1 million.[10] The transfer from National Government, therefore, is only covering approximately 1/3rd of the actual demand for services from poor people within the City.

This problem of insufficient national subsidies being transferred to local government is compounded by the fact that whatever is transferred through the equitable share is non-conditional. As such, whatever monies are passed on from national to local, are not necessarily allocated to the utilities dealing with essential services in the proportions that are required. The difficult homework that lies ahead for Johannesburg Water as well as the City to circumvent these financial constraints is to understand the extent to which there may be misallocation between rural and urban indigent populations (people living below the breadline) that are assumed in the National Treasury's calculations of the equitable share allocation. The City must then enter into a dialogue with National Treasury to see if Johannesburg City Council can receive additional funding. Finally, Johannesburg Water has to then negotiate with the City to ensure that it gets the proportion of the equitable share that it is due.

[9] Interview with Heleen Kulyk, ibid –
[10] Personal communication with Kirsten Harrison.

5.3.2 Backlogs

Improving customer service for Johannesburg Water has been one of the core thrusts of the JOWAM contract in light of the few systems that were in place to deal with service users when Johannesburg Water was corporatized. A key challenge of the Johannesburg Water business is addressing backlogs for low-income settlements. There are approximately 109 informal settlements on the Greater Johannesburg area consisting of some 191 500 dwellings located on the fringe of Johannesburg. Approximately, 18 960 dwellings are situated on private land and are without basic water. As the city policy does not service households in informal settlements that are on private land, Johannesburg Water's backlog according to these figures would be 10% but with the omission of households on private land is 3%. (Johannesburg Water Business Plan 2004/04: 7)[11].

In order to assist the Company in the task of providing services to low income households, JOWAM established a full time Customer Manager for Low Income Areas and integrated this function into core operations. JOWAM advised Johannesburg Water on a typology of service levels in which to deal with service delivery based on what was deemed affordable to low-income households. These levels of service were not determined through any form of public consultation, even through they were a direct consequence of the operator's perception of affordability levels.

Table 3 – Levels of Service for Water and Sanitation

Level of Service	Status of Settlement	Water Services	Sanitation Services
LOS 1	Impermanent informal	Communal Tank	Ventilated Pit Latrine
LOS 2	Permanent informal or formal	Yard Standpipe not connected at plumbing (un metered)	Shallow (or conventional) sewer (unmetered flush toilet outside house)
LOS 3	Permanent informal or formal	Metered house connection	Conventional water borne sewer

Source: Johannesburg Water Business Plan 2003-2005

The Company distinguishes between impermanent informal settlements and permanent informal and low-income formal settlements. In the first case temporary emergency services, such as water tankers, buckets and chemical toilets are provided, as these settlements are generally intended to be relocated. The proposed LOS 1 was to be applied with a concentration on water kiosk/storage tanks with communal taps and shared VIPs/ablution blocks. In the case of permanent informal settlements, the company decided that LOS 2 services (yard taps and pour-flush toilets), was appropriate given the levels of the affordability in this area and negotiated with the Housing department for the adoption of this policy. According to the JOWAM advice, households would be able to upgrade to LOS 3 for the fee of R625.

[11] It is Council policy not to provide basic services to informal settlements on private land as this could lead to future land tenure disputes.

According to national criteria, households earning under R1100 are considered to be living under the poverty line and qualify as indigent. Therefore in order for a household to upgrade to level three, the cost would be more than half of what their monthly income would be. This payment, at present is expected up front rather than financed over time, making it difficult for households to save the necessary funds for such an upgrading.

The issue of household affordability is certainly a driver for how Johannesburg Water has decided on its levels of service. It is, however, an approach that helps to reproduce inequality as people living in shacks in these remote settlements have historically been denied access to the skills necessary in order to earn the incomes that would make a higher quality of home and services affordable. Johannesburg Water is not responsible for the historical conditions that have created the socio-economic environment of the people that it services, as this affordability problem is a residue of 60 years of apartheid laws. It is precisely because of this history, however, that Johannesburg Water holds such an important instrument for redressing these past inequities by virtue of how it decides to allocate subsidies for water and sanitation services.

Johannesburg, by international standards, has high coverage in terms of ensuring access to basic services. Approximately 97.7% of the population is estimated to have access to at least basic water services. The real challenge for Johannesburg Water is to address the sanitation backlogs to 71 880 dwellings that are without basic sanitation and are located in permanent and impermanent informal settlements. This backlog means approximately 11% of the total number of dwellings in Johannesburg do not have access to even a Ventilated Improved Pit Latrine.

Part of the delay for JW in meeting these backlogs has been through institutional bottlenecks that have a domino effect. First, the housing department has been very slow in addressing its own housing backlogs in permanent informal settlements, which is a necessary precursor for JW to step in. Part of the delay for the housing department has been in the administrative details of proclaiming a township. Until this is done, Johannesburg Water cannot meet its responsibilities in extending bulk services to the township, a cost that the company itself must bear. Financial issues here are not cause for the delay.

Second, the difficulty with regard to reticulation is related to traditional budget constraints at the city level, creating an equity finance gap. The subsidy from the Provincial government (which is responsible for housing) is insufficient to provide the appropriate level of service that has been mandated by the City of Johannesburg. The City's standard is to provide waterborne sanitation (pour flush) for permanent informal settlements and is higher than the standard and related subsidy provided by the provincial government, which is a ventilated pit latrine. Housing is still in the process of preparing a master plan in order to determine the extent of the shortfall. Only once the shortfall has been determined can a request be made to the city. This sanitation backlog is a pressing issue for the service provider as the national department of Water Affairs and Forestry (DWAF) has mandated the elimination of all sanitation backlogs by 2008.

5.3.3 Prepaid meters

Johannesburg Water as well as the COJ have been clear in arguing that the ability for the city to address water and sanitation backlogs is constrained by poor revenues due to high-non-payment rates that are concentrated in deemed consumption areas. The introduction of prepaid meters is increasingly being used by municipalities across the country with the rationale that prepayment is a corrective measure to non-payment (Rabe 2000, 2). Tshwane Water, Ethekwini Municipality, and the City of Cape Town are three metropolitan areas that have piloted this technology. The technology has also been introduced in smaller towns, such as Ashton (950 units installed), Riversdal (1200 units installed) in the province of the Western Cape. In rural areas such as Matatiele Municipality and Ingwe municipality in Kwa Zulu Natal, prepaid meters have been inserted into communal standpipes that service 800 households in each area[12].

The predominant political challenge facing Johannesburg Water in choosing this technology is that the City has some of the most vocal and well organized civil society organizations in the country that are adamantly opposed to the privatisation of essential services. These groups see cost recovery measures such as prepaid meters as inherent to privatisation. These organizations have been actively campaigning in Soweto against the introduction of prepaid meters and have, to a certain degree, contributed to an anxiety amongst some residents about the impacts of prepaid meters. Such social unrest regarding the introduction of prepaid meters is a threat to Johannesburg Water's plans for the Gcin'Amanzi project. The company is clear in indicating that according to its data, there was a 98% 'community acceptance' in Block B of Phiri (the first area where prepaid meters were rolled out). The degree to which consent is manufactured or genuine is discussed in the customer satisfaction survey below.

As noted above, a key thrust of the Gcin'amanzi project has been to promote water demand management in Soweto by conducting a once off repair on property plumbing fixtures while at the same time introducing a consumption reduction technology while shifting from a deemed consumption to volumetric (pre-paid) metering. The company proposed that the introduction of prepaid meters, as opposed to conventional meters, would ensure that households take the issue of water demand management issues seriously as they would have to pay the costs of neglecting to repair leaks on their property on a monthly basis. Despite the fact that the cost to repair plumbing on private property is usually borne by the homeowner, Johannesburg Water was willing to cover these costs of repair as a once off effort in order to complete the infrastructure upgrading to the area. The company determined that if conventional meters were put in place, that the household might not take the responsibility to maintain their plumbing fixtures over time, thus diminishing future efficiency gains.

Given the social risks around introducing this technology, Johannesburg Water has developed pro-poor components to the introduction of prepaid meters. First, households that agree to have prepaid meters remain on level 3 (in house connection

[12] This trend is alarming given that in 2001, the introduction of this technology in rural areas in the province of Kwa-Zulu is claimed to have contributed to the country's worst cholera outbreak (Deedat and Cottle, 2002: 95). The installation of faulty technology combined with a lack of community understanding on how to use the prepaid meters prompted households to turn to a polluted river system to meet their water needs. When households are too poor to pay for water, they first tend to consume less and then turn to alternate sources to survive, both of which can have detrimental public health implications.

and waterborne sanitation) with a metered connection. Second, households who receive prepaid meters will also be given a subsidized tariff. The two tables below illustrate the degree of subsidy provided to households on prepaid meters.

Table 4: Proposed domestic water tariff – metered areas

Volume used [kilolitres per connection per month]	**2003/2004 Tariffs [R/kl]**	**2004/2005 Proposed tariffs [R/kl]**
0-6	Free	Free
7-10	R3.30	R3.60
11-15	R4.40	R4.80
16-20	R5.50	R6.00
21-40	R6.60	R7.19
41+	R7.80	R8.50

*The figures are VAT excluded but include inflation.

Table 5: Proposed domestic water tariffs in previously deemed consumption areas fitted with prepaid metered connections as per Gcin'Amanzi project.

Volume used [kilolitres per connection per month]	**2003/2004 Tariffs Subsidised measured [R/kl]**	**2004/2005 Proposed tariffs Subsidised measured [R/kl]**
0-6	Free	Free
7-10	R2.50	R2.73
11-15	R3.00	R3.27
16-20	R4.63	R5.05
21-40	R6.40	R6.98
41+	R7.80	R8.50

*The figures are VAT excluded but include inflation.

Third, households that consume less than the free 6kl will not be charged for sanitation. Once they consume more than this amount, will then be charged per kl at a subsidized tariff. Table 6 and 7 contrasts the normal tariffs with the subsidized ones.

Table 6: Proposed private dwelling domestic sanitation tariffs

Erf size [m²]	**2003/2004 Tariffs [R/erf/month]**	**2004/2005 Proposed tariffs [R/erf/month]**
Up to and including 300 m²	R40.70	R44.36
From 301 m² to 1 000 m²	R79.20	R86.33
From 1 001 m² to 2 000 m²	R119.90	R130.69
Larger than 2 000 m²	R172.70	R188.24

*The figures are VAT excluded but include inflation.

Table 7: Proposed domestic sanitation tariffs in previously deemed consumption areas fitted with metered connections as per the Gcin'amanzi project.

Volume used [kilolitres per connection per month]	**2003/2004 Tariffs Subsidised measured [R/kl]**	**2004/2005 Proposed tariffs Subsidised measured [R/kl]**
0-6	Free	Free
7-10	R1.47	R1.60
11-15	R1.65	R1.80
16-20	R2.64	R2.88
21-40	R3.65	R3.98
41-50	R4.45	R4.85
50+	R1.47	R1.60

*The figures are VAT excluded but include inflation.

Fourth, the policy addresses the issue of high levels of household debt by introducing an incentive to comply with the rules associated with prepaid meters, ie: not tampering with the technology or connecting illegally, in return for a gradual write off of debt. This debt write off has been structured over a three-year period. This policy was endorsed by City Council in February 2004 where it agreed to write off R1 billion worth of arrears owed by the residents of Soweto due to years of non-payment for water and sanitation. The significance of this policy cannot be underestimated, given that Soweto has a payment rate of 13% with historical debt accumulating to such high proportions that it has left many households feeling helpless in how to tackle their arrears while also paying current accounts.

Fifth, in order to persuade residents in Soweto as to the benefits associated with prepaid meters, Johannesburg Water has had to incorporate two important principles in the promotion of this technology. First, it has promised that only households who consent to having prepaid meters will get the associated benefits. Households therefore enter into a signed agreement with the company, which states what their responsibilities are in choosing a prepaid meter. A second principle has been one of educating residents about how to manage this new technology. As such, JOWAM has introduced a number of public education programmes based on its international experience. Through these programmes, Johannesburg Water has undergone numerous consultation processes, undertaken door to door visits that offer training on how to use prepaid meters, handed out pamphlets that explain how prepaid meters work, and so forth.

Despite the efforts made by Johannesburg Water in trying to ensure community buy-in to the process of introducing prepaid meters, the company has faced numerous obstacles associated with community resistance to the idea. Anti-privatization groups that are campaigning may be influencing this resistance. The resistance may also be due to the perception that households who do not choose to have prepaid meters get an inferior quality of service. Households that do not consent to a prepaid meter will get a level 2 service, rather than a level 3, which means an unmetered yard tap with waterborne sanitation in the yard that requires pouring water in order to flush. These households will receive water and sanitation for free, but restriction devices will be

put in place to reduce water pressure to between 6 to 10kl a month. Even though the introduction of prepaid meters is clearly a consumption rationing device, the package associated with the prepaid meters in Soweto offers less expensive water and a debt reduction program and as such many households may opt for this as the best choice available. What is important, however, is that households feel that they retain the right to a choice.

Johannesburg has piloted the three phased approach to twinning efficiency and equity in Phiri, an area with some of the most degraded water infrastructure in Soweto. Through this Pilot, the company has witnessed the degree to which community resistance is a cost to the company and a threat to the programme. Nevertheless, the majority of the residents living in the area have consented and the company has begun to witness the noticeable efficiency gains. Prior to the commencement of the programme, JW had determined that the average household water consumption was 55kl per month, 32kl of which was due to water leakages. The preliminary results from the upgrading of water mains in the area, repair of onsite plumbing and introduction of prepaid meters has resulted in a reduction of monthly household water consumption by 42kl with savings of R106 per month. Consumption levels may well have remained the same but the infrastructure repairs have contributed to an enormous reduction in water leakages and therefore in the average water flowing through households in Phiri.

On the efficiency side, such results indicate financial savings for Johannesburg Water given the reduction in water consumption and leakages. With regard to equity, however, the financial success emerging from the installation of consumption-reducing technologies may have negative public health effects. In some areas, such as Orange Farm, the monthly consumption charts of areas where prepaid meters have been introduced indicate that 70 to 75% of households are not consuming over an above the free allocation of water of 6kl (Kulyk 2004)[13]. While this may be a good thing in terms of water demand management in low-income areas, one wonders if it is also a question of households choosing to restrict consumption for fear of running out of supply. In the instance of large families living in Orange Farm there are questions as to the public health implications of this under-consumption.

The urban political ecology of Johannesburg is captured well by the socio-economic disparities associated with the spatial dimension of JW's approach to water demand management. The company's efforts to introduce water demand management are focused on consumption reduction techniques in low-income Southern suburbs, while no attention has been put towards water conservation in the affluent Northern suburbs, which consume the bulk of the city's water through watering plush gardens and filling swimming pools. The head of JOWAM has indicated that JW would be foolish to reduce the income stream of the company by trying to promote water conservation from households that actually pay their bills as this is where, at present, the bulk of the company's water revenues come from.[14]

In looking forward, a significant challenge facing Johannesburg Water in dealing with the issue of equity is the limited understanding of poverty within the City. For instance, what are the demographics of the City in terms of new migrants? With

[13] Personal communication with Heleen Kulyk, Former Acting Managing Director of Johannesburg Water, June 7th, 2004)
[14] Personal communication with Jean Pierre Mas, CEO of JOWAM, May 8th, 2004.

regard to the low-income strata of these migrants, where are they settling? What are the average costs of a package of services for low-income households and what percentage of household expenditure patterns do the costs of these services absorb? What are the health effects related to the introduction of prepaid meters for water? Answering these questions are precursors to understanding how to effectively subsidize a package of services to the poor that can genuinely lead to an improvement in their quality of life. The lack of information about the poor compounds other obstacles that Johannesburg Water is facing such as resource constraints, and redistributive mechanisms that are still under reform. Devoting more effort to answering these questions, could begin to point the way forward in terms of where JW needs to prioritize its energies in trying to address some of the water and sanitation needs of the city's residents.

The next section will highlight how low-income service users themselves are experiencing the water and sanitation services delivered to them by Johannesburg Water.

5. Customer Satisfaction Survey

This customer satisfaction survey was designed by the CMU to begin making inroads in unpacking the very complex relationship between service users and their service provider.

Five graduate students from Wits University were hired to use random sampling techniques in four township areas in order to get a sense of low-income household perceptions of the quality of water services they were receiving. Approximately 182 household surveys were conducted in Diepsloot, Eldorado Park, Klipspruit and Stretford Extension 4 in Orange Farm (See Maps 1, 2, 3). These areas were randomly selected in conjunction with the Environmental Management Division in Region 1. The two criteria used to select these township areas were diversity of infrastructure and age of settlement. The intention was to see how the level of infrastructure accessed by households affect their quality of life and how age of the area (or infrastructure) determined not only the level of service but also differential abilities to pay for services. For instance, Diepsloot and Orange Farm are newer settlements, while Eldorado Park and Klipspruit are some of the oldest townships areas in Johannesburg. Inevitably, people living in Eldorado Park as opposed to Diepsloot experience infrastructure services, like water and sanitation, very differently.

The survey was structured thematically to tease out issues regarding affordability, water quality, the experiences of households receiving prepaid metes and public participation. This section will briefly describe the locations where surveys were conducted in order to highlight area specific issues, followed by general trends that cut across most of the sampled areas. The sample size is by no means statistically significant but adequate to suggest certain trends with respect to service delivery that warrant attention and possibly further research. Table 8 highlights the geographical locations in which this infrastructure breakdown existed.

Table 8: Levels of Service

Township	**Level of Service for Water**	**Level of Service for Sanitation**

Permanent and Temporary Informal Settlements Diepsloot	Levels 1 and 2: Yard Taps, Communal Standpipes Water tankers	Level 1 and below basic Yard Tap Communal toilets Buckets
Formal Settlements Eldorado Park	Level 3 Inhouse Connections	Level 3 Waterborne sanitation
Klipspruit	Levels 2 and 3 Yard Taps Inhouse connections	Levels 2 and 3 Waterborne sanitation both in yard and inhouse
Orange Farm (Prepaid meters)	Yard Taps Water tankers	Level 2 and below basic Condominium sewers Buckets

Figure 6: Regions where household surveys were conducted

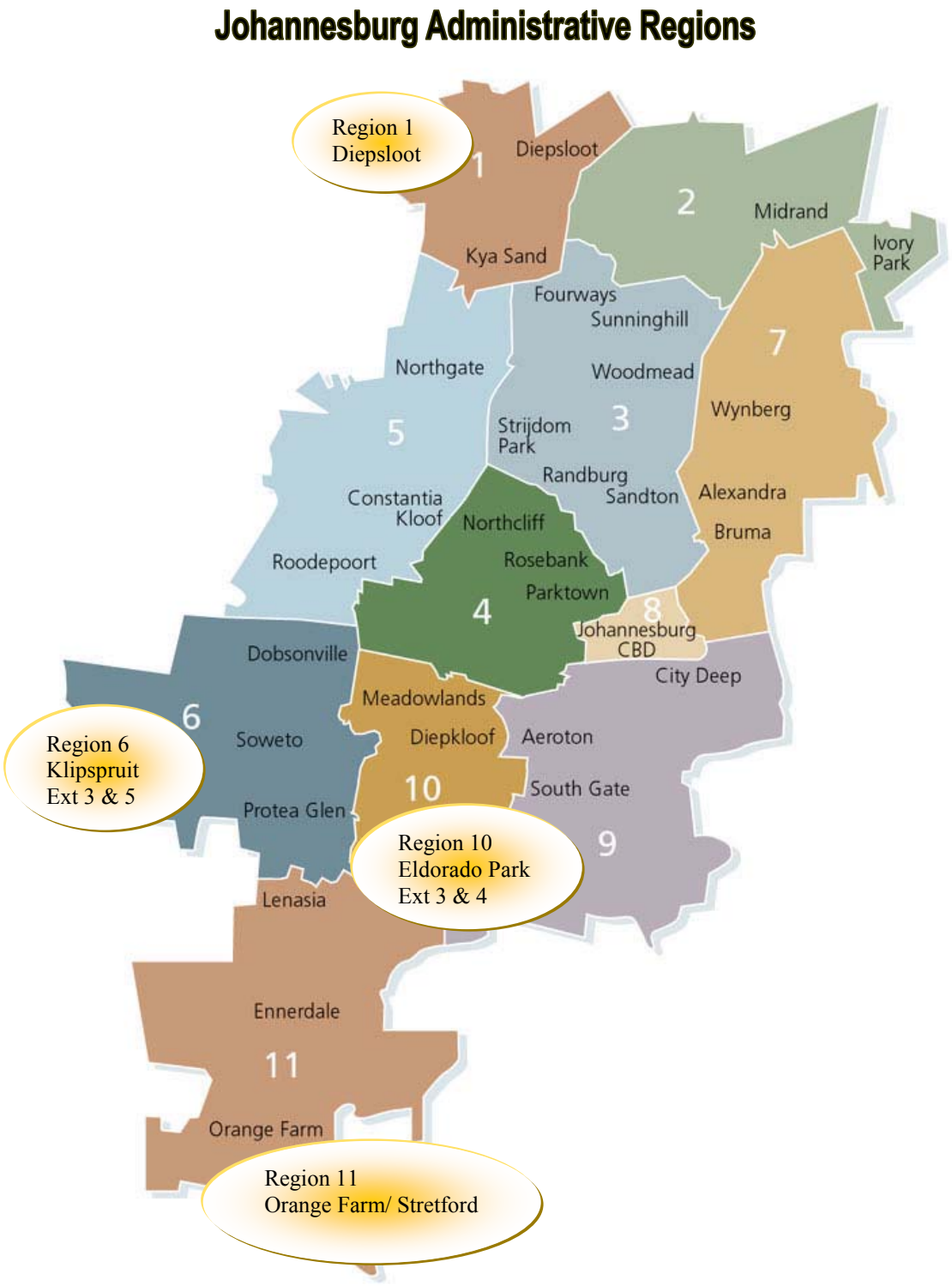


Figure 7: Township Areas where household surveys were conducted: Klipspruit and Eldorado Park

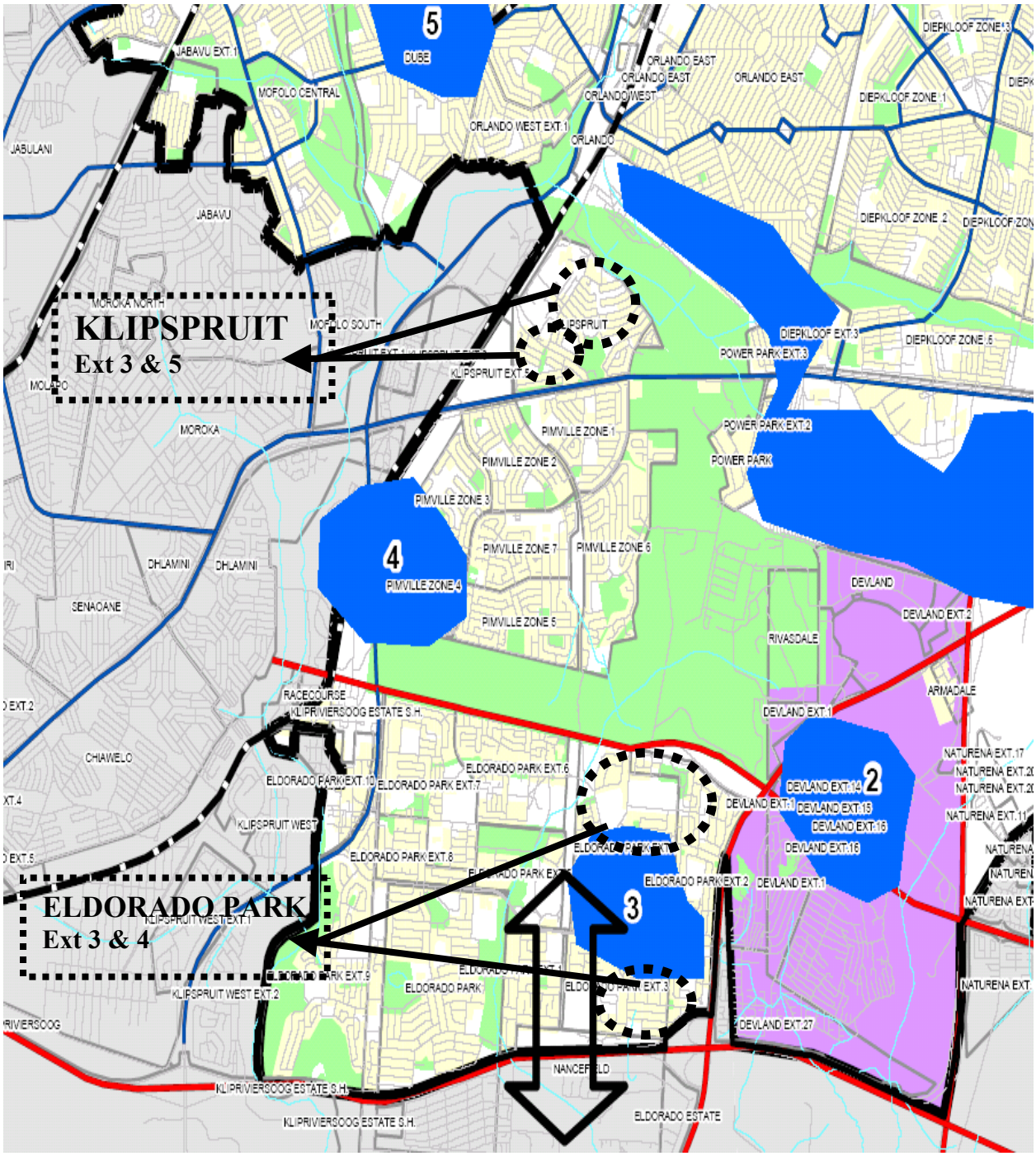
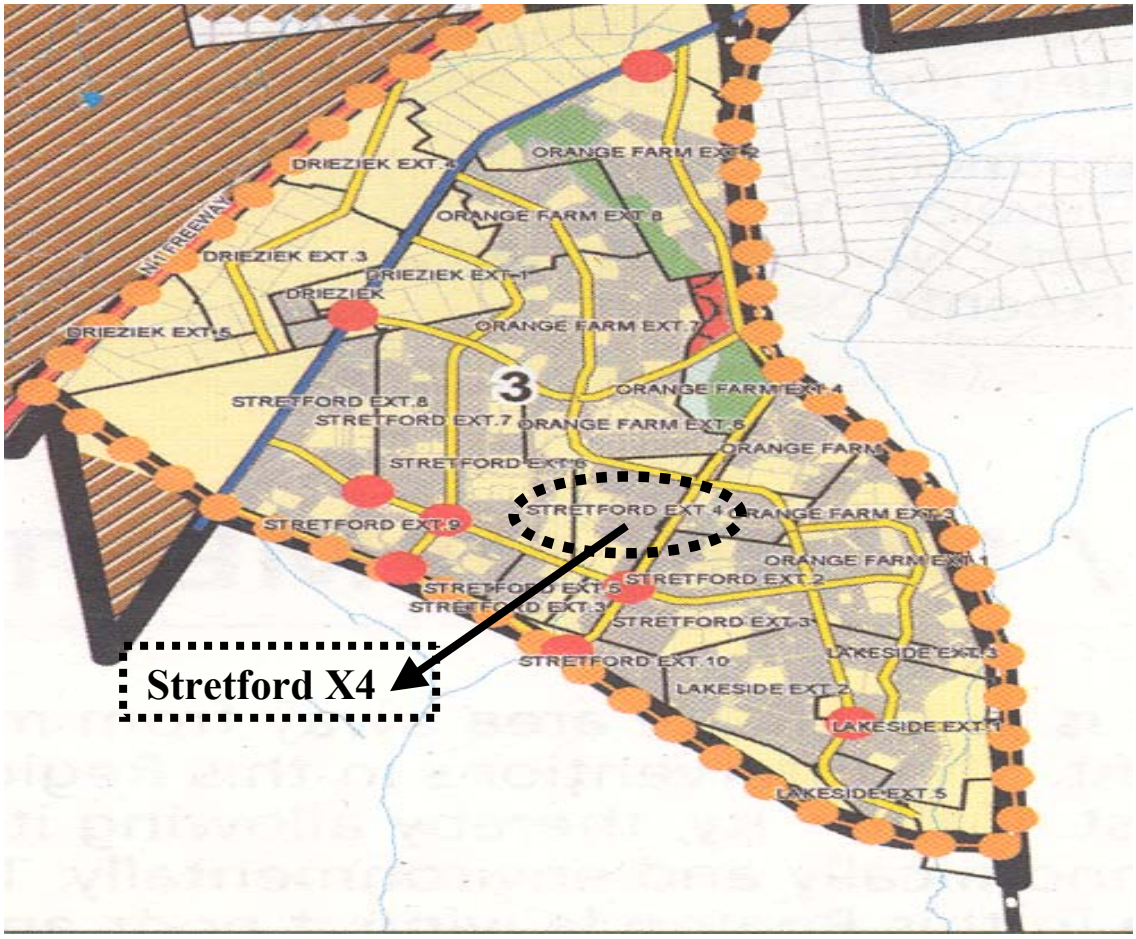


Figure 8: Township Areas where household surveys were conducted: Orange Farm and Diepsloot



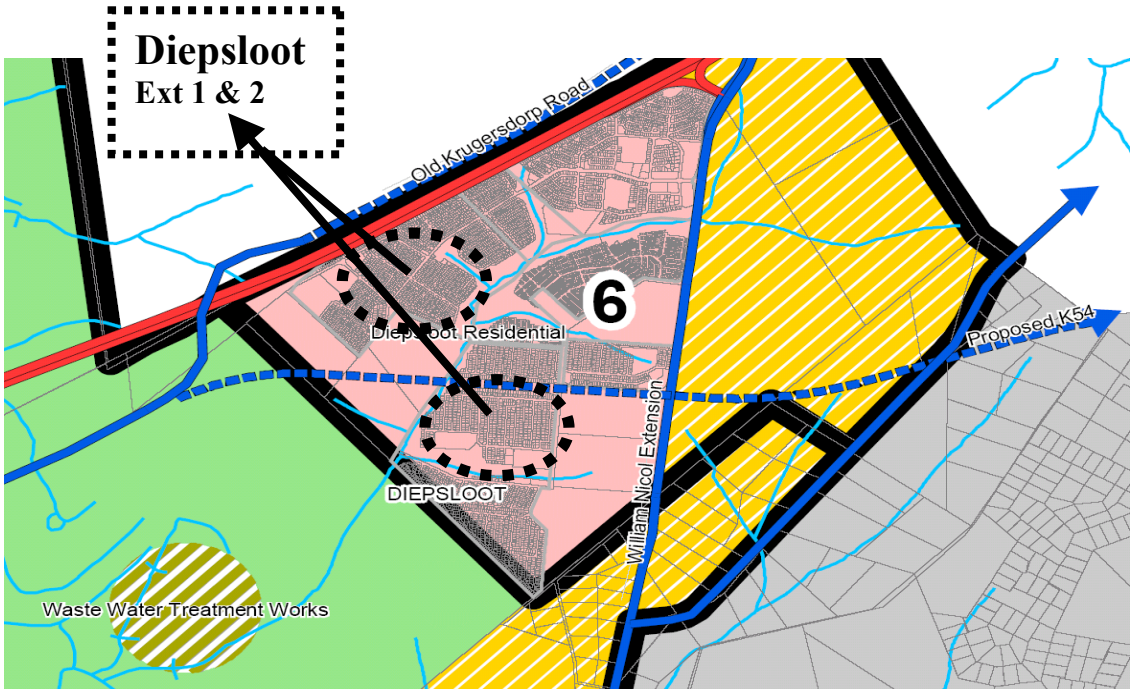
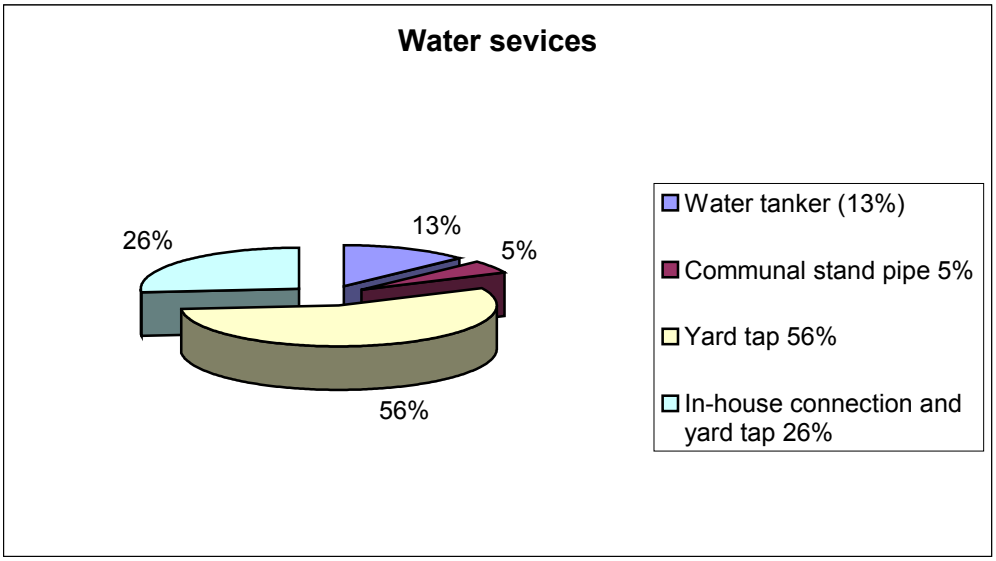


Figure 9 illustrates the breakdown of infrastructure types amongst the households that were interviewed.

Figure 9: Breakdown of service delivery levels amongst households surveyed



6.1 Township areas where the study was conducted

Diepsloot, built in 1994, is one of the fastest growing areas in the City and is located at the northern tip of the City, Region 1. It consists of mostly impermanent informal settlements and permanent informal settlements with a total population of 82, 341 people (2001 census). Many residents in this area were relocated from Alexandra and Soweto townships with the promise of formal houses and higher levels of infrastructure. In Diepsloot extension 2, a permanent informal settlement, over 9000 RDP housing units have been built over the last 5 years, with level 2 services. Diepsloot extension 1, an impermanent informal settlement, has access to level 2 basic services, but also has backlogs in basic levels of water and sanitation by virtue of the number of water tankers and bucket systems that are still in place.

Eldorado Park and Klipspruit are some of the oldest township settlements in Johannesburg and as such all have high levels of water infrastructure (LOS 2 + 3). Eldorado Park in Region 10, built in the early 1970's has inhouse connections with waterborne sanitation. Klipspruit, in Region 10, predominantly has yard taps with an outdoor flush toilet. The age of the infrastructure in these areas is old and many residents feel that they have been neglected by City Council in terms of upgrading and maintenance of water and sanitation infrastructure.

Orange Farm, in Region 11, a sprawling township area approximately 45 kilometres south of Johannesburg, was built in the late 1980s. Approximately two thirds of Orange Farm live in self-made shacks while those who have been able to afford it, have built more formal structures. The service backlog to this area as of 2002 was 29,122 units (Johannesburg Water Business Plan 2002, p8). Stretford 4, up until September 2002, was still an area in Orange Farm, where basic sanitation service backlogs had not yet been redressed by the COJ. The initial standard level of service was a bucket and water tanker. The community approached Johannesburg Water for an upgrade in their water and sanitation infrastructure and became, through this request, a pilot for Johannesburg Water to test prepaid meters. Approximately 1389

units in this area were provided with service upgrades to level 2 (shallow condominial sewers situated outside of the house with yard tap connections) in return for the introduction of prepaid meters.

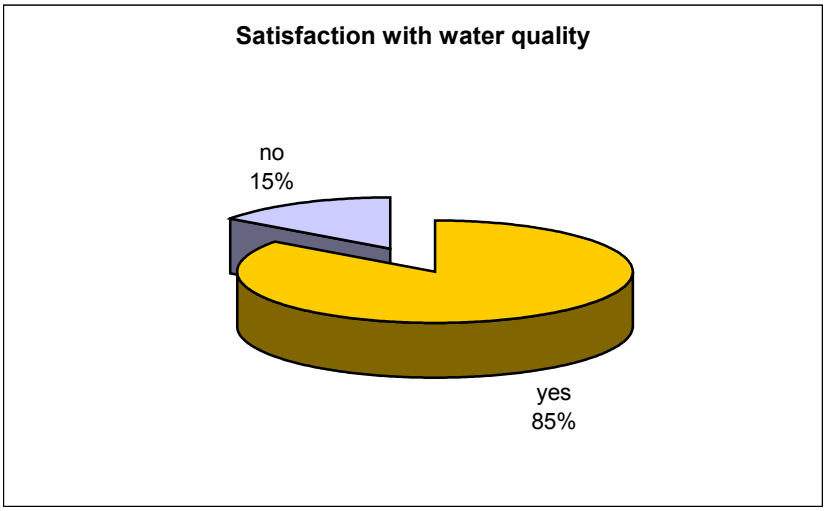
6.2 General Themes

a) Water Quality

A large proportion of households felt that they received a good quality of drinking water. The South African Standard for drinking water SABS 241 Edition 5 of 2001 states that the standard for drinking water is based on an assessment for physical and chemical properties and its microbiological content. For the purposes of this investigation, only the microbiological content was tested due to budget and time constraints. The samples were taken by students/learners employed by the CMU, being unbiased to Johannesburg Water as well as to the City of Johannesburg[15]. The survey workers sampled 30 sites within the four township areas and only four sites were analysed as unacceptable[16].

Johannesburg Water can be commended for the absence of any E.coli being detected in any samples. On the whole Johannesburg Water is doing a good job in ensuring a high quality of potable water is distributed to the residents of the City. A total of 182 respondents, 85% stated that they were satisfied with their water quality. Water quality is high due to bulk supply from Rand Water and that the National Department also requires regular testing.

Figure 10

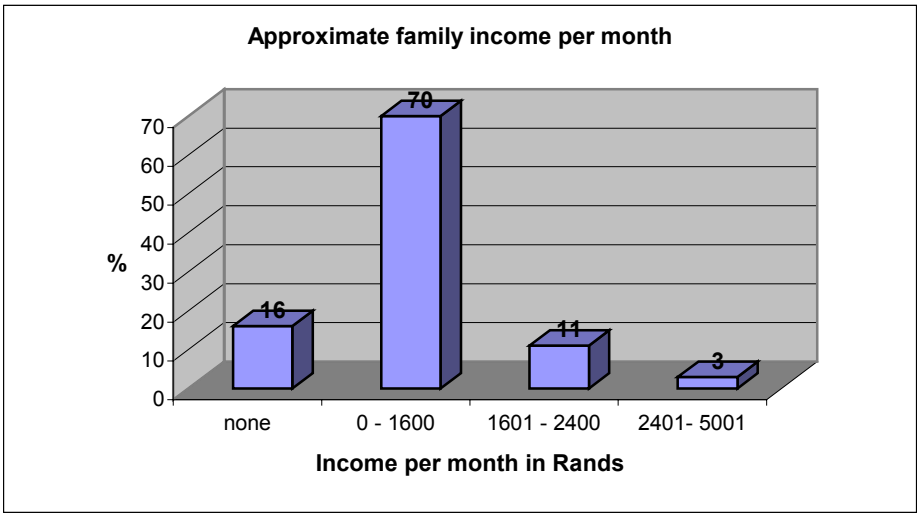


[15] The Environmental Health Section of Regions 1 & 2 of the COJ conducted training in Guidance and sampling techniques and the preservation and handling of samples. The Infection Control Services Medical lab at Wits University carried out sample analysis.

[16] Follow up visits to these areas are being conducted by the Environmental Health Unit for resampling with associated remedial action to be implemented.

While residents that were surveyed were on the whole very satisfied with the quality of water they received, the most significant frustration expressed by respondents had to do with the reliability of the service. Numerous households explained that they did not receive any notice from Johannesburg Water when water was disconnected for the purposes of maintenance repairs. Lack of notice created an unnecessary inconvenience for households that need time to make alternate provisions for storing up water when their supply is disconnected, at times, for more than 24 hours. These communities insisted that the communication problem be resolved by Johannesburg Water.

Figure 11



b) Affordability

With payment rates for water at 73%, for the COJ in general and 15% in Soweto in particular, the non-payment for services is one of the most significant difficulties plaguing the Company's financial situation. The reasons for non-payment are complex and numerous. First, the Revenue Management Unit within the COJ, which has retained the function of billing for Johannesburg Water, has been working with faulty data regarding what people owe, whether the City has correct addresses for their customers, est.'s. These are problems stemming from the City's integration of 13 regional administrations in 2001.

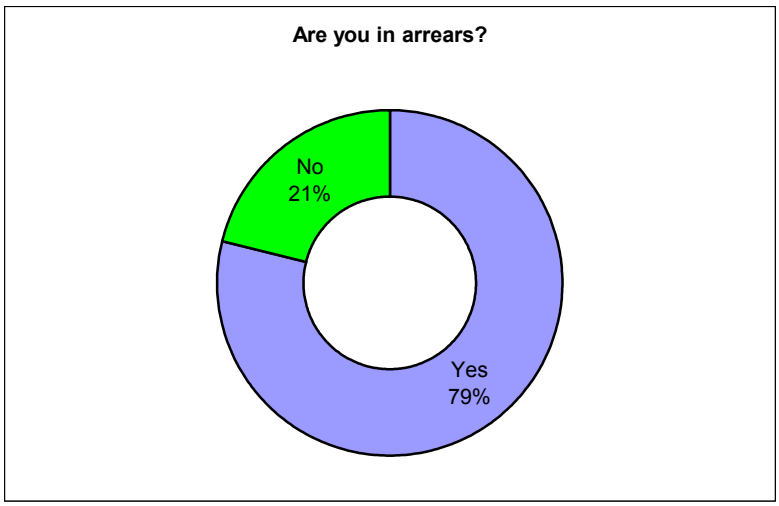
A second reason for non-payment is the residue of a payment boycott history, which was initially politically motivated during the latter years of apartheid. Numerous households refused to pay for a very poor quality of service delivered to them by the apartheid government and used service payment boycotts as a strategy for undermining the old regime. Much has been written and debated about the legacy of this 'culture of non-payment' **(**Bond 1999**,** McDonald and Pape 2002**)** in South Africa, but for the purposes of this chapter, it suffices to say that where the culture of non-payment persists it may be a response to a public perception of a continued poor quality of services, despite the fact that we are currently 10 years into the post-apartheid period. A third reason for non-payment is due to the unaffordability of services given the very high levels of poverty and unemployment in the COJ. Soweto, for example, has an unemployment rate of 53%, thus illustrating the difficulties for households to pay for essential services like water and sanitation. Figure 11 above illustrates that 86% of the respondents interviewed fell below the

poverty line. According to current income categories defined by the COJ, indigent households fall between 0 and R1400 per month[17]. Inevitably, getting accurate figures on household income is very difficult to determine because so many households earn income informally and may be adverse to declaring their earnings.

Clearly, households who are living below the breadline are struggling to afford paying for basic services. World Bank studies suggest that average expenditure patterns above 5% of monthly household income are usually unaffordable for the poor. A study conducted by Tomlinson et. al in 2001 indicated that it was unaffordable for low income households living in Johannesburg to pay more than 10% of their monthly income on basic services. (Tomlinson et al. 2000: 3). If Johannesburg Water were to double the free allocation of water to 12kl, which would be in line with the WHO standards indicated above, i.e.: 50l per person per day, for households that converted to a prepayment meter, based on the 2003/04 tariff structure, their cost of water would be R16 per month, and for sanitation R7.55 per month. This is a total cost per month of R23.53, which is 1.6% of the household income of R1400.00 per month (the threshold for households living under the breadline). Were this allocation granted, it would mean that state subsidies would make water well within the affordability level suggested by the World Bank. The challenge for Johannesburg Water, DWAF and the National Treasury, is to determine what the cost of doubling the free allocation would be to see it is financially viable to consider doubling this subsidy.

The three reasons for non-payment mentioned above and poor meter reading concerns have all contributed to high levels of arrears for low-income households. Many households were billed during the boycott period in the 1980s contributing to arrears that have allegedly never been written off. Households that have chosen not to pay because they are dissatisfied with the quality of their services, continue to accrue debts to the City.

Figure 12



[17] Categories provided by Kirsten Harrison, Human Development Specialist, Corporate Planning Unit, City o f Johannesburg

Households who cannot afford to keep up their current accounts have fallen into debt on which the interest on these arrears makes it seemingly impossible for them to bring their accounts up to date in terms of payments. Given this reality, it is not surprising that out of 134 respondents who responded to this question, 79% of the households were in arrears.

The most critical economic issue emerging from interviews in Klipspruit and Eldorado Park was arrears. Even though most residents in these two areas have made service arrangements with the City to incrementally pay off their arrears, unemployed residents are still struggling to manage their current accounts as well as to pay off their debts. The levels of poverty confronting these households make it seemingly impossible for them to ever achieve the status of being debt free.

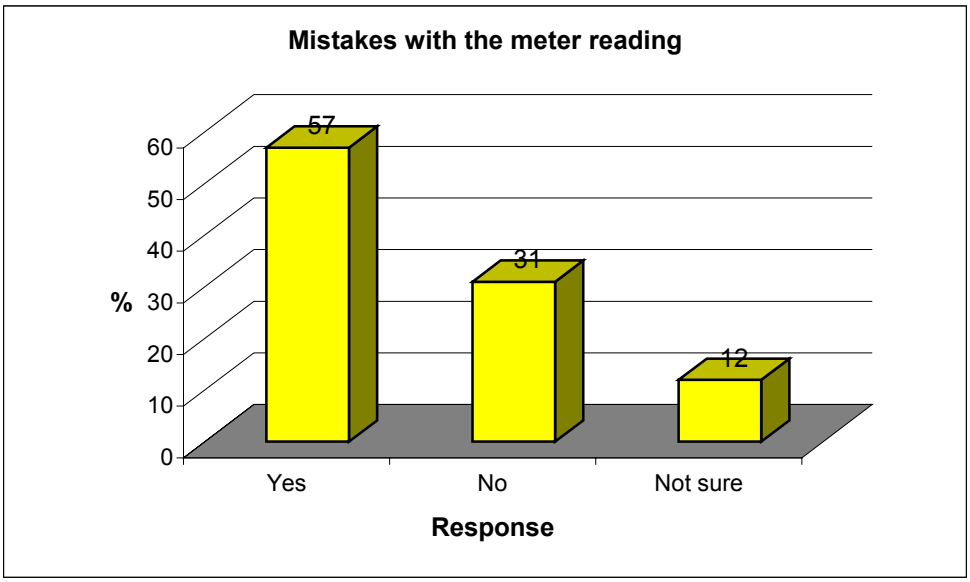
The psychological impact of these arrears affects household desire and ability to pay current accounts. Households living in this neighbourhood within Soweto were aware that prepaid meters were soon going to be installed in their homes. Some were aware that if prepaid meters were installed, their historical debts would be written off and therefore greeted this news with a relief as they thought it would alleviate their struggle to pay off arrears. Others were very apprehensive of the introduction of prepaid meters considering the large size of their families and wondered how they would be able to cope if they had to pay for water in advance. Similar problems emerged through interviews in Eldorado Park. Here, the residents in Eldorado Park, Region 6, have a very high level of indigence. Many households in this area have applied for indigence grants in order to have their essential services subsidized. The limited administrative capacity of the Special Cases unit in the City to process these applications may well take a few years. Clearly, intermediary mechanisms must be developed to assist households that are too poor to pay and will not be eligible for the subsidized tariff being applied across Soweto to make services more affordable.

c) Clarity of billing – Understanding of statements/accounts

One of the most frequent frustrations households had with their services was the confusion and difficulty they had in reading their bills. When there are high levels of illiteracy and innumeracy within a household, any bill might seem confusing. Survey workers found that even amongst households with high literacy and numerical skills that there was still a general confusion in determining how the amounts owed were linked to what they had consumed. This is not a critique of Johannesburg Water, but rather of the City's centralized billing system. In order to address these issues, there is, fortunately, a project under way, which aims to split the bill and provide far more customer-friendly information to our customers.

As noted in Figure 13, 57% of household respondents felt that there were mistakes with their meter readings. It is possible that the perception of being incorrectly billed has contributed to levels of non-payment. Households may choose not to comply with their responsibility to pay, particularly for those living below the breadline, if they have the perception that they have been incorrectly billed. Again, this is a problem that is rooted in the City retaining meter-reading functions despite its poor past performance.

Figure 13



Even though the 15 administrative regions have been amalgamated into one billing system, there are still numerous different types of billing across the City. Some bills have both electricity and water, some bills have water and rates and other bills have separate electricity and water bills. Most households expressed frustration that the bills they received did not reflect how much they consumed, thereby making it difficult for them to assess their household consumption patterns. In areas with metered connections, such as in Eldorado Park, some households complained that meter reading was not conducted every month leaving residents to believe that Johannesburg Water used estimations to determine their monthly bills. This is unfortunate for Johannesburg Water, as it had no control over meter reading functions. This situation left residents confused regarding how their bills were being determined and with a perception that the estimations were not necessarily reflective of what was actually consumed. In areas where there was deemed consumption such as in Klipspruit, some households complained that they felt they consumed far less than what their monthly estimated amount was (20kl) and were being overcharged with the existing flat rate.

d) Public perceptions of Prepaid Meters

As noted above, Orange Farm was a pilot area where Johannesburg Water introduced prepaid meters in return for an upgrading of sanitation services from level 1 to level 3 (shallow condominial sewers) notably known in the area as a flush toilet. The issue of billing is also relevant to this area even though households in Orange Farm no longer receive bills. Of the very small number of households sampled in this area (N39) the issue of insufficient information was raised as a common problem. The prepaid meters used in this area only reflect how much money a household has left on its account but does not indicate how many litres of water have been consumed. The inability for a household to link how much water is being consumed to how much a kilolitre costs, combined with the fact that households no longer receive bills creates a situation where households do not have enough information to assist them in better managing their household consumption patterns. This is unfortunate given that the very rationale for JW introducing prepaid meters was to foster greater household management of water consumption. As the introduction of prepaid meters in Orange

Farm, was a pilot, Johannesburg Water has addressed these concerns in its Gcin'Amanzi pilot project in Phiri, Soweto, by using a higher quality of prepaid meter that provides better information to service users to enable them to manage household water demand.

A second issue emerging from the interviews in Orange Farm was the manner in which consent to install prepaid meters was earned. Numerous households were frustrated with the way in which their consent for prepaid meters had been obtained from Johannesburg Water by stating that they were informed by Johannesburg Water that if they paid a fee of R100 they would receive a flush toilet. They signed the necessary consent form to bring about this change of service, which was a noticeable improvement for them from using a bucket or VIP, and then found that this agreement came with a prepaid meter. The confusion may lie in the fact that when the community approached Johannesburg Water for a higher level of sanitation services, JW indicated that it would only be possible if the higher level of service was metered. The miscommunication may have been that the community did not understand that Johannesburg Water meant prepaid meters. Many asked why the issue of prepaid meters was not openly discussed from the outset when residents' consent for having a flush toilet installed was requested by Johannesburg Water. Table 2 notes that 44% of the respondents in Orange form said that they did not provide consent prior to prepaid meters being installed in their homes.

Table 9

Consent for the installation	Percent
Yes	55%
No	44%
Total	100%

As the rollout of prepaid meters is underway across Soweto, the COJ must pay close attention to ensuring that a household is given the relevant information so they can determine what method of payment is appropriate for them. Taking extra care to ensure public involvement in decision-making regarding what level of service households want and whether they are prepared to use a prepaid meter or not, is vital to the sustainability of the Gcin'Amanzi programme.

When residents were asked whether they were satisfied with prepaid meters, 61% of respondents of this subsample in Orange Farm stated that they were not satisfied with prepaid meters, as a technology for managing their household water needs. This high level of dissatisfaction could be due to the teething problems associated with piloting prepaid meters in this area.

Two subtle yet significant changes that have occurred in the area since prepaid meters were installed are the decline of urban agriculture activities and the carrying out of clothes washing activities in neighbouring areas where there are still unmetered taps. A few respondents mentioned that they ceased to grow their own food because they were fearful that they will run out of water for their 'essential' needs and as such, subsistence farming has diminished in this area. Similar reasons were given for households who have taken their laundry activities elsewhere. It is perhaps these households that rely most on the free allocation of water to meet their essential needs and are trying to cut corners wherever possible to ensure that their free water supply

lasts for the month. While this self-restraint can be applauded as it demonstrates that service users with prepaid meters and little household income are being responsible, the demise of urban agriculture does raise concerns considering this is one of the least expensive methods of meeting a household's dietary needs.

With respect to the gendered impacts of prepaid meters, 6 of the 10 respondents that said they used water less for gardening purposes since the introduction of pre-paid meters were women. While these numbers are insufficient evidence to indicate that prepaid meters have a gendered impact, it is more than likely that with respect to changes in washing patterns, women are adversely affected if they fear washing at home will usurp scarce water supplies. This is clearly an important area for future research.

With respect to the affordability of water and sanitation services, the introduction of prepaid meters has led to difficulties in maintaining adequate levels of hygiene with respect to sanitation in particular. Unemployed households have abstained from using water for sanitation purposes in order to focus their water consumption for drinking, cleaning and washing purposes. As such, members of a household would go to the washroom 4 or 5 times, before a toilet would actually be flushed in order to save on water. This effort to save water inevitably had side effects in creating an unpleasant hygienic environment. Numerous respondents said that they did not have the money to buy toilet paper and as such relied on newspaper for personal hygiene when going to the toilet. The use of newspapers is clearly a contribution to the frequency of blocked toilets in Stretford. But, substandard sanitation infrastructure could be another contributing factor.

The level of sanitation infrastructure put into these households is a shallow condominial sewer, which has the tendency to clog more easily than full waterborne sanitation, which has a deeper bowl within which to flush away coarse debris. The frequent clogs in the flush toilets in Stretford extension 4, have left many households unable to use their newly upgraded sanitation infrastructure. There is a public perception in Stretford, that this individual incident of toilets becoming blocked turns into a collective problem due to the fact that the sewer system between the houses are too closely attached. The consequence is that when one household's toilet becomes blocked, the adjacent houses in that same row also become blocked. Survey workers witnessed houses where their toilets were not blocked but where the toilet system was not working because of the sewer problems. The reason for this blockage could be linked to the fact Johannesburg Water tried to save on capital investment costs in this pilot area by using a smaller diameter of sewer pipe of 100mm, rather than the national standards set at 150mm,[18] the former of which does not offer the same flow-through.

Johannesburg Water chose condominium sewers as an alternative level of sanitation that had the benefits of full waterborne sanitation but at an affordable level by virtue of households offering sweat equity in return for a high level of sanitation. The "collective" element of this sanitation alternative demanded that households work together to maintain the sewers. When blockages occurred, they held the responsibility of unblocking them. While there may have been a perception by Johannesburg Water that there was a buy-in for this collective effort, in practice,

[18] SABS EN295 Part 1&2 for vitrified clay pipes.

households have not been inspired to work together to unblock their frequently blocked sewers

Thus far, the customer surveys conducted independently for Johannesburg Water about prepaid technology in general has been praiseworthy as is reported by JW to the CMU. The few reports provided by Johannesburg Water to the CMU regarding prepaid water services in particular, have been equally positive. It is impossible to share the actual survey results as these materials have not been made available.

The findings in table 3 from the surveys conducted by the CMU suggest a different story than that provided by Johannesburg Water—one that shows public discontent with the utility's efforts to adequately inform residents, or to enable households to have a choice regarding whether they prefer conventional metering or prepaid water services. At the very least, these findings suggest the need for a more detailed study and deeper analysis of how households are responding to the introduction of prepaid meters and what their concerns are regarding this technology. This is particularly important given the magnitude of the Gcin'Amanzi project and the potential risks to City Council if public concerns with prepaid meters are not properly managed.

Table 10

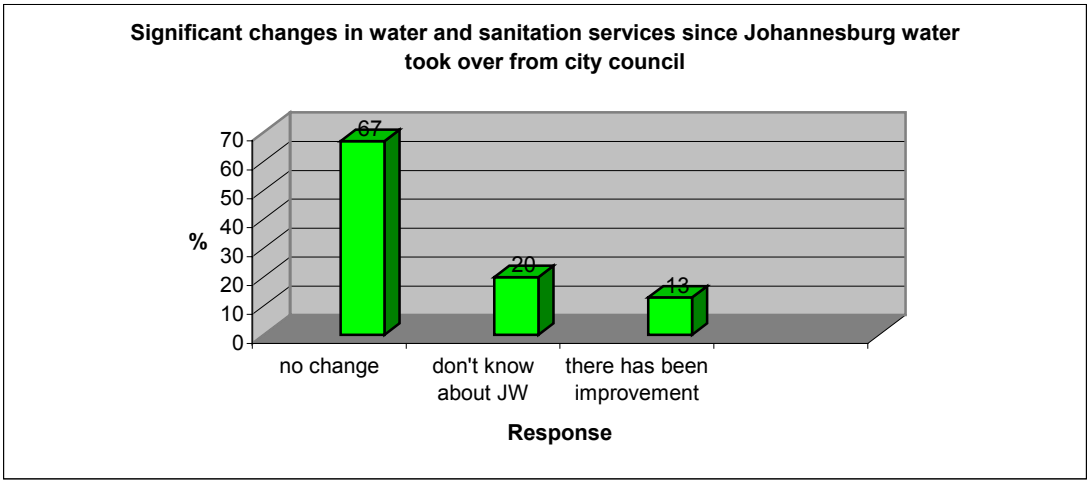
Are you satisfied with prepaid meters?	Percent
Yes	39%
No	61%
Total	100%

Johannesburg Water has since conducted numerous customer surveys to test public perceptions of this technology but is unwilling to share this documentation with the public or the regulator. As such, it is impossible to ascertain the degree to which there has been sufficient consultation.

e) Customer Satisfaction

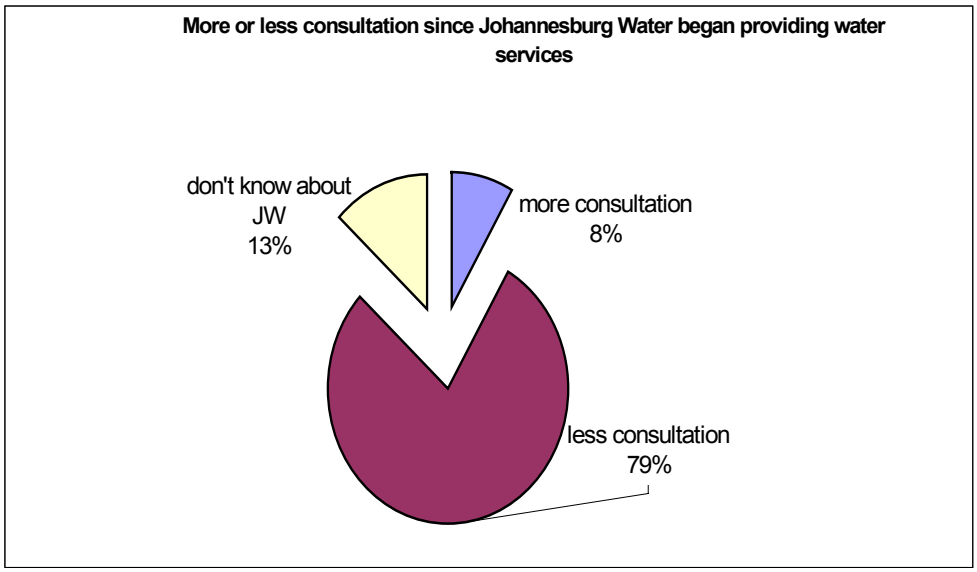
Part of the City's motivation in creating a separate Water Utility was to distinguish it as a company with its own respective identity so that households could identify Johannesburg Water through the quality of water services they receive. Despite significant efforts made by Johannesburg Water to brand itself, figure 14 indicates that 67% respondents (N182) reported that there had been no change in water services since the Utility was formed in 2001 and 20% responded that they were not aware of Johannesburg Water's existence. Only 13% responded that there had been some improvement. It seems that Johannesburg Water still has room for improvement in changing their customer perceptions that the Utility is a World Class African water service provider.

Figure 14



The responses to households interviewed regarding their participation in meetings or events that related to education or information sharing on water and sanitation systems were varied. Figure 15 below notes that 79% of respondents replied that there has been "less participation" in water services since 2001. It is difficult to understand this response given the significant public education efforts that Johannesburg Water has initiated. Many of these efforts have been targeted at schools in order to capture children's attention regarding the importance of not wasting water. In order to ensure 'community buy-in' and foster 'broad-based understanding' for the Gcin'Amanzi project, Johannesburg Water is regularly hosting public meetings, conducting door-to-door campaigns and consumer workshops. Furthermore, Johannesburg Water has put significant resources into public relations material such as through form of widespread publication of user-friendly pamphlets and billboards with the utility's logo on it. The findings from figure 14, however, suggest that despite Johannesburg Water's public education efforts, they are not being effective in leaving the impression with residents that they are being sufficiently informed by the Utility regarding changes in their water and sanitation services. This figure is consistent with the findings from the 'Residents Satisfaction Survey 2003' conducted by the Palmer Development Group for the Corporate Planning Unit. In this report, which sampled 3500 residents across the City, when asked how frequently residents received information from the municipality that was not a bill, 62.4 % of the respondents said none (PDG 2003: 60).

Figure 15

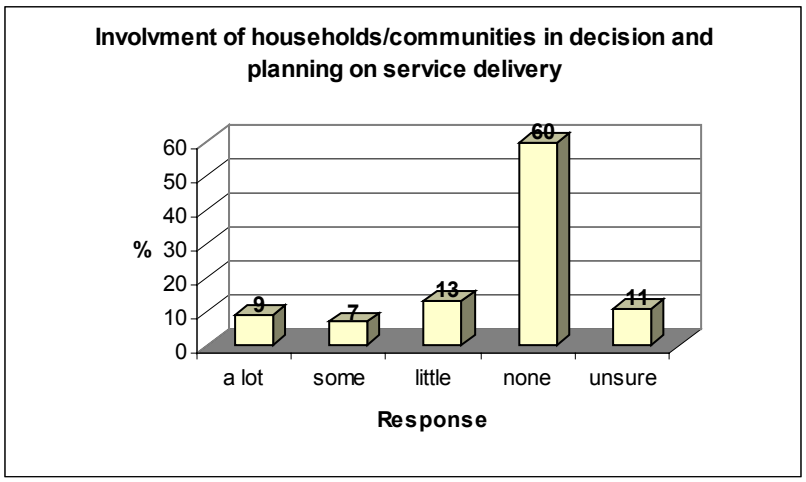


With respect to changes in water services, Johannesburg Water's activities have largely been channelled through existing civic structures, which also involve street committees. This is a very decentralized and important vehicle for disseminating information. Such channels are also complimented by ward committee structures which meet on a monthly basis. Given these efforts, it is difficult to interpret the responses from the CMU's household survey.

It could be that despite growing efforts made by the Utility to engage the public, that there is still nevertheless, a growing low-income despondency amongst service users. Poverty and inequality are increasing in the City and the harsh findings from this survey indicate the social outcomes of people living under these economic conditions. Do service users feel there is less consultation because they have no say with regard to the services changes that are being proposed? One alternative hypothesis could be that the public has higher expectations with regard to the content they expect from consultations. It could be that from the service provider's perspective, there is confusion as to the differences between 'informing' residents as opposed to 'consulting' them. In the latter, residents have a say whereas in the former, they do not. These questions are very difficult to answer but they do raise the issue that perhaps the information efforts made by Johannesburg Water, let alone the other utilities, must be evaluated for their effectiveness in reducing the communication gap with the public.

Concerning the involvement of households/communities in decision-making and planning on service delivery in the last three years, figure 16 shows that 60% of the respondents were of the view that they were not involved in decision-making and planning. On the surface, these findings correlated with the City of Johannesburg survey where 73% said they were not given sufficient information and opportunity to influence the running of the municipality between elections (PDG, 2003: 62). Beneath the surface, however, 16% stated that they felt they were involved in decision-making and a further 13% said they were a little involved. These figures should not be ignored as they indicate that inroads are being made through formal channels of public participation. The challenge for the City and Johannesburg Water is with regard to how to increase the proportion of customer perceptions of having a say in the decisions that affect service delivery standards, and by consequence, the decisions that shape their day-to-day lives.

Figure 16



The City has put in more effort over the last few years to create public participation channels with the public than has existed ever before. Nevertheless, the findings suggest that the communication gap between local government and service users still has space for improvement. The findings from this survey are based on perceptions that households have about the water and sanitation services that have been provided to them by Johannesburg Water. The findings, with respect to information, speak to the need for the COJ to find a more integrated approach to public education so as to enhance citizens' ability to more effectively participate in the service delivery issues that affect their day to day lives. At present, each Utility is conducting its own public education initiatives without necessarily ensuring that the message conveyed to residents enables them to understand the developmental nature of what a basket of services, vs. a single service, entails to their well being. To achieve this requires greater coordination amongst the Utilities to ensure that the cross cutting themes, such as taking responsibility for maintenance, payment, conservation, and consumer rights are well understood by service users. The Utility such as Johannesburg Water must also recognize that the effective dissemination of information requires an interactive process so that service users move from being passive recipients to dynamic citizens that are sufficiently informed to hold their service providers accountable to a quality of service that is mandated by the shareholder, the City. Finally, while the Utilities, such as Johannesburg Water, have made great strides in their public participation efforts, the findings in this survey as well as those from the Customer Satisfaction Survey in 2003, illustrate that the COJ must play a more active role in evaluating the results of the Utilities public awareness programmes. Such an evaluation process would force the Utilities to be held accountable by the perceptions of the customers they serve.

6. Conclusion

The first part of this paper has highlighted some of the reasons for suggesting state reform of the public sector considering the bureaucratic inefficiencies of local government during the apartheid era. The transformation process in local government in South Africa in general, and the restructuring of Johannesburg in particular, presented a window of opportunity to reorganize the institutional framework of essential services. The new institutional framework allowed the government stakeholders (politicians as well as officials) to consider cost efficiencies and at the same time create new mechanisms for a more equitable provision of water to the poor.

Despite this institutional choice, the leadership of Johannesburg is still struggling to comprehend the social contradictions of a city that is economically prosperous yet at the same time facing a rapid growth of urban poverty. What prevents the city from addressing this contradiction is a difficulty in reforming the redistributive mechanisms of public sector services in a manner that the city's financial resources can sustain. Rapid urbanization, particularly when the bulk of new migrants to the City are poor, is an immense challenge that is not unique to Johannesburg—it is preponderant across the globe. Is poor urban migration so great that there are simply not enough resources to deal with servicing these newcomers? Is there a way to assess both municipal resource allocation and also national fiscal transfers to address the problem? If this were the way forward, is part of the solution simply about the political will to put more money into promoting equity? While there are no easy answers to these questions, the purpose of posing them is to provoke thinking about how to crack the

nugget that can unlock the distributive mechanisms of the state to ensure a better reallocation of municipal resources.

Johannesburg chose to deal with this problem by turning to the corporatization model, and in the case of water, to an international management contract, in order to apply private sector principles as a methodology for state transformation. But, to date, the corporatization of water has not resolved the fundamental difficulty in generating surplus revenues while also extending services to previously disadvantages areas. The company is still plagued with its shareholder's struggle to reform the redistributive mechanisms of the public sector amidst age-old mistrust between officials and councillors in how to tackle this issue. In turning to corporatization without addressing these management issues, the City of Johannesburg has some difficult governance issues to contend with.

The Johannesburg corporatization model holds several unresolved tensions with regard to the dual identities local authorities must bear as both referee (regulator) and player (shareholder). The difficulty of being both referee and player is that the local authority must reconcile the differing values and objectives of the public and private sectors. The primary objective of the public sector has been to uphold equal and low-cost services as a public good, an objective that keeps equity considerations at the forefront of the provision of public services. In South Africa during apartheid, these noble objectives were only applied to a White minority. In the post-apartheid period, the state is struggling to finance a wider distribution of good quality and affordable services.

By contrast, a public utility, when operating under private sector principles, aims to maximize profits for its shareholder. In the Johannesburg instance, the shareholder is the City-as represented through its appointment of a board of directors that governs Johannesburg Water. The board, even though it is meant to act within the public interest, is driven by private sector considerations in order to ensure the financial viability of the company they are governing. For instance, the board approves the use of prepaid meters to deal with a non-payment situation in an area with a 53% unemployment rate. This commercial drive introduces managerial practices, such as the concentration of power that runs counter to the historical manner within which the public sector operates. The very fact that the City chose this governance arrangement might suggest that equity priorities were relegated to secondary status, until such time that the City was in a better financial situation to address these issues. This choice of institutional arrangements may have been driven by insurmountable fiscal constraints or a political decision to balance poverty reduction with other priorities for the non-poor, such as putting in place the drivers for economic development.

The distance between the City and the board compounds the public/private tension between the client and contractor. This distance can manifest itself in differing priorities where the board may feel its budget should focus on improving efficiencies whereas the city wants to see an immediate return on its investment, through for instance, a reduction in sanitation backlogs. The board may be quite aware of the City's political priorities, but the prevailing governance structures within corporatization may skew the board's incentives for balancing efficiency with equity goals.

The city, in choosing to decentralize operations, may have thought it could centralize governance functions, but in doing so, has actually institutionally reduced its political involvement. This may be an outcome that was not foreseen. There are a whole set of governance related issues that deal with operations, which must be devolved to a board of directors if a utility model is selected. These issues may appear on the surface, as largely technical, and as such, may not necessarily be of interest to decision-makers within the city. Nevertheless, these technical issues, such as strategies for how to reduce water leakages, tend to couch significant social issues relating to quality of services and affordability, the latter of which is important to the politicians of the city. Once the city relocates the governance of the business of water to the board of directors, it reduces its own political influence over the service provider. The information that may seem technical to a board of directors, which is operating within vary narrow confines of a single company. But that same information may also be largely political to the City, which must look at what lower levels of infrastructure to permanent informal settlements mean to the broader basket of services for the poor and to the longer term objective of uplifting historically excluded parts of the city. There is a disconnect with regard to what and how information flows from the board of directors of Johannesburg Water into the decision-making arenas of the City. This disconnect is associated with a concentration of power that was inherent with the deliberate abdication of the City's power to avoid political liabilities that are inevitable when facing a hard budget constraint.

The concentration of power associated with corporatization has two outcomes in relation to the shareholder and the public. The first is with regard to the culture of secrecy. The difficulty the city, via the regulator, has had in obtaining information from Johannesburg Water, is illustrative of the disconnect between technical information and its political outcomes. While in theory, corporatization is designed to ensure greater transparency of information, in practice, this is not always the case. The establishment of the JW utility, PTY, presented a challenge for the regulator because of the latter's lack of experience in governance in a business environment.

The shortcoming of the regulator has been rooted in its limited knowledge of the water sector, as it is at the same time focusing on monitoring 13 other public functions that have been corporatized. In the process of moving up the learning curve, the CMU has had difficulty in determining what information is relevant in order to effectively monitor JW operations. In trying to move beyond a rubber-stamping role, the CMU has struggled to gain access to information that it has requested of JW. If the CMU, operating for the shareholder, is facing difficulties in access to information, than the general public has little chance of gaining knowledge that should be publicly disclosed. This represents a fundamental accountability problem, because after all, the public, through their taxes, are the ultimate owners of Johannesburg Water and therefore have a right to information requests. By virtue of the city allowing the utility to communicate directly with the public without the shareholder being part of the process, it is therefore abdicating its responsibilities in ensuring that consumer rights to information are upheld.

The concentration of power to speed up decision-making, also threatens to undermine public participation. Procedurally, corporatization promises economic returns without heed to *how* services are distributed. The deepening of public consultation for greater deliberation on the difficult issues of service delivery is essential in reaching a

consensus on how to marry equity with efficiency concerns. Such content-oriented consultation inevitably slows administrators' aspirations for rapid decision-making. The deepening of public participation requires moving beyond informing marginalized sectors of the population, about changes in their services. Rather, this 'consultation' process requires helping residents to consider directly the constraints facing a water provider. Only through a frank consultation that addresses both equity and efficiency imperatives can citizens contribute substantively to decisions about resolving the tension between those objectives. The time and effort required to transform public participation from mere dissemination of information to a process of genuine negotiation runs counter to the concentration of decision-making processes inherent to the corporatization model.

These governance difficulties are part of the growing pains of a very young institutional arrangement between the City and its newly created utilities. There is much promise for twinning these equity and efficiency objectives, as Johannesburg City council is fortunate to have an array of politicians that are committed to improving the lives of the poor. The challenge that lies ahead is how to translate this good political will into practice, given the private sector style of how Johannesburg Water operates.

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