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Item Type	Book
Authors	Smith, Laila
Publisher	United Nations Research Institute for Social Development (UNRISD)
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Download date	2026-07-04 16:35:50
Link to Item	http://hdl.handle.net/20.500.12424/178762

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Unpacking the Johannesburg Water Corporatization Model

Laila Smith

This United Nations Research Institute for Social Development (UNRISD) Programme Paper has been produced with the support of UNRISD core funds. UNRISD thanks the governments of Denmark, Finland, Mexico, Norway, Sweden, Switzerland and the United Kingdom for their core funding.

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Acronyms

AIDS	acquired immune deficiency syndrome
CMU	contract management unit
DWAF	Department of Water Affairs and Forestry
GDP	gross domestic product
HIV	human immunodeficiency virus
JOWAM	Johannesburg Water Management
JW	Johannesburg Water
LaRRI	Labour Resource and Research Institute
LOS	level of service
PDG	Palmer Development Group
SABS	South African Bureau of Standards
SDA	Service Delivery Agreement
SHU	Shareholder Unit
UAC	utilities, agencies and corporatized enterprises
UFW	unaccounted for water

Summary/Résumé/Resumen

Summary

Local authorities across South Africa have undergone an enormous transformation in the postapartheid period. Ten years into democracy, most local authorities are contending with the difficulties of providing and improving the quality of water and sanitation services in areas that historically received service of abysmal quality, if any. The national policy guidelines driving local authorities uphold several important equity principles such as a free allocation of basic water services in a “developmental” –that is, inclusive and participatory– manner. Local authorities struggle to put these principles into practice, as the financial and human resource constraints they face often lead them to put efficiency objectives in the forefront, with the hope that the equity issues will be dealt with down the line.

As part of a major restructuring process in the late 1990s that sought to resolve Johannesburg’s financial and organizational problems, a strategy known as iGoli 2002 was implemented to address five key problem areas: financial stability, service delivery, frameworks of accountability, administrative efficiency and political leadership. In terms of service delivery, iGoli 2002 had to address a situation in which, by the late 1990s, 24 per cent of African residents lived in informal dwellings, 17 per cent had no access to electricity, 15 per cent were without flush toilets and 13 per cent were without tapped water.

The first part of the paper provides a brief overview of the service delivery history in Johannesburg during the 1990s in order to understand the reasons it chose the corporatization model in 2001. The second part of the paper focuses on the institutional transformation of the water and sanitation sector, with particular attention to the governance framework that shapes the accountability mechanisms between Johannesburg Water (Pty.) Ltd. (JW) and the city authorities. Third, the paper outlines the main challenges facing JW and the efficiency mechanisms it has put in place to address them. Fourth, the paper looks at the equity challenges facing the utility and how it has chosen to address low-income service users. This section presents the findings from household surveys in four township areas in order to highlight some of the key service delivery issues that low-income households are struggling with.

Corporatization is gaining currency in many countries around the world as an institutional model that promises efficiency gains that are comparable to those of privatization of service delivery, while also permitting greater state involvement that can mitigate the negative social risks inherent in privatization. In South Africa, Johannesburg is the first and only local government in the postapartheid period that has corporatized through the legal establishment of a water and sanitation utility. Johannesburg Water was established in 2001 as the water service provider through a utility company that was mandated to provide water and sanitation services to the residents of Johannesburg. The city remains the owner of JW, while delegating its shareholder responsibilities to an appointed board of directors. A contract management unit (CMU) oversees the service delivery standards of JW.

The teething problems associated with the Johannesburg corporatization model are rooted in the governance of this institutional arrangement. First, the autonomy of JW is limited by the shared services it has had with the city, such as billing, credit control and meter reading functions for the majority 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 learned an expensive lesson in retaining functions that it 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 CMU 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 JW 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 function. The CMU capacity problems were rooted in a lack of human or financial resources to operate effectively and were compounded by information asymmetries related to the bulk of the sectoral expertise migrating to JW when it was created. The outcome of this situation has left a vacuum of specialized knowledge within the city, which is 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, JW. 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 because it has prioritized efficiency objectives with the intent of making JW 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.

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 the 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 operational style of Johannesburg Water.

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Résumé

Dans toute l'Afrique du Sud, les autorités locales ont subi une énorme transformation depuis l'abolition de l'apartheid. Dix ans après l'instauration de la démocratie, la plupart des autorités locales se démènent pour amener l'eau, améliorer la qualité de l'eau ainsi que son système d'assainissement dans des quartiers et régions qui, par le passé, recevaient des services inexistantes ou d'une qualité effroyable. Les directives nationales, que suivent les autorités locales, défendent plusieurs principes importants d'équité tels que la fourniture gratuite de services élémentaires d'approvisionnement en eau dans un esprit de "développement", c'est-à-dire sur une base universelle et participative. Les autorités locales ont beaucoup de peine à mettre ces principes en pratique, car le manque de ressources financières et humaines les conduit souvent à mettre en avant des objectifs d'efficacité, en espérant que les questions d'équité se régleront par la suite.

Dans le cadre d'une restructuration majeure entreprise vers la fin des années 90 pour tenter de résoudre les problèmes de financement et d'organisation de Johannesburg, une stratégie du nom d'iGoli 2002 a été appliquée dans cinq secteurs problématiques: la stabilité financière, la fourniture des services, la hiérarchie des responsabilités, l'efficacité de l'administration et la direction politique. S'agissant de la fourniture des services, iGoli 2002 devait l'améliorer dans un pays où, vers la fin des années 90, 24 pour cent des habitants africains vivaient dans des logements de fortune, 17 pour cent n'avaient pas accès à l'électricité, 15 pour cent n'avaient pas de toilettes à chasse d'eau et 13 pour cent pas d'eau courante.

La première partie du document donne un bref aperçu historique de la fourniture des services à Johannesburg pendant les années 90 pour éclairer les raisons pour lesquelles la ville a choisi de transformer les services responsables en société en 2001. La deuxième partie du document porte sur la transformation institutionnelle du secteur de l'eau et de l'assainissement et accorde une attention particulière au modèle de gouvernance qui détermine les rapports entre Johannesburg Water (Pty.) Ltd. (JW) et les autorités municipales, qui la contrôlent. Dans la troisième partie, l'auteur décrit les difficultés avec lesquelles la société JW se débat et les mécanismes d'efficience qu'elle a mis en place pour en venir à bout. Enfin, elle s'intéresse aux problèmes d'équité qui se

posent à l'entreprise et à la façon dont celle-ci a choisi de se positionner sur le marché des usagers économiquement faibles. Elle présente dans cette section les résultats d'enquêtes réalisées auprès des ménages de quatre "townships" pour dégager les problèmes essentiels des ménages économiquement faibles en matière de fourniture de services.

Le modèle de constitution en société se répand dans de nombreux pays à travers le monde car, tout en promettant des gains d'efficacité comparables à ceux de la privatisation des services, il permet une assez large participation de l'Etat, ce qui peut atténuer les risques sociaux inhérents à la privatisation. En Afrique du Sud, la municipalité de Johannesburg est la première et unique autorité locale à avoir constitué en société un service public d'alimentation en eau et d'assainissement depuis l'abolition de l'apartheid. Johannesburg Water a été fondée en 2001 comme société d'intérêt public chargée de fournir des services d'alimentation en eau et d'assainissement aux habitants de Johannesburg. La ville demeure propriétaire de JW, mais délègue ses responsabilités d'actionnaire à un conseil d'administration dont elle a nommé les membres. Un office de gestion des contrats veille à ce que JW remplisse son cahier des charges.

Les problèmes initiaux rencontrés à Johannesburg par cette société de distribution tiennent essentiellement au mode de gouvernance de ce mécanisme institutionnel. Premièrement, l'autonomie de JW est limitée par le fait qu'elle partage avec la ville un certain nombre de services comme la facturation, la surveillance des créances et le relèvement des compteurs, et cela pour la majorité des habitants de la ville. Ne pouvant assumer elle-même ces fonctions, la société JW n'a pas pu relever le niveau de ses recettes ni s'attaquer aux problèmes critiques qui en résultent. En conservant des fonctions qu'elle n'a pas su rationaliser, la ville a payé cher la leçon de cette expérience et commence seulement maintenant à transférer à JW les fonctions touchant aux recettes. Deuxièmement, en restant au sein du conseil municipal, l'office de gestion des contrats voit ses pouvoirs de quasi-autorité de contrôle amputés. Si cet office tire profit de la proximité avec les conseillers municipaux, dont la fonction est politique, sa liberté de porter un jugement sur le comportement de JW est limitée par le fait qu'il doit naviguer entre de nombreuses sensibilités politiques et administratives. Troisièmement, au cours des premières années d'exploitation, la ville, sous-estimant la fonction de l'autorité de contrôle, lui a accordé des moyens limités. Doté de ressources humaines ou financières insuffisantes pour fonctionner correctement, l'office de gestion des contrats souffre d'un manque de moyens qui a été encore aggravé par le transfert de la plus grande partie des compétences techniques à JW lors de la création de la société. La ville s'est privée d'une grande partie de ses spécialistes. Or, la fonction de contrôle ne s'exerce bien qu'avec des compétences spécialisées.

Avec les problèmes d'autonomie, d'autorité et de moyens auxquels se heurte l'autorité de contrôle, il est difficile pour la ville de contraindre son sous-traitant, JW, à respecter son cahier des charges. Ces difficultés de contrôle ont eu aussi pour effet d'éloigner la ville du conseil d'administration qu'elle a nommé pour la représenter comme actionnaire. Animée d'une certaine volonté politique, la ville a fixé en matière d'équité des objectifs clairs que le conseil d'administration a interprétés dans un sens restrictif parce que, pensant à la solidité commerciale de JW, il a donné la priorité aux objectifs d'efficacité économique. La tension entre le secteur public et le secteur privé, qui se traduit par cette distance entre la ville et le conseil d'administration, est au cœur des difficultés de gouvernance de ce modèle.

Le mécanisme institutionnel mis en place entre la ville et la toute jeune société de distribution qu'elle a créée est encore très récent, et les difficultés de gouvernance peuvent être assimilées à des maladies de jeunesse. L'alliance des objectifs d'équité et d'efficacité économique est très prometteuse, car le conseil municipal de Johannesburg a la chance d'avoir une équipe d'hommes et de femmes politiques résolus à améliorer les conditions de vie des pauvres. La difficulté pour eux consistera à l'avenir à traduire en actes cette bonne volonté politique, avec une société de distribution d'eau fonctionnant comme une entreprise du secteur privé.

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Resumen

Las autoridades locales de toda Sudáfrica experimentaron una profunda transformación durante el período postapartheid. A diez años de haber instaurado la democracia, casi todas las autoridades locales están lidiando con las dificultades de ofrecer y mejorar la calidad de los servicios de agua y saneamiento en áreas que en toda su historia recibieron un servicio, si es que había, de una calidad deplorable. Las políticas nacionales por las que han de guiarse las autoridades locales contienen varios principios importantes de equidad, como la libre distribución de servicios básicos de agua, dentro de una perspectiva de desarrollo, es decir, una perspectiva inclusiva y participativa. Las autoridades locales luchan por llevar estos principios a la práctica, dado que sus limitaciones de recursos humanos y financieros con frecuencia les obligan a colocar los objetivos de eficiencia a la vanguardia, con la esperanza de poder ocuparse de los temas de equidad más adelante.

Como parte de un importante proceso de reestructuración a finales de los años 90 que buscaba resolver los problemas financieros e institucionales de Johannesburgo, se puso en marcha una estrategia conocida con el nombre de iGoli 2002, con la cual se pretendía atender cinco áreas clave: estabilidad financiera, prestación de servicios, marco de responsabilidad, eficiencia administrativa y liderazgo político. En materia de prestación de servicios, iGoli 2002 tenía que ocuparse de una situación en la cual, para finales de los años 90, 24 por ciento de los residentes africanos vivía en viviendas informales, 17 por ciento no tenía acceso a electricidad, 15 por ciento no contaba con servicios sanitarios y 13 por ciento no tenía agua.

La primera parte del presente documento contiene una breve reseña histórica de la prestación de servicios en Johannesburgo durante los años 90 para poder comprender las razones por las cuales la ciudad optó por el modelo de corporatización en 2001. La segunda parte se dedica a la transformación institucional del sector de agua y saneamiento, y en ella se presta particular atención al marco de gobernabilidad que define los mecanismos de rendición de cuentas entre Johannesburg Water (Pty.) Ltd. (JW) y las autoridades de la ciudad. En la tercera parte del documento, se describen los desafíos de JW y los mecanismos de eficiencia que la empresa ha puesto en marcha para hacerles frente. En cuarto lugar, se presentan los resultados de una encuesta de hogares que se realizase en cuatro zonas de la ciudad para destacar algunos de los problemas clave en el área de servicios que se viven en los hogares de bajos ingresos.

La corporatización está ganando terreno en muchos países del mundo como modelo institucional que promete beneficios de eficiencia comparables a los de la privatización de la prestación de servicios, al tiempo que permite una mayor participación del Estado que puede mitigar los riesgos sociales negativos inherentes a la privatización. En Sudáfrica, el de Johannesburgo es el primero y único gobierno local del período postapartheid que ha corporatizado a través de la creación una empresa de servicios de agua y saneamiento. Johannesburg Water se estableció en 2001 como un proveedor de servicios de agua a través de una empresa de servicios cuyo mandato consiste ofrecer servicios de agua y saneamiento a los residentes de Johannesburgo. La ciudad sigue siendo la propietaria de JW, pero delega sus responsabilidades como accionista en una junta directiva designada. Una unidad de gestión de contratos (CMU, por sus siglas en inglés) se encarga de supervisar los niveles normas de prestación de servicio de JW.

Los problemas de crecimiento de JW vinculados al modelo de corporatización de Johannesburgo tienen sus raíces en la gobernabilidad de este acuerdo institucional. En primer lugar, la autonomía de JW se ve limitada por los servicios compartidos que mantiene con la ciudad, como la facturación, el control del crédito y las funciones de lectura de los medidores para la mayoría de los residentes de la ciudad. La incapacidad de JW para asumir el control de estas funciones minó su capacidad para ocuparse de áreas críticas relacionadas con el mejoramiento de la recaudación de la compañía. La ciudad ha aprendido una costosa lección al retener para sí funciones que no ha podido mejorar, por lo que apenas ahora ha comenzado a transferir las funciones de recaudación a JW. En segundo lugar, la autoridad de la CMU como unidad cuasi-reguladora es coartada por permanecer dentro del concejo municipal. Si bien

resulta conveniente para la CMU el permanecer cerca de los concejales políticos, al mismo tiempo se ve limitada para emitir opiniones sobre el comportamiento de JW porque debe moverse entre numerosas sensibilidades políticas y burocráticas. En tercer lugar, durante los primeros años de operación, la capacidad de la unidad reguladora se vio limitada porque la ciudad no confirió suficiente importancia a esta función. Los problemas de capacidad de la CMU nacieron de una carencia de recursos humanos o financieros para operar eficazmente, y se complicaron con las asimetrías de información que se produjeron a raíz del desplazamiento de un cúmulo de conocimientos técnicos sectoriales que migraron hacia JW tras la creación de la empresa. Esta situación ha dejado como resultado un vacío de conocimiento especializado en la ciudad, elemento necesario para llevar a cabo una supervisión eficaz.

Los problemas de autonomía, autoridad y capacidad de la unidad reguladora han generado un entorno difícil para que la ciudad desarrolle mecanismos de fiscalización de su contratista, JW. Una segunda consecuencia de estas dificultades de regulación es la distancia que separa a la ciudad de la junta directiva que ésta ha designado para que la represente como accionista. La ciudad ha formulado claramente objetivos de equidad motivados por su voluntad política, mientras que la junta ha interpretado estos objetivos de forma muy limitada, pues ha dado prioridad a los objetivos de eficiencia con la intención de hacer de JW una empresa más viable desde el punto de vista comercial. La tensión entre el sector público y el sector privado arraigada en la distancia que separa la ciudad de la junta directiva es la razón principal de las dificultades de gobernabilidad del modelo de corporatización.

Estas dificultades de gestión forman parte de las dificultades iniciales de un acuerdo institucional muy nuevo entre la ciudad y sus empresas recientemente creadas. La mancomunidad de estos objetivos de equidad y eficiencia guarda grandes promesas, ya que el concejo municipal de la ciudad de Johannesburgo tiene la fortuna de contar con un gran número de políticos que están comprometidos a mejorar las vidas de los pobres. El reto reside en cómo llevar esta voluntad política a la práctica, habida cuenta del estilo operativo de sector privado que caracteriza a Johannesburg Water.

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Part I: Institutional Transformation

Introduction

Countries around the world have selected privatization models to improve public services because of the efficiency gains that are said to be inherent to these models. A growing number of studies, however, point to the negative social implications of the greater efficiency that is 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 paper attempts to examine this potential by looking at how the city of Johannesburg has grappled with the delicate balancing act of seeking greater efficiency, 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 postapartheid period that has corporatized a water and sanitation utility through the legal system. Durban ring-fenced its water and sanitation activities in 1992 and turned them into a business unit within the municipality; 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, that is, by not only setting up a separate utility, but bringing in a five-year management contract through a consortium led by the French-based Suez Group 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 supporting economic development and the subordination of social policies to economic policies (Mayer 1995). 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).

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 efficiency. Competition does not apply to natural monopolies such as the water sector due to the high sunk infrastructure investments required for distribution purposes (Parker and Kirkpatrick 2003). 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 efficiency. The introduction of competition on the distribution side of water is manifest in various forms of state devolution: commercialization/corporatization, leases or affermage, concessions and outright sale of state assets. In this paper, I focus only on corporatization, which has been neglected in the literature as a separate process (Yarrow 1999; Ramamurti 1999).

Conceptualization of corporatization

The aim of corporatization is to increase the organizational flexibility and financial viability of a specific service by giving it an existence that is legally separate from that of government (Bakker and Cameron 2002). There are many variations of this corporatization model, such as a business unit within a government department, a crown corporation or a corporatized utility (Bakker and Cameron 2002). 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, for example, through universal provision requirements and ensuring access to low-income users, despite the fact that the institutional model is run along business lines (Bakker and Cameron 2002). 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 the lack of human resource capacity, insufficient financial resources at times, lack of political will and a demand structure in which most, 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 efficiency gains, but is 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 of 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, however, can be equally 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).

Corporatization, as 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 efficiency. The question is whether the quest for increased efficiency 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 a binding agreement and the regulatory mechanisms set up to provide oversight of this agreement.

This paper examines 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 for balancing efficiency gains with equity concerns, and explores two key questions. First, are the difficulties in promoting equity in Johannesburg the result of the weaknesses of the nature of the private sector contract with the Suez Group, which could be mitigated by institutional adjustments, or do they stem from extreme social inequalities that require another conception of the water delivery system altogether? Second, to what extent has the corporatization made it easier or harder for the city to address equity issues?

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	NA	Canada
Municipal board or commission	Local	Municipal government	Commission or board	Public agency	Public law	NA	Peterborough Toronto (future)
Cooperative	Local	Users/cooperative society	Users or delegated authority	Cooperative society or corporation	Varies	NA (or users)	Denmark
Crown corporation	Provincial or national	Government or utility	Corporatized utility	Usually defined by special law	Public law	Government	Ghana
Corporatized utility	Municipal or regional	Government or private company	Public limited company as permanent concessionaire	Corporation	Corporate law	Local/provincial government	Netherlands Wales Edmonton
Government utility: delegated management	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

Note: NA = not applicable. **Source:** Bakker and Cameron 2002.

The first part of the paper provides a brief overview of the service delivery history in Johannesburg during the 1990s in order to understand the reasons why it chose the corporatization model in 2001. The second part focuses on four issues:

1. the institutional transformation of the water and sanitation sector in order to identify the key areas where greater efficiency is required;
2. the governance framework that shapes the accountability mechanisms between Johannesburg Water (JW) and the city;
3. the main challenges facing JW and the efficiency mechanisms it has put in place to address them; and
4. the equity challenges facing the water utility and how it has chosen to address low-income service users.

This section also presents the findings from household surveys in four township areas in order to highlight some of the key service delivery issues that low-income households are struggling with.

The South African service delivery context

South African municipalities today bear the legacy of apartheid caused by extreme 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 and access to jobs and forced people to shop in “white” areas. Furthermore, the townships lacked essential services and had a poorly maintained infrastructure. Constraints on land availability and housing infrastructure caused severe overcrowding. Overloaded black local authorities could not cope with growing service demands during the 1980s and were discredited by mismanagement and corruption (Smith and Hanson 2003).

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 a deteriorating quality of public services with mass boycotts of rent and service charges and large-scale invasions of surrounding land. Turok (2001:5) notes that this was “part of a wider withdrawal of consent and mass protest, which was precipitated by a profound and financial political crisis”. The municipal service boycotts and housing crisis contributed to prompting the negotiations that led to a transition to 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 postapartheid period, however, to a cultural residue from the 1980s is a misreading of the reasons of why people in these areas are not paying for services. Poverty, poor communication with local government, inability to understand bills, high levels of debt that leave households feeling there is little value in even paying current accounts and dissatisfaction with the quality of services being received are several 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 Programme, the national government re-centralized the financing mechanisms for much of this delivery, but decentralized the responsibility, 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 per cent—between 1991 and 1997 (Financial and Fiscal Commission 1997).

Given this macroeconomic climate of fiscal austerity, South African local and national authorities gave considerable effort 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 point in time 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 democratizing service delivery and so forth. 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). The newly demarcated municipalities—from 843 to 284—had to integrate the transitional local councils and transitional rural councils into unified administrations covering much larger areas and, more importantly, larger and poorer populations. Doreen Atkinson (2003:2), from the Human Science Research Council of South Africa, 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”.

During this period of local government restructuring, the Development Bank of South Africa and the Municipal Infrastructure Investment Unit, two powerful national-level lending institutions, were influential in promoting private sector involvement in providing public services. Their influence helped to spark lengthy negotiations in secondary cities and towns to introduce Build, Operate, Train, Transfer schemes, affermages (medium/long-term leases) and management contracts and concessions as solutions 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 privatization spectrum through concessions, the three largest metropolitan areas in the country turned to corporatization as an institutional model to guide service delivery transformation. There are several reasons why Cape Town, Durban and Johannesburg chose the corporatization model. Before turning to these reasons it is important to note that Cape Town and Durban chose mild versions of corporatization by 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 such as Cape Town, Durban and Johannesburg have perhaps felt more confident in being able to take on the governance challenges of a corporatization model.

Second, engineers in particular were frustrated by having to contend with inefficiency in operations and the drawn out decision-making processes of the centralized support services provided by city councils. Most notably, operational managers sought to escape the restrictions imposed by municipal finance systems (PDG and School of Governance, University of Western Cape 2001). Since 1996, there has been a weak return on capital investments for water services, revealing a serious problem with the maintenance of infrastructure and the gradual process of asset stripping. The mounting concerns of local authorities about underinvestment in operational expenditures has been a significant 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 scarcity of skills 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 privatization. As such, corporatization in these cities may well have been more politically palatable than a privatization model.

Changes to local government

Johannesburg is the financial epicentre of South Africa and is the provider of 13 per cent of gross domestic product (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 people lived in the "leafy" northern suburbs where, after years of receiving the bulk of Johannesburg's resources, they today enjoy a standard of municipal infrastructure and services on par with the world's wealthiest city districts. In the meantime, the poor of the city, predominantly African, live mainly in township areas to the south of the city and on the periphery to the north (City of Johannesburg 2001). In sum, the residential areas of Johannesburg comprise four categories: (i) northern suburbs that are mainly white and affluent; (ii) southern suburbs otherwise known as formal townships; (iii) the inner city, characterized by service delivery decay; and (iv) informal settlements.

The five low-income formal townships where the city's poverty is concentrated are Alexandra, Diepsloot, Ivory Park, Soweto and Orange Farm. These parts of the city, where the declining resource base failed to meet Johannesburg's ever-growing service needs, experienced systemic underdevelopment.¹ Despite the city's service delivery efforts, the rate of migration to Johannesburg—4.1 per cent per annum between 1996 and 2001—coupled with the fact that households in South Africa are getting smaller, means that there is an increasing demand for housing and services² which is outpacing their provision.³ This is illustrated by the continuous increase in the number of families living in shacks in formal and informal settlements. And 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

¹ According to the 2002 JW business plan.

² Statistics South Africa's interpretation 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 and therefore putting more pressure on local authorities to meet increasing service delivery demands. See www.statssa.gov.za, accessed in July 2005.

³ According to the 2004/2005 Integrated Development Plan (draft), Government Publications Department, University of Cape Town.

and 2001, the percentage of households with electricity decreased from 86 per cent to 79 per cent.⁴

Johannesburg's institutional transformation

In the early 1990s, the Johannesburg area consisted of 13 local authorities that were divided along African, coloured, Indian and white racial lines. After the first local government elections in South Africa in April 1994, political agreement was reached that the 13 local authorities would be amalgamated to form a metropolitan area called Greater Johannesburg. The resulting area was roughly 1,380 square kilometres with an estimated population of 2,800,000. At the time, the city produced 11 per cent of the country's GDP. The city was initially divided into seven municipal substructures as an interim governance measure until 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 the metropolitan coordinating council faced various problems such as: (i) confusion and duplication of roles between local councils and the metropolitan council; (ii) competition for resources between councils, and weak and complex institutional arrangements; (iii) inadequate administration of the treasury function resulting in overexpenditures; (iv) withdrawal of provincial funding from major disadvantaged areas previously administered by Gauteng Province, such as Alexandra, Orange Farm and Soweto; and (v) non-payment of rates and service charges leading to growing arrears.⁵

By 1997, the city moved into a severe financial crisis leaving the metropolitan council 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 (Savage et al. 2003). In the absence of external financing, the metropolitan council 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.

In 1997-1998, short-term solutions were put in place that blocked all but essential capital and operating expenditures, froze posts and tightened the reins on activity-level spending decisions by managers. While these cutbacks helped restore financial stability, the huge development challenges facing the city still remained. In hindsight, 1995-1997 was dubbed the period of "growth without sustainability", while 1997-1999 was dubbed "sustainability without growth" (Savage et al. 2003:8). 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 city manager with the mandate to form a team to resolve the city's financial and organizational problems. The strategy chosen to move forward was the iGoli 2002 model, which focused on five key problem areas: (i) financial stability; (ii) service delivery; (iii) frameworks of accountability; (iv) administrative efficiency; and (v) political leadership. The focus of this paper is on the service delivery element of the iGoli 2002 strategy. The implementers of the iGoli 2002 model had to address a service delivery situation whereby in 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" (Savage et al. 2003:9).

Much of the challenge was to extend infrastructure to historically underserved neighbourhoods (predominantly African), while also improving maintenance on sunk infrastructure in

⁴ According to the 2004/2005 Integrated Development Plan (draft), Government Publications Department, University of Cape Town.

⁵ According to the 2002 JW business plan.

historically advantaged areas of the city (predominantly white). Infrastructure decay was also posing an increasing threat to the return on tradable services. For instance, substandard water infrastructure in many low-income areas of the city due to historical underinvestment was contributing to the unaccounted for water (UFW) rate, estimated at 43 per cent, leading to a loss of approximately \$231 million⁶ of potential sales at the time (Savage et al. 2003).

Savage et al. (2003) have pointed to three main challenges facing the city's service delivery situation: (i) inadequate information; (ii) strategy weaknesses; and (iii) 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, in 1997–1999, the city focused on operational crisis management without much attention to a medium- to long-term delivery strategy. There was, therefore, no attention to which delivery needs had to be prioritized and why, what the costs would be for meeting those 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 (Savage et al. 2003).

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, all operational matters needed to be handed over to a service provider that would be responsible for administering service delivery across the city. While operations would therefore be devolved, the city would still retain substantive control and authority by deciding policy priorities and determining the options for resource allocation, service strategies and standards of delivery. As the city would retain its service authority function, it would "hold to account" service managers that failed to perform according to the parameters set by city policy, resources or standards (Savage et al. 2003:14). Clearly, the innovation here was to separate policy and strategy, which remained with the city, from implementation, which was left to utility managers.

At the time the model was being explored, the city manager looked at a variety of 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 tradable 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 the utilities, but would also devolve operational issues to the utilities to enable them to "run like a business" without the administrative constraints of city council procedures.

⁶ All \$ figures refer to US dollars. \$1 = 650 rands.

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 the contractor. The client—city administration, including the council, executive mayor and mayoral committee—would determine the city’s 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 utility were fully privatized through divestiture arrangements.

A second design feature was the establishment of 11 administrative regions in the area of jurisdiction to ensure that residents would have access to their ward councillors as well as to people’s centres. The latter is a walk-in complaints centre to facilitate interaction between the local authority and residents regarding service delivery. A third design feature was to set up a small but strong contract management unit (CMU) that would provide an oversight function. The core functions of the CMU were to monitor the contractors—the UACs—on behalf of the client—the city—by ensuring that the former had the necessary business acumen to fulfil their mandate, defining tariffs in line with the city’s policies and applying penalties to clients where there was non-compliance. Figure 1 highlights the lines of accountability of the city’s corporatized entities.

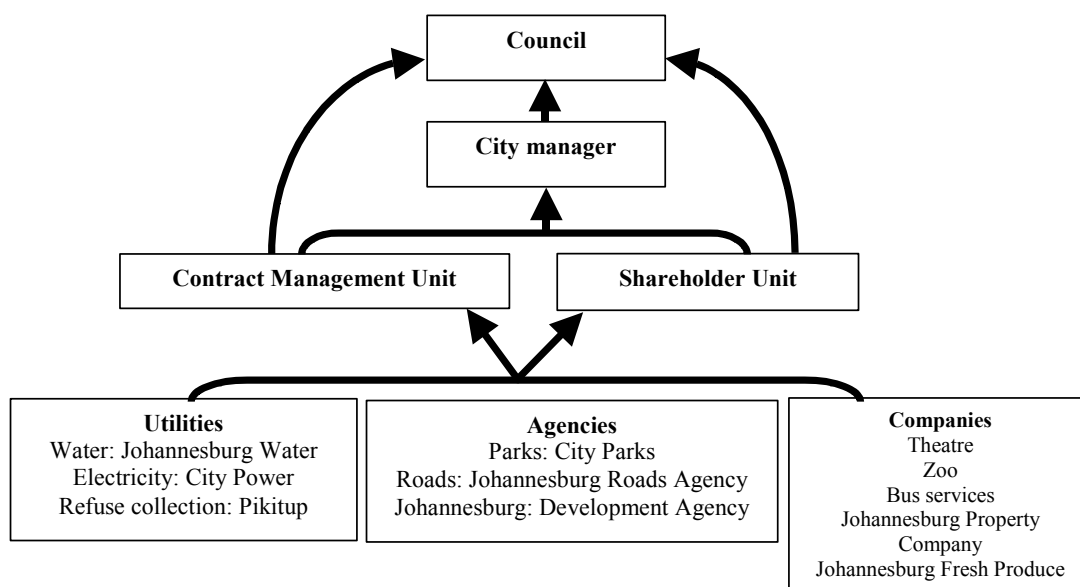
This section highlighted the institutional transformation that brought about the creation of JW, one of three utilities that were created. The next section focuses specifically on the trials and tribulations of the iGoli 2002 model as it moved into implementation, focusing on the water and sanitation sector.

The regulatory environment

The legislative framework for alternative forms of service delivery

The cooperative governance framework with respect to water regulation is primarily a relationship between the national Department of Water Affairs and Forestry (DWA) and local governments. DWA has historically legislated through regulation by establishing national guidelines and 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. At the time of writing, DWA was in institutional transformation, and seeking to play a greater regulatory role, over and above setting the legislative context for the bulk and reticulation components of the water sector.

Figure 1: Governance framework of the iGoli 2002 model



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

- The Bill of Rights, Section 27(2), of the Constitution (1996) provides access to water as a basic right for all. The Reconstruction and Development Programme defines “basic provision” as 25 litres per person per day, available within 200 metres. The focus for this delivery objective is on cooperative governance, where municipalities can charge for services provided, but the power to impose such charges – and limit the cost 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 function 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 on a regional scale through public sector provision before turning to alternate service providers.
- The Municipal Systems Act (2000), Section 68(1), protects the poor by controlling the cost of essential services such as water. It ensures that poor households have access to basic services through: (i) tariffs that cover only operating costs; (ii) lifeline tariffs for basic levels of service; and (iii) any other direct or indirect method of subsidization of tariffs for poor households. The act identifies the sequence of events that 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. Section 78 provides guidelines that local authorities must follow if they seek to engage with an external provider for the provision of water and sanitation services, which entail a review of both public and private sector options before a decision for contracting out can be made (Smith et al. 2003).

These regulations are meant to guide local governments in fulfilling their functions as water service authorities. They also provide the parameters for forming partnerships with the private sector, while still retaining government obligations to the public. The Palmer Development Group (PDG) report on corporatization, however, identifies a number of difficulties facing local authorities in setting up service delivery alternatives (PDG. and School of Governance, University of Western Cape 2001). These difficulties are largely due to the administrative residues of an apartheid bureaucracy and to the postapartheid 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 cost 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 (PDG and School of Governance, University of Western Cape 2001).

The local governance framework

As noted above, DWAF established the national regulatory environment by drafting the legislation to guide 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. The CMU, housed within the office of the city manager, was created in 2001 to monitor the UACs, but wound up playing more of a facilitator than an oversight role. As of mid-2003, the Shareholder Unit (SHU) was set up within 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 provides legal assistance in setting up service delivery agreements between the city and the UACs, as well as service level agreements among UACs.

The CMU and SHU only began to move into a regulatory function as of 2003. This regulatory evolution was not necessarily designed to develop in this way, but 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 work in overseeing 14 companies. The city's decision makers may have believed that simply by virtue of ownership, the city would have inherent and therefore sufficient oversight role of the UACs.

The regulatory challenge facing the Johannesburg corporatization model has much to do with the degree of autonomy that the city council is willing to allow its utilities and its quasi regulator. On the one hand, the city has been in the process of decentralizing its core functions to external entities but, on the other hand, it 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 efficiency in the water sector, but at the same time were aware of the enormous importance that the delivery of water and sanitation has for its residents, particularly those that had never received proper services due to apartheid policies. The result of these tensions is that the city has limited the autonomy of the utility and the authority of the regulator.

With respect to autonomy, JW was set up under the Companies Act to "run like a business" with its own board of directors. As the sole shareholder, the city appoints – through the SHU – 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 also 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, in early 2004, the mayor announced a series of mayoral priorities. One of the priorities 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 offers a concrete example of how this mayoral priority has been implemented. Incorporating an HIV/AIDS policy into the service delivery strategy that extends beyond the human resource component of the company to the wider public is more reflective of the spirit within which the priority was established; that is, 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 it is not necessarily the same priority that a board of directors may feel is appropriate for the company it is governing, particularly when the board's mandate is to move the utilities to a financially sustainable position. The distance of the board of JW 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 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 JW 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. With local government elections 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 possible political risks if the UACs were unable to manage the city's services well. The signed Service Delivery Agreement (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 per cent of its revenues. The inability of the company to control a larger proportion of its revenue base left it relatively powerless 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 was only after three years of operation that 60 per cent of its customers were transferred from the city to the utility in order to enable the latter to carry out meter reading, pre-edits of billing, credit control and revenue collection functions—provisions that were originally agreed to in the 2001 SDA. The lesson learned is that JW earned the political trust of the city only after a long and arduous process, one that is immune from any contractual obligations that the city may have signed with the company.

One reason for the political trepidation of the city in the slowness in handing over core functions to the utilities is the relative power imbalances related to information. The city as the service authority must position itself accordingly in its relationship with JW 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 JW 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).

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 undercapacitated, underresourced 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 by hiring professionals, but they are both, as regulatory institutions, still learning how to manage the tensions of playing both a facilitator (nurturing) and regulatory (watchdog) role.

The lack of autonomy of the CMU and SHU, combined with their slow building of capacity, inevitably constrains the authority they have in regulating the UACs in general and JW in particular. With respect to authority, the limited range of options to enforce non-compliance is one of the constraints facing Johannesburg's current regulatory environment. Should a company grossly violate the principle of the SDA, the SHU has the discretion, in representing the interest of the shareholder, to dismiss a board of directors and/or pressure the board to fire a managing director of a company. For smaller acts of non-compliance relating to service delivery, the CMU can process an issue through dispute resolution or the SHU can exercise its right to reduce the compensation of a managing director or board of directors 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 CMU and SHU by remaining within the 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 would suffer the full consequences rather than having the privilege returning to the city to request additional subsidies to be able to pay 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 the paper, *Economic Regulation of Water Services in South Africa*, the PDG (2004:15) 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". 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 JW 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 programme 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 and School of Governance, University of Western Cape 2001). Each company operates 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 costs 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. This provincial body operates as both the water cost and service regulator, and monitors the performance service standards of the Melbourne service providers (Reina 2002).

Namibia has been less successful 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 as 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). 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 with each internal service provider's performance 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, in 2002, Namwater set tariffs at full cost. This has led to a 40 per cent increase in the cost of water since Namwater took over the bulk water supply (LaRRI 2000). Poor municipalities have been negatively affected by bulk water price increases that leave fewer resources to maintain existing infrastructure, as local authorities have responded by transferring the cost of these increases to consumers. However, 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 per cent of Namibian households living in poverty (Hansohm et al. 1999). Apartheid's unwieldy bureaucratic system continues through 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. However, the model's benefits are significantly challenged when operating in an environment with high levels of inequality or with an overly bureaucratic system and a 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 such as the CMU should not do.

This first section has discussed the institutional transformation that was a precursor to the creation of JW. The next section focuses on JW in order to assess its performance in meeting significant service delivery challenges. The two key issues underlining this investigation are: (i) whether the difficulties in terms of promoting equity in Johannesburg resulted from weaknesses in the nature of the public-private partnership or whether they stemmed from extreme social inequalities; and (ii) whether the corporatization model made it easier or harder for the city to address equity issues with regard to the delivery of water.

Part II: Johannesburg Water

The business of Johannesburg Water

Johannesburg Water was set up as the water service provider through a utility company that was mandated to provide water and sanitation services to the residents of Johannesburg. It was established in January 2001 when the city of Johannesburg entered into two contracts with JW: the Sale of Business Agreement and the SDA. As the city remains the sole shareholder of the company, upon the signing of the SDA, the city transferred its water and sanitation assets and over 2,500 employees to JW, which is managed in accordance with the Companies Act by a board of directors (Still et al. 2003).

The Johannesburg operations area covers some 1,650 square kilometres. Two topographical drainage basins govern the operation of waste water services. As part of its annual core

business, JW purchases 480,000 millilitres 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 9,800 kilometres of distribution pipes and 100 reservoirs and water towers. It also collects and treats 310,000 millilitres of waste water annually using a 920 kilometre network of sewers, seven waste water treatment plants and two sludge handling facilities, before returning the effluent to the local river system.⁷

While corporatization may well have been the compromise model, the city wanted to ensure that the new water and sanitation utility was infused with international best practices. As such, the city chose to seek an international management contract for a five-year period at the initiation of the new water and sanitation utility. The aim of the contract was to provide management expertise in critical areas of the company and to transfer human resource competence to JW. The intent was that the management contract should enable the utility to give the JW board the option of running the utility as a stand-alone entity after the end of the contract.

The management contract

The management structure was set up to improve the operations of JW in terms of “international best practices” in the water sector. Initially, JW 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 efficiency 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 South Africa and the United Kingdom—Water and Sanitation South Africa and Ondeo Services UK, respectively. Subsequent to the establishment of the joint venture, known as Johannesburg Water Management (JOWAM), 27 per cent of the shares were sold to black empowerment partners: Mowam (10 per cent), Nhuthoko (10 per cent), Tholo (4 per cent) and Powerhouse Utilities (3 per cent).

Approximately 13 professional staff from the Suez Group were deployed throughout JW, including at executive management levels. The contract began on 1 April 2001 and expires on 30 June 2006, with a gradual phase-out of JOWAM staff over the course of the contract. As of March 2005, there were two senior staff remaining from the Suez Group—the chief executive officer of JOWAM and the deputy general manager finance—both of whom will stay on until the end of the contract.

Compensation to the Suez Group for the management contract is structured through a management fixed fee and two types of incentives—part A incentive compensation and part B incentive compensation. The management fixed fee for the term of the contract is \$3,846,153 to be paid monthly until the end of the contract.⁸ JW will also pay JOWAM an additional fee of \$769,230 as a one-year supplement to the monthly management fee.

Part A incentive compensation is paid to JOWAM for any measurement year and is not to exceed \$615,384 per year, culminating in no more than \$3,076,923 (pre-inflation) by the fifth year. The amount is determined by results against annually set targets for the following five factors:

- capacitation and human development;
- decreased waste water spillage and overflow;

⁷ According to the 2004/2005 JW business plan.

⁸ As the contract period is for 65 months, the monthly management fixed fee amounts to \$474 per month. This is based on a combination of factors such as the core inflation price index, foreign retail price index and currency exchange rates.

- improved customer service;
- implementing an annual capital investment programme; and
- improved operations and facilities.

The maximum monetary value of each incentive compensation factor is \$123,076.

Part B incentive compensation 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 underspend on operations in the first year of operations. The JOWAM bid stated that it would only be compensated 0.18 per cent 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 include 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 of the United Kingdom to conduct yearly audits of the management contract. The operator offers judgement on its performance, which is assessed once the independent auditor has conducted its audit. The opinions of the independent auditor 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 city evaluation team as having the most technically expert team, which would need to come to work in Johannesburg. Second, the Suez Group was the only consortium that proposed phasing out its staff 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 JW would be left rudderless at the end of the contract. Third, the Suez Group engaged in "strategic bidding" for part B incentive compensation by proposing, as mentioned above, that it recuperate only 0.18 per cent of the annual company revenues during the length of the contract. In contrast, Vivendi bid 1.25 per cent and Thames Water bid 5 per cent; however, their fixed cost input, resulting from higher staffing input in the contract, had a direct relationship with the higher bids. Upon investigation, all three companies put in very conservative bids with regard to net return from the project.

In light of the Suez Group's unusual bid, which proposed such a modest reward for so much hard work, it is worthwhile considering a hypothesis for their motives. Through a series of interviews with senior officials from JOWAM, JW and CMU, including consultants working for the CMU, it is my view that the Suez Group's bid was structured as favourably as it was for the city because the parent company of the Suez Group was intent on penetrating the Johannesburg water sector. It wanted to have the experience of having Johannesburg – the urban gateway to Africa – as part of its track record.

While the immediate move to a concession may not have been politically favourable at the time, the rationale could have been that it would lead to an opportunity for a more lucrative engagement, such as through a concession, following the management contract. Water concessionaires rarely earn an income during the initial 10-year period of investment.⁹ Rather than waiting five years for the post-management contract phase to tender a possible concession, the Suez Group might have assumed that the management contract would give the consortium an incredible comparative advantage in any further bids by virtue of having had five years to thoroughly understand how the water and sanitation networks of the city operated. Its knowledge of the weaknesses in the city's water and sanitation systems would then enable the

⁹ Interview with Brian Simms, chief executive officer of BiWater operations in the Nelspruit concession, February 2003.

consortium to craft performance incentives that would optimize its revenue returns in a future contract with the city. The only shortcomings of this thinking are that, since the management contract was agreed to in 2001, concessions increasingly move into disfavour within the international water community and the domestic decision-making environment could make the possibility of a post-management contract transition to a concession far more elusive. While the evidence for the conjectures offered above is not conclusive—that is, the evidence is only through informal and formal conversations with senior officials—the situation does offer an interesting insight into the long-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 focuses on the work of JW to identify, where possible, how innovations were introduced by the Suez Group.

The company's challenges

The single biggest challenge facing JW is the high UFW rate, which was estimated at 43 per cent when the company was created in 2001.¹⁰ 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 of its revenue functions related to 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 accounts for 30 per cent 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 JW in a situation where it has been powerless to improve the efficiency of 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 could have control over 60 per cent of its revenues, as agreed to in the SDA. By the end of 2005, the final transfer of functions such as meter reading and credit control were scheduled to be completed. This situation will hopefully open up a significant opportunity for the company to improve its revenue collections and, by consequence, its financial situation. To date, JW has had over a 100 per cent collection rate due to the accrual of historical arrears from its largest customers such as schools and government departments. This collection rate is in contrast to a continued poor performance of the city's billing department for the remaining JW consumers, which has been on average between 67 per cent and 75 per cent over the last three years.

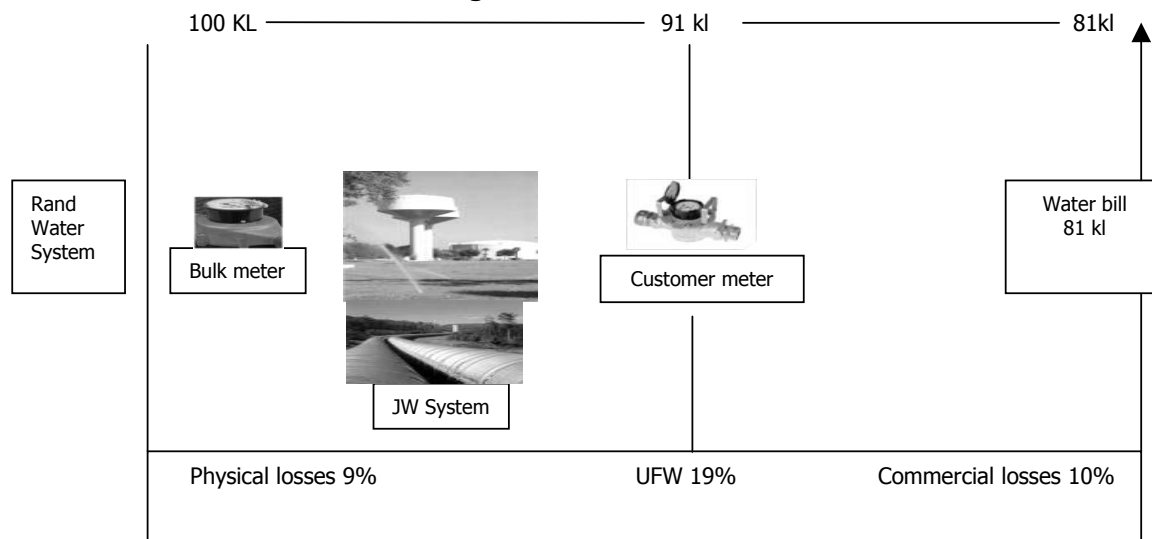
A second challenge facing JW has been the high degree of physical losses. In metered areas, investigations into the network have indicated that the loss per kilometre of pipe on average is 10 kilolitres. In deemed consumption areas this is doubled, which is the reason why JW has focused on replacing decaying infrastructure in Soweto, in particular, as part of Operation Gcin'amanzi, which is discussed below.

Metered areas

Figure 2 shows that while 100 kilolitres of water is purchased in bulk from Rand Water, only 91 kilolitres actually reaches customer meters. Therefore, 9 kilolitres have been physically lost through the JW system, representing 9 per cent of the volume purchased in bulk. The commercial losses correspond to the difference between the volume reaching customer meters (91 kilolitres) and the volume actually billed to the customers (81 kilolitres). Commercial losses are equal to 10 kilolitres and represent 10 per cent of the volume purchased in bulk. The UFW is the sum of physical and commercial losses, that is, 19 per cent in the case of metered areas, which is well within the range of international norms.

¹⁰ According to the 2002 JW business plan.

Figure 2: UFW in metered areas



Source: Johannesburg Water 2004.

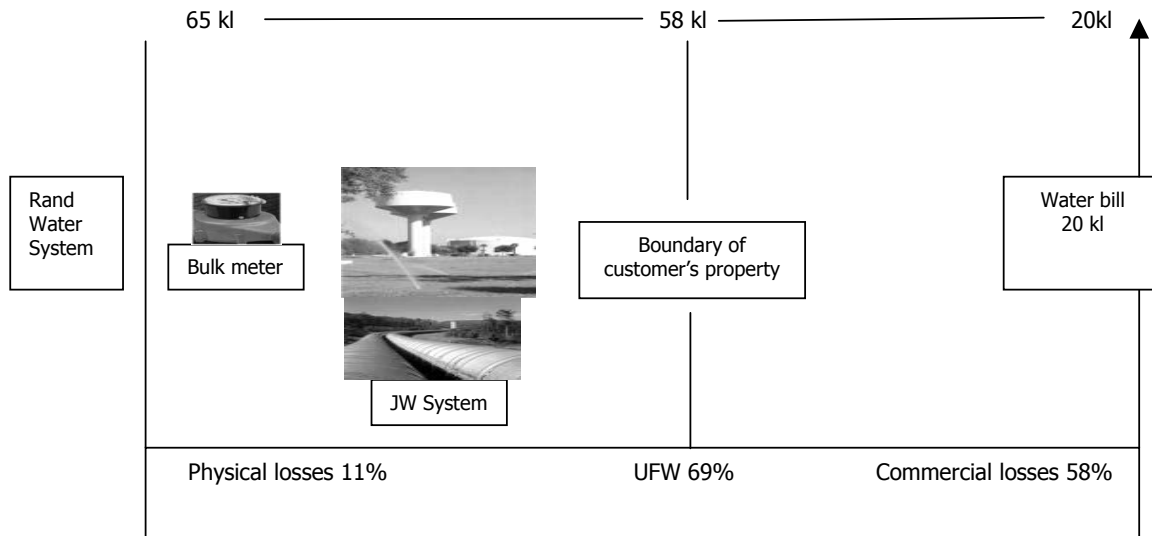
Deemed consumption in unmetered areas

JW supplies water and sewerage services to five formal low-income working class areas: Alexandra, Diepsloot, Ivory Park, Orange Farm and Soweto. For the past decade, water consumption in these areas has been billed as “deemed consumption”, meaning households billed at a flat rate. As of 2005, Soweto was billed at 20 kilolitres per month at a flat rate equivalent to \$17 for water, sanitation, rates and refuse collection services. Alexandra was deemed at 10 kilolitres per month, and Orange Farm was billed at 5 kilolitres deemed until the 6 kilolitres free allocation of water was implemented (see the section on equity concerns). These amounts did not necessarily reflect actual consumption, which in many cases was either far lower – for example, in small businesses and childcare centres – or much higher.

Poor consumer education about conserving water further compounded this unreflective billing. Open communal taps with water running day and night has been a common occurrence in these areas. This has been particularly true for Alexandra and Soweto with estimates of average household consumption patterns of 65 kilolitres per month.

Figure 3 shows that while 65 kilolitres of water is purchased in bulk from Rand Water, only 58 kilolitres actually reaches customer meters. Therefore, seven kilolitres have been physically lost through the JW system, representing 11 per cent of the volume purchased in bulk. The commercial losses correspond to the difference between the volume reaching customer meters (58 kilolitres) and the volume actually billed to the customers (20 kilolitres). Commercial losses are equal to 38 kilolitres and represent 58 per cent of the volume purchased in bulk. UFW is the sum of physical and commercial losses, that is, 69 per cent in the case of unmetered areas.

Figure 3: Deemed consumption/UFW in unmetered areas



Source: Johannesburg Water 2004.

The global figure for UFW—the total purchased from Rand Water minus the total billed to consumers—in Johannesburg in 2004 was calculated at 36 per cent. Table 2 is a breakdown of physical and commercial losses in both metered and unmetered areas; these figures were based on extrapolations from three pilot areas.

Table 2: Physical and commercial water losses

	Physical losses (per cent)	Commercial losses (per cent)	UFW
Metered areas	9	10	19
Unmetered areas	11	58	69

Source: Johannesburg Water 2004.

Based on general UFW calculations, table 2 shows the ratios (in percentage of bulk purchases) estimated over the first nine months of 2004. In the unmetered areas, commercial losses also include property losses, while physical losses are only related to JW.

Strategies to deal with UFW

The core of the turnaround strategy in deemed consumption areas is due to Operation Gcin’amanzi, mentioned above, which means “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. According to JW, 90 per cent of the losses in deemed areas were concentrated in Soweto, thus explaining the focus of activities on this township.

The project has a three-pronged strategy:

1. reduce leaks due to on-property losses through a one-off repair and replacement of domestic plumbing;
2. address physical losses resulting from decrepit infrastructure by replacing old leaking infrastructure, including valves pressure reduction equipment, and replacing/resizing more than 500 large meters; and

3. address the commercial losses through the introduction of a prepaid metering system across Soweto.

Operation Gcin'amanzi is bold in its objectives to improve the infrastructure affecting water and sanitation services to 162,000 households,¹¹ which translates to approximately one million people.¹² The operation's efficiency objectives are to reduce the UAW rate in order to decrease the purchase of bulk water from Rand Water, as well as a proportionate reduction of inflows into sewerage works (hydraulic loading) and contribute to a reduction of sewage purification costs to JW.

The company's decision to combine a one-off repair of 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. JW 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 per cent and an uncontrolled water supply, the company has framed Operation Gcin'amanzi as the "make or break" undertaking and predicts that it will ultimately achieve a savings of \$2.2 million per year upon completion of the project.¹³ 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 surrounding 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 establishing a series of subsidies for households in deemed consumption areas. By introducing prepaid meters with a subsidy package, JW aims to balance a number of objectives such as making water and sanitation more affordable, achieving greater efficiency by addressing the non-payment problem and introducing water demand management to the area. The equity issues related to this will be discussed in detail in the next section.

Operation Gcin'amanzi may be the most important 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 – in particular, management techniques and the programmes put in place by JOWAM.

With respect to improving the city's waste water treatment works, JOWAM has been very effective in reducing the frequency of spillages. JOWAM has initiated a depot-based incentive system that is operationally driven in order to determine where the hotspots are in the city and to be able to more readily respond to spillages when they occur. Several factors have been monitored to ensure improvement in cost effectiveness at the waste water treatment works of JW, including using less than 40 kilograms/millilitres of ferric chloride, using less than 4.6 kilograms/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 needed to meet these objectives and established a call centre that monitors response times to consumer complaints. The quality of data on all of these fronts has allowed the independent auditor to analyse operations within the management contract much more effectively.

¹¹ A more recent estimate since the 2001 census of the number of households in Soweto is 301,690; if Diepsloot and Meadowlands are excluded, the number of household drops to 237,599.

¹² Personal communication with Kirsten Harrison, human development specialist, Corporate Planning Unit, City of Johannesburg, 10 June 2004.

¹³ According to the 2004/2005 JW business plan.

Equity concerns

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 a positive impact in allowing local authorities to reduce their 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 used to finance 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.¹⁴

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 living in township dwellings. These households can range from three–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, with fewer extended family members living under the same roof, and therefore consuming 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 water consumption. A small sample of households conducted by the PDG in several southern suburbs found on average seven to eight people per standpipe (City of Johannesburg 2004). This would often include one account holder with two or three backyard shacks. In such a case, only the account holder is the recipient of the free allocation of water, while the backyard shacks must purchase their water from the main account holder and are therefore not able to access the free allocation.

The free allocation of water is cross-subsidized in several ways. When the policy was first implemented, Johannesburg incorporated a 5 per cent real increase on industry and high-income users for the 2001/2002 financial year.¹⁵ The next year, the utility targeted the second block of domestic consumers by raising the cost of water by 32.5 per cent for households consuming 10 kilolitres (see table 3 and figure 4). As many low-income households have historically fallen into this category of consumption in terms of affordability, this is where poor high-density households have been hit hard by a policy that was designed to assist them (Smith et al. 2003).

¹⁴ This guideline was established to ensure that a household of eight is allocated 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 standard of at least 50 litres per day per person.

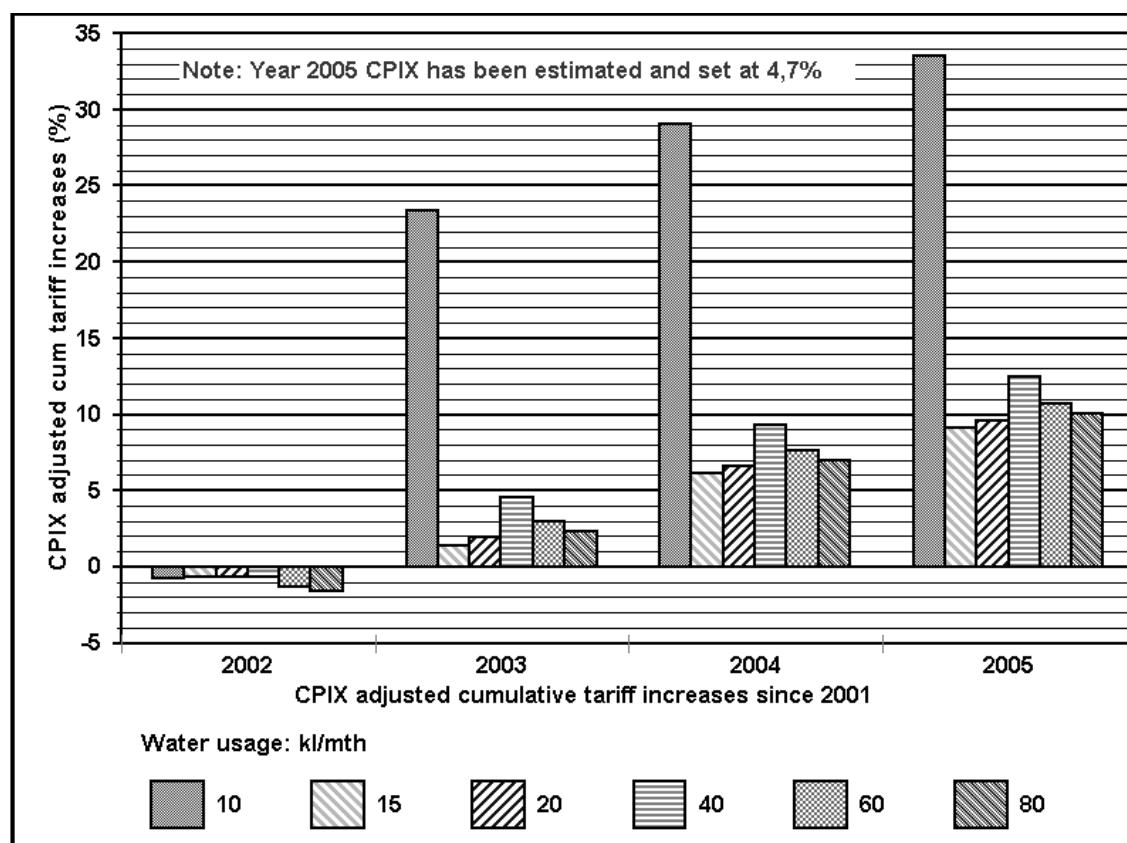
¹⁵ Interview with Helen Kulyk, former acting managing director of JW, 7 June 2004.

Table 3: Consumer price index adjusted cumulative effective tariff increases, 2002–2005 (per cent)

Year of usage	2002	2003	2004	2005
CPIX (2001 = 100)	109.10	116.30	121.20	126.90
Annual inflation %	9.13	6.58	4.25	4.70
6 kl/month	0.00	0.00	0.00	0.00
10 kl/month	-0.80	23.36	29.09	33.57
15 kl/month	-0.66	1.39	6.10	9.12
20 kl/month	-0.64	1.91	6.64	9.60
40 kl/month	-0.67	4.56	9.31	12.48
60 kl/month	-1.34	2.94	7.62	10.70
80 kl/month	-1.60	2.34	6.98	10.03

Note: 2005 consumer price index (CPIX) has been estimated and set at 4.7 per cent. kl = kilolitre. **Source:** Hazleton 2005.

Figure 4: Cumulative effective tariff increases, 2002–2005 (per cent)



Note: CPIX = consumer price index. **Source:** Hazleton 2005.

Table 3 and figure 4 illustrate that households that consume 10 kilolitres on average per month have been hit hardest in terms of cumulative price increases since 2003, taking inflation into account. Targeting the increase to households consuming 10 kilolitres is an effective way to obtain a price increase from consumers, but it negatively affects the poor, since low-income households that cannot manage their water and sanitation needs within the six kilolitres of free

water inevitably move to the next block within the tariff rate. Thus, since 2003, poor families have become progressively worse off regarding the cost of water.

A recent analysis of tariffs across the nine metropolitan areas of South Africa in 2003–2004 and 2004–2005 shows that Johannesburg’s average commercial tariff of \$1.30 per kilolitre is by far the highest in the country in comparison to the actual cost of production of \$0.61 per kilolitre (Sykes and Eberhard 2004). Given that Johannesburg has very little industry within its geographical boundaries, the bulk of its revenues comes from high-end consumers and commercial tariffs. Thus, JW has utilized high tariffs from industry and high volume users to cross-subsidize the cost of water below 20 kilolitres, but the cost of water between 10 kilolitres and 20 kilolitres remains high for low-income users with large families.

Part of the difficulty facing JW in managing a more pro-poor tariff structure is that the bulk of the cost to JW in subsidizing the free allocation of water is the provision of water services to deemed consumption areas and informal settlements, both of which do not fall within the tariff structure. As of June 2004, the cost to the company is approximately \$14.5 million per annum, little of which is covered through national and local subsidies to the company in order to provide service to the poor.¹⁶

The difficulty with sustaining this subsidy arrangement is that the bulk of the rapid migration of people to Johannesburg consists of the poor. At present, a third of the population is cross-subsidizing two-thirds of the population under the current tariff structure.¹⁷ Given the existing socioeconomic circumstances of the majority of people migrating to Johannesburg, the current cross-subsidy schemes that JW 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.

Intergovernmental transfers

The National Treasury sets the funding formula for provinces, which in the postapartheid era has had a rural bias in targeting mainly rural and poor provinces. The amount allocated to each province from national funding is weighted according to the percentage of the population earning under \$166 per month, based on the 2001 national census. Gauteng is considered one of the wealthiest provinces in the country at a 97 per cent urbanization rate and three large metropolitan areas, including Johannesburg as the capital. Even though Gauteng is affluent, the concentration of low-income migrants flowing to Johannesburg in search of employment is the highest in the country. This has left the city with a high concentration of low-income households even though the city generates significant wealth.

In effect, the National Treasury ignores the high concentration of poor in Gauteng, believing that the province has the capacity to redistribute its wealth within an urban management framework. The reality is that the wealth of a city such as Johannesburg is taxed nationally and serves the redistributive aims of the national funding, but leaves little additional scope for the city to tap into this wealth beyond property rates and an increasingly high cost for services.

Transfers from both national and provincial to local government make up about 15 per cent of local government resources (Whelan 2003). 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). 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. Due to its non-conditional nature, whatever monies are passed from national to local governments through the equitable share are not necessarily allocated to the utilities dealing with essential services in the proportions that are required.

¹⁶ Interview with Helen Kulyk, former acting managing director of JW, 7 June 2004.

¹⁷ Interview with Helen Kulyk, former acting managing director of JW, 7 June 2004.

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 them to balance mismanaged budgets. Nevertheless, while the S-Grant is targeted to municipalities to assist them in addressing service delivery backlogs, these local authorities are in no way bound to transferring such resources to the actual service providers. It seems, therefore, that in the case where local governments have decentralized service delivery to external players, they have not necessarily devolved the grants from national governments to these service providers. Unfortunately, the intergovernmental bottlenecks in financial flows are borne by low-income service users.

The National Treasury assumes that the number of poor people living in Johannesburg is approximately 360,000—based on the 2001 census figures—and has used this figure to design an intergovernmental grant that can help the city defray the cost of subsidizing services to the poor. A more realistic figure of the total number of poor people based on estimates since the 2001 census is approximately one million.¹⁸ The transfer from national government, therefore, covers only approximately a third of the actual demand for services from poor people in the city.

The difficult homework that lies ahead for JW 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—that is, 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 the National Treasury to see if the Johannesburg city council can receive additional funding. Finally, JW has to negotiate with the city to ensure that it receives the proportion of the equitable share that it is due.

Backlogs

Improving customer service for JW 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 the company was corporatized. A key challenge of JW is addressing backlogs for low-income settlements. There are approximately 109 informal settlements in the greater Johannesburg area, consisting of some 191,500 dwellings. The majority of these residences will be relocated or upgraded over a number of years through the city's housing programme. Some settlements will become permanent and upgraded in situ, while others will be demolished and relocated through various housing projects. The city must provide a level of service (LOS) commensurate with the status of the settlements, while ensuring that all residents have access to at least a minimum standard safe water and sanitation service (City of Johannesburg 2005).¹⁹

In order to assist JW 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. As indicated in table 4, JOWAM advised the city on a typology of service levels 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 though they were a direct consequence of JOWAM's perception of affordability levels. The city views addressing basic needs through minimum levels of service to all as a priority before moving toward the progressive realization of human rights through higher levels of service, which is consistent with national policy.

¹⁸ Personal communication with Kirsten Harrison, human development specialist, Corporate Planning Unit, City of Johannesburg, 10 June 2004.

¹⁹ It is council policy to not provide basic services to informal settlements on private land as this could lead to future land tenure disputes.

Table 4: Level of service for water and sanitation

LOS	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 (unmetered)	Shallow (or conventional) sewer (unmetered flush toilet outside house)
LOS 3	Permanent informal or formal	Metered house connection	Conventional water borne sewer

Source: 2003/2005 JW business plan.

The city 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 it is generally intended to relocate these settlements. LOS 1—ventilated pit latrines and communal tanks—is applied with a concentration on water kiosk/storage tanks with communal taps and shared ventilated improved pit latrines/ablution blocks. In the case of permanent informal settlements, the city policy is to provide LOS 2—yard taps and pour-flush toilets. Households can then opt for LOS 3—metered house connections and conventional water borne sewers—for a JW fee of \$108. According to national criteria, households earning under \$169 are considered to be living under the poverty line and qualify as indigent. Therefore, in order for a household to upgrade to LOS 3, the cost would be more than half of what their monthly income would be. At this point, this payment is expected to be paid up front rather than financed over time, making it difficult for households to save the necessary funds for service level upgrading.

The issue of household affordability is certainly a driver for how JW and the city have decided on the levels of service. It is, however, an approach that helps to perpetuate inequality as people living in shacks in remote settlements have historically been denied the opportunity to earn the incomes that would make a higher quality of home and services affordable. Obviously, JW is not responsible for the historical conditions that have created the socioeconomic environment of the people for whom it provides services, since this affordability problem is a residue of 60 years of apartheid laws. It is precisely because of this history, however, that JW holds such an important means to redress 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 98 per cent of the population is estimated to have access to at least basic water services. The real challenge for JW is to address the sanitation backlogs of 71,880 dwellings that are without basic sanitation and are located in permanent and impermanent informal settlements (City of Johannesburg 2005). This backlog means a coverage of approximately 91.3 per cent, leaving 8.7 per cent of the total number of dwellings in Johannesburg without access to even a ventilated improved pit latrine.

The delay for JW in meeting these backlogs has been due to 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, JW cannot meet its responsibilities in extending bulk services to the township, and thus a cost that the company itself must bear. Financial issues are not the cause for the delay.

Second, the difficulty with regard to reticulated services, which is the responsibility of the housing department, 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 finance a LOS 2, which is the basic level of service mandated by the city. The city's standard is to provide waterborne sanitation (pour flush) for formal township

areas including permanent informal settlements and is higher than the standard and related subsidy provided by the provincial government, which is only a ventilated pit latrine LOS 1. The costs to the city, in terms of funding the capital shortfall in providing LOS 2 over the five-year period—from 2004/2005 to 2009/2010—is approximately \$13 million (City of Johannesburg 2005). This sanitation backlog is a pressing issue for JW since the minister of DWAF has mandated the elimination of all sanitation backlogs by 2010.

Prepaid meters

JW as well as the city have been clear in arguing that the ability of the city to address water and sanitation backlogs is constrained by poor revenues due to high non-payment rates in deemed areas and poor collection of revenues in metered areas 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 for non-payment (Rabe 2000). Tshwane, eThekweni and Cape Town are three metropolitan areas that have piloted this technology. The technology has also been introduced in smaller towns such as Ashton with 950 meters installed and Riversdal with 1,200 meters installed in the province of the Western Cape. In rural areas such as Matatiele and Ingwe in the province of Kwa-Zulu Natal, prepaid meters have been installed in communal standpipes that service 800 households in each area.²⁰

The predominant political challenge facing JW in choosing this technology is that the city has some of the most vocal and well-organized civil society organizations that are adamantly opposed to the privatization of essential services in the country. These groups see cost recovery measures such as prepaid meters as inherent to privatization. Organizations such as the Anti-Privatization Forum and the Soweto Electricity Crisis Committee have been actively campaigning in Soweto against the introduction of prepaid meters and have, to a certain degree, contributed to the anxiety among some residents about the impact of prepaid meters. Such social unrest regarding the introduction of prepaid meters is a threat to JW's plans for Operation Gcin'amanzi due to increasing security costs to prevent vandalism of the newly installed meters.

As noted above, a key thrust of Operation Gcin'amanzi has been to promote water demand management in Soweto by conducting a one-off repair of property plumbing fixtures and at the same time introducing a consumption reduction technology, while shifting from a deemed consumption to volumetric (prepaid) 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 since 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, JW was willing to cover these costs of repair as a one-off effort in order to complete the infrastructure upgrading in the area. The company determined that if conventional meters were put in place, then the households 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, JW has developed pro-poor components to the introduction of prepaid meters. First, households that agree to have prepaid meters would remain at LOS 3 with in-house connections and waterborne sanitation.²¹ Second, households that receive prepaid meters will also be given a subsidized tariff. Tables 5 and 6 illustrate the subsidy amounts provided to households with prepaid meters.

²⁰ This trend is alarming, given the claims that the introduction of this technology in rural areas of the Kwa-Zulu province in 2001 has contributed to the country's worst cholera outbreak; 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 (Deedat and Cottle 2002). When households are too poor to pay for water, they initially tend to consume less, but then turn to alternate sources to survive, both of which can have detrimental public health implications.

²¹ Ironically, most of Soweto residents had a LOS 3 put in place when the apartheid government built the township in the 1980s before cost-recovery methods were a feature of local government thinking.

Table 5: Domestic water tariffs, metered areas

Volume used (kl per connection per month)	2003/2004 tariffs (\$/kl)	2004/2005 proposed tariffs (\$/kl)	2005/2006 proposed tariffs (\$/kl)
0–6	0.00	0.00	0.00
7–10	0.51	0.55	0.60
11–15	0.68	0.74	0.79
16–20	0.85	0.92	0.99
21–40	1.02	1.17	1.19
41+	1.20	1.31	1.41

Note: The figures exclude VAT but include inflation. Kl = kilolitre.

Table 6: Domestic water tariffs in previously deemed consumption areas fitted with prepaid metered connections per Operation Gcin'amanzi

Volume used (kl per connection per month)	2003/2004 tariffs subsidized measured (\$/kl)	2004/2005 tariffs subsidized measured (\$/kl)	2005/2006 tariffs subsidized measured (\$/kl)
0–6	0.00	0.00	0.00
7–10	0.39	0.42	0.45
11–15	0.46	0.50	0.54
16–20	0.71	0.78	0.84
21–40	0.99	1.07	1.15
41+	1.20	1.31	1.41

Note: The figures exclude VAT but include inflation. Kl = kilolitre.

Third, in Soweto the first six kilolitres of water that is discharged by a household for sanitation purposes is at no cost, thereafter a subsidized tariff in accordance with volumetric consumption is applied. Tables 7 and 8 contrast normal tariffs with subsidized tariffs.

Table 7: Private dwelling domestic sanitation tariffs

Erf ^a size (square metres)	2003/2004 tariffs (\$/erf/month)	2004/2005 tariffs (\$/erf/month)	2005/2006 tariffs (\$/erf/month)
0–300	6.26	6.83	7.35
301–1,000	12.19	13.28	14.31
1,001–2,000	18.45	20.11	21.65
2,000+	26.57	28.96	31.19

^a A plot of land, usually about half an acre. **Note:** The figures exclude VAT 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, that is, not tampering with the technology or connecting it illegally, in return for a gradual debt write-off, which is structured over a three-year period. The policy was endorsed by the city council in February 2004 when it agreed to write off \$1.5 million in 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 per cent 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.

Table 8: Domestic sanitation tariffs in previously deemed consumption areas fitted with metered connections per Operation Gcin'amanzi

Volume used <i>(kl per connection per month)</i>	2003/2004 tariffs subsidized measured <i>(\$/kl)</i>	2004/2005 tariffs subsidized measured <i>(\$/kl)</i>	2005/2006 tariffs subsidized measured <i>(\$/kl)</i>
0-6	0.00	0.00	0.00
7-10	0.23	0.25	0.26
11-15	0.25	0.28	0.30
16-20	0.41	0.44	0.48
21-40	0.56	0.61	0.66
41-50	0.69	0.75	0.80
50+	0.23	0.25	0.26

Note: The figures exclude VAT but include inflation. Kl = kilolitre.

Fifth, in order to persuade residents in Soweto of the benefits associated with prepaid meters, JW has had to incorporate two important principles in the promotion of the technology. It has promised that only households that consent to having prepaid meters will receive the associated benefits. Households, therefore, sign agreements with the company that state what their responsibilities are in choosing a prepaid meter. In addition, it is a matter of educating residents about how to manage this new technology. Thus, JOWAM has introduced a number of public education programmes based on its international experience. Through these programmes, JW has undergone door-to-door campaigns that offer training on how to use prepaid meters and handed out pamphlets that explain how prepaid meters work. However, these marketing techniques should not be confused with genuine public participation processes.

Despite the efforts made by JW to try 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. The campaigns of anti-privatization groups may be influencing this resistance. The opposition may also be due to the perception that households that do not choose to have prepaid meters receive inferior service quality. Households that do not consent to a prepaid meter will receive a LOS 2, rather than a LOS 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 six kilometres and 10 kilolitres per 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 programme, 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 choose. If a household is adamantly opposed to JW entering their property because of their opposition to the concept of prepaid meters or having a LOS 2 installed because it is seen as an inferior quality of service than they currently have, then their water will be disconnected.

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. Prior to the commencement of the programme, JW had determined that the average household water consumption was 60 kilolitres per month, 42 kilolitres of which was due to water leakages. The programme saw a reduction of physical losses from 60 kilolitres to 11 kilolitres. Approximately 63 per cent of households now consume above the free six kilolitres with an average monthly household consumption of 11 kilolitres. For this amount of consumption, households are paying on average \$6 per month for water and sanitation (Johannesburg Water 2005). On the efficiency side, the preliminary results from upgrading water mains in the area, repairing onsite plumbing and introducing prepaid meters have resulted in financial savings of approximately \$153,846 to date through the reduction of bulk purchases for JW.

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 from 70 per cent to 75 per cent of households are not consuming more than the free allocation of six kilolitres of water.²² While this may be a good thing in terms of water demand management in low-income areas, it might also be a question of households choosing to restrict consumption for fear of running out of supply. For example, there are questions about the public health implications of this underconsumption in large families living in Orange Farm.

The urban political ecology of Johannesburg is captured well by the socioeconomic 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 paid to water conservation in the affluent northern suburbs, which consume the bulk of the city's water by watering lush 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.²³

In looking ahead, a significant challenge facing JW 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 regard to the low-income strata of these migrants, where are they settling? What is the average cost of a package of services for a low-income household and what percentage of household expenditure patterns does the cost of this service 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 JW is facing such as resource constraints and redistributive mechanisms, which 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 highlights how low-income service users are experiencing the water and sanitation services delivered to them by JW.

Customer satisfaction survey

A customer satisfaction survey was designed by the CMU to begin making inroads in clarifying 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 the perceptions of residents of low-income households about 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 figures 5, 6 and 7). 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 affects their quality of life and how the 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 township areas in

²² Interview with Helen Kulyk, former acting managing director of JW, 7 June 2004.

²³ Personal communication with Jean Pierre Mas, chief executive officer of JOWAM, 8 May 2004.

Johannesburg. Inevitably, people living in Eldorado Park as opposed to Diepsloot experience infrastructure services, such as water and sanitation, very differently.

The survey was structured thematically to tease out issues regarding affordability, water quality, the experiences of households receiving prepaid meters and public participation. This section briefly describes 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 9 highlights the geographical locations in which this infrastructure breakdown existed.

Table 9: Level of service for water and sanitation

Township	Level of service for water	Level of service for sanitation
Permanent and temporary informal settlements Diepsloot	<i>1 and 2:</i> yard taps communal standpipes water tankers	<i>1 and below basic:</i> yard tap communal toilets buckets
Formal settlements Eldorado Park	<i>3:</i> inhouse connections	<i>3:</i> waterborne sanitation
Klipspruit	<i>2 and 3:</i> yard taps inhouse connections	<i>2 and 3:</i> waterborne sanitation both in yard and inhouse
Orange Farm (prepaid meters)	yard taps water tankers	<i>2 and below basic:</i> condominial sewers buckets

Source: Author's analysis from raw data.

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 Region 1. It consists of mostly impermanent informal settlements and permanent informal settlements with a total population of 82,341 (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 9,000 Reconstruction and Development Programme housing units have been built over the last five years with LOS 2. Diepsloot extension 1, an impermanent informal settlement, has access to LOS 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 have high levels of water infrastructure (LOS 2 and 3). Eldorado Park in Region 10, built in the early 1970s, has in-house 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 the city council in terms of upgrading and maintenance of water and sanitation infrastructure.

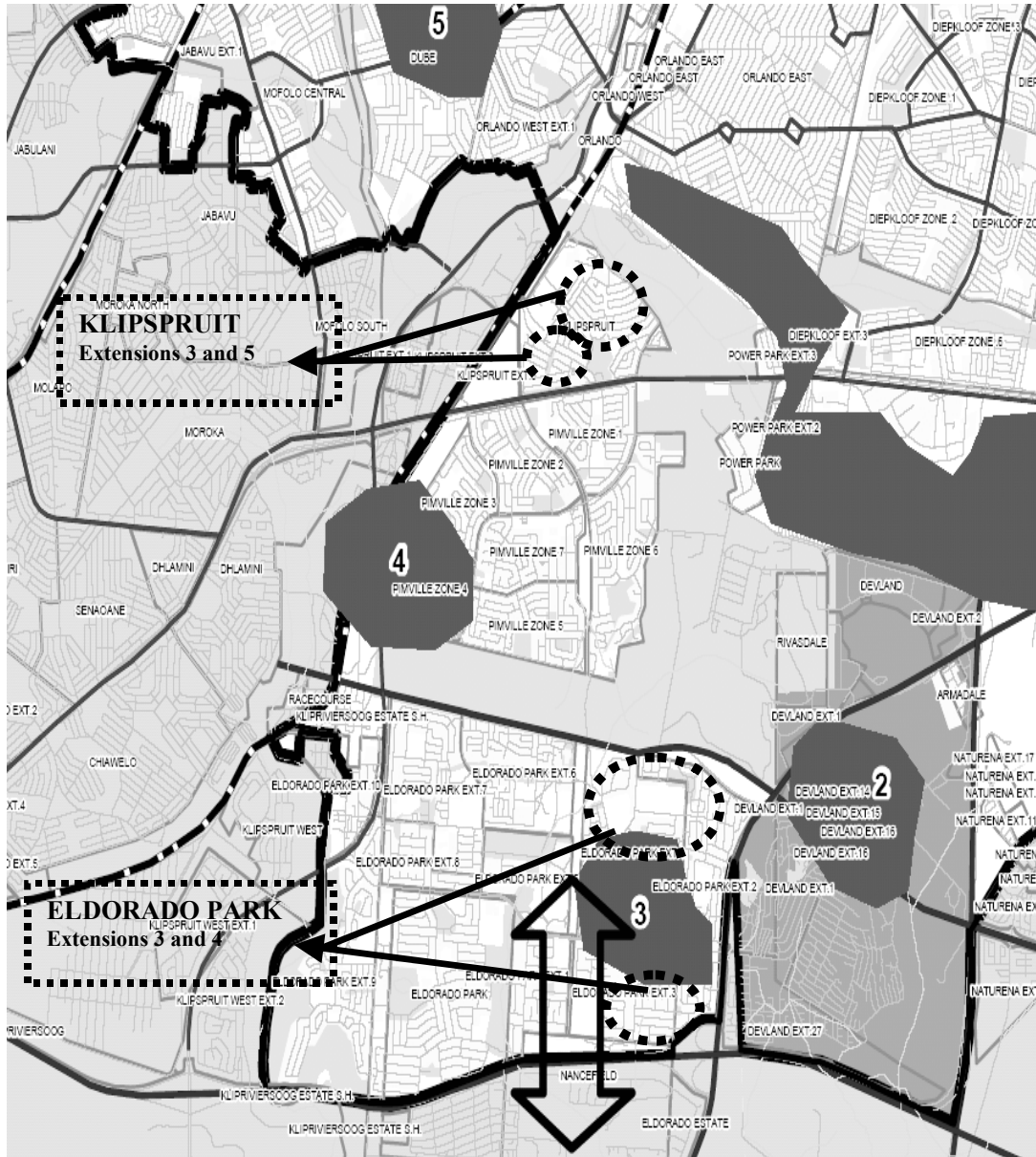
Figure 5: Regions where household surveys were conducted

Johannesburg Administrative Regions



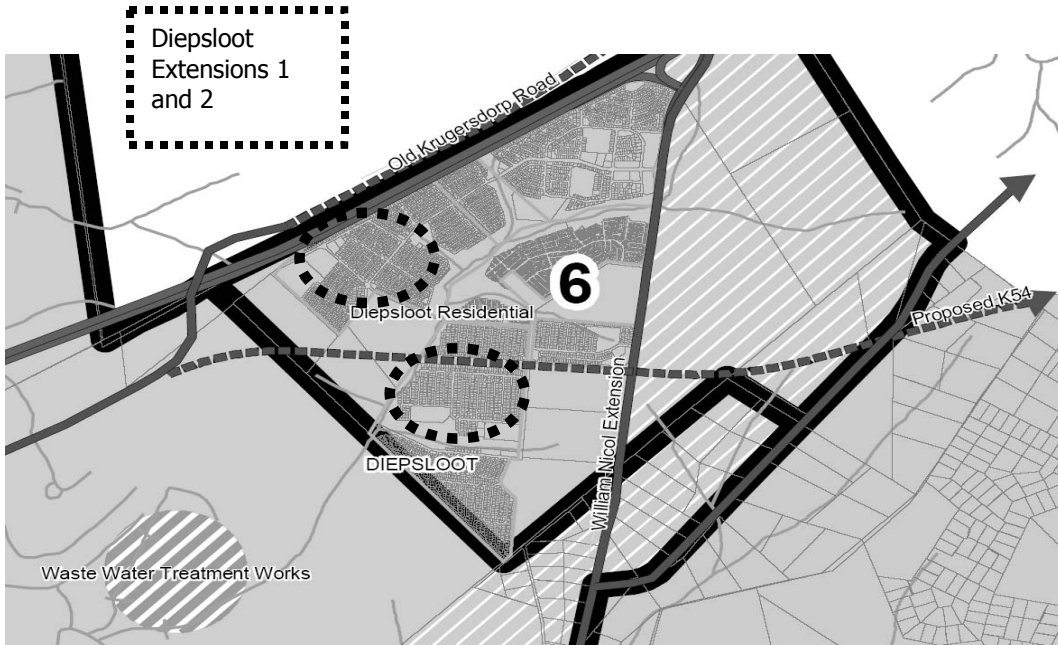
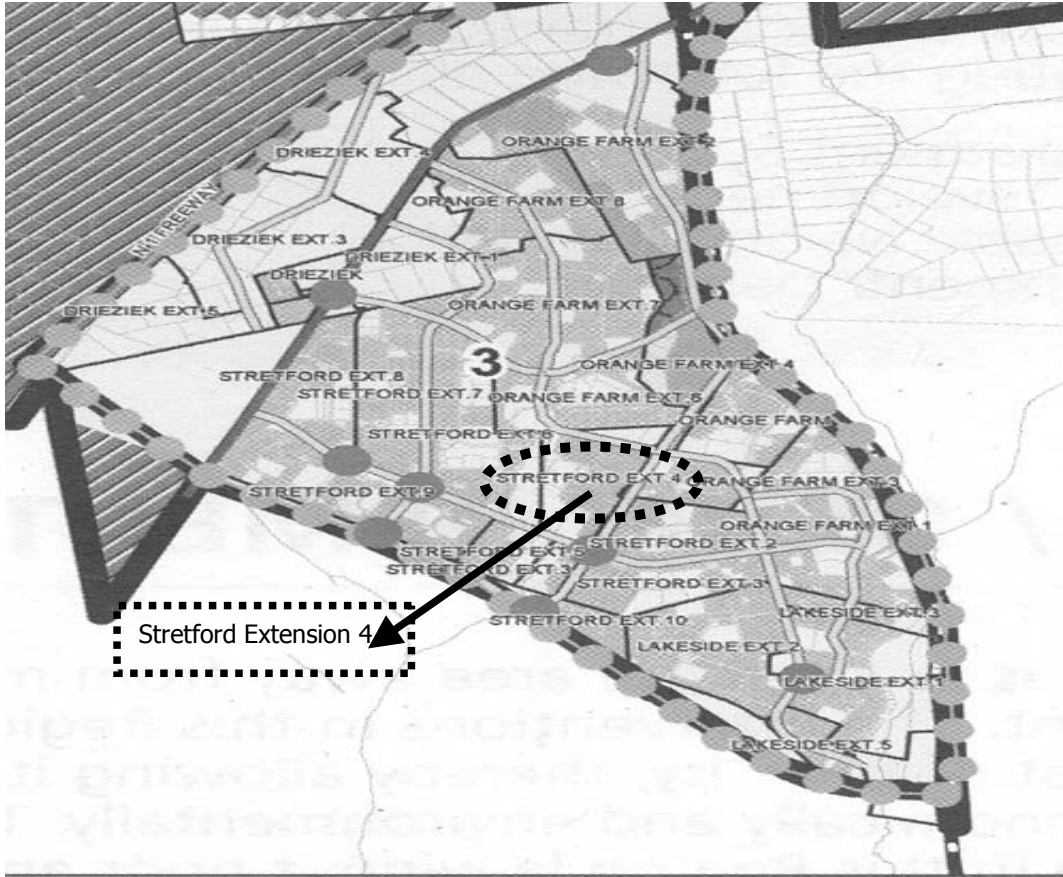
Note: Ext = extension. **Source:** Geographic Information Systems Department, City of Johannesburg.

**Figure 6: Township areas where household surveys were conducted:
Klipspruit and Eldorado Park**



Source: Alteration of Geographic Information System Department map, City of Johannesburg.

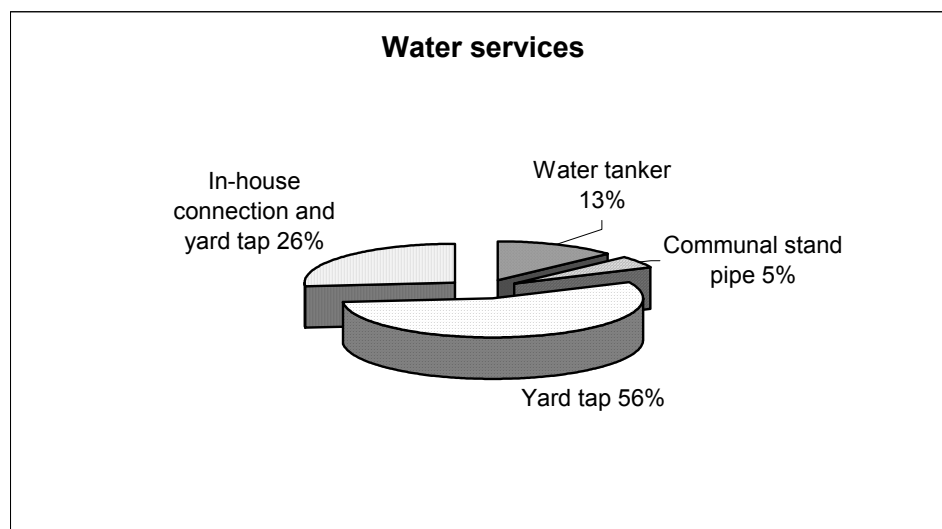
**Figure 7: Township areas where household surveys were conducted:
Orange Farm and Diepsloot**



Source: Alteration of Geographic Information System map, City of Johannesburg.

Figure 8 illustrates the breakdown of infrastructure types among the households that were surveyed.

Figure 8: Breakdown of service delivery levels among households surveyed



Source: Author's analysis of raw data.

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 residents 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.²⁴ Stretford 4, until September 2002, was an area in Orange Farm where basic sanitation service backlogs had not yet been redressed by JW. The initial standard level of service was a bucket and water tanker. The community approached JW for an upgrade in their water and sanitation infrastructure and became, through this request, a pilot project for JW to test prepaid meters. Approximately 1,389 units in this area were provided with service upgrades to LOS 2—shallow condominal sewers situated outside of the house with yard tap connections—in return for the introduction of prepaid meters.

General themes

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 (South African Bureau of Standards) 241 Edition 5 of 2001 states that the standard 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, and were unbiased toward JW as well as to the city.²⁵ The surveyors sampled 30 sites within the four township areas and only four sites were analysed as unacceptable.²⁶

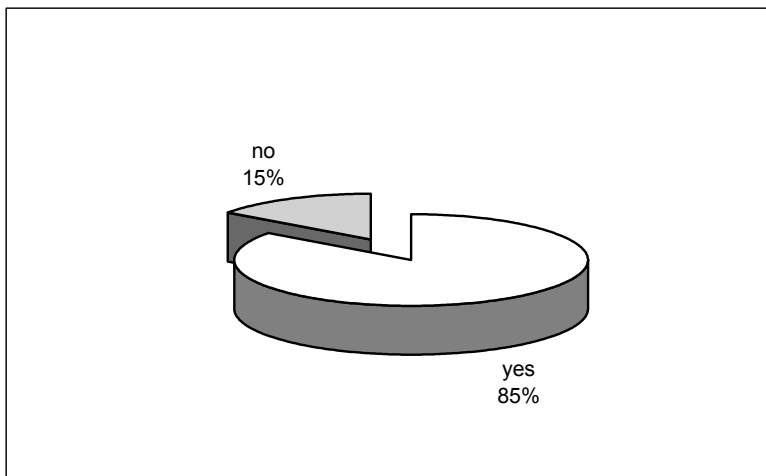
²⁴ According to the 2002 JW business plan, p.8.

²⁵ The Environmental Health Unit of Regions 1 and 2 of the city conducted training in sampling techniques and the preservation and handling of samples. The Infection Control Services Medical lab at Wits University carried out a sample analysis.

²⁶ The Environmental Health Unit is conducting follow-up visits to these areas for re-sampling with associated remedial action to be implemented.

JW can be commended for the absence of *E. coli* detected in any samples. On the whole, JW is doing a good job in ensuring that a high quality of potable water is distributed to the residents of the city. Water quality is high due to bulk supply from Rand Water and because DWAF requires regular testing. As noted in figure 9, of a total of 182 respondents, 85 per cent stated that they were satisfied with their water quality.

Figure 9: Satisfaction with water quality



Source: CMU customer service survey.

While the residents surveyed were on the whole very satisfied with the quality of water they received, they were frustrated with the reliability of the service. Numerous households said that they did not receive any notice from JW when water was disconnected for maintenance repairs. This 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 households insisted that JW resolve the communication problem.

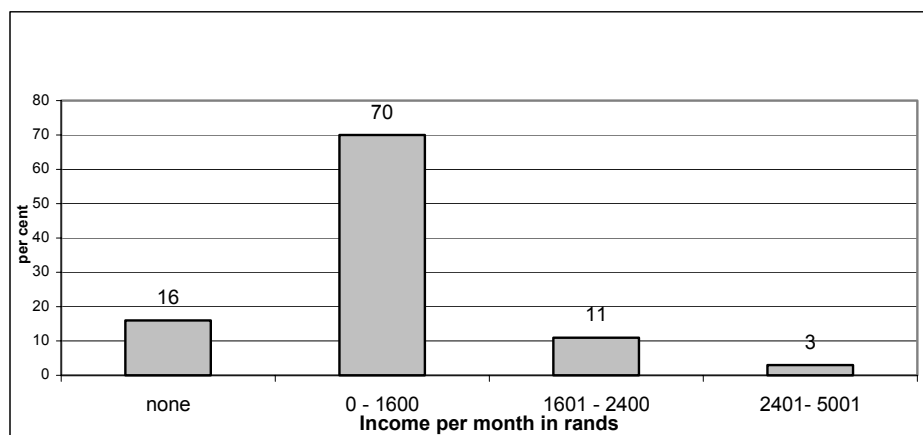
Affordability

With payment rates for water at 73 per cent for the city in general and 15 per cent in Soweto in particular, 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 city, which has retained the function of billing for JW, has been working with faulty data regarding what people owe and whether the city has correct addresses for their customers. These problems stem 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 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 paper it suffices to say that where the culture of non-payment persists it may be a response to a public perception of continued poor quality of services, despite the fact that we are currently 10 years into the postapartheid 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 city. Soweto, for example, has an unemployment rate of 53 per cent, thus illustrating the difficulties of households to pay for essential services such as water and sanitation. Figure 10 illustrates that 86 per cent of the respondents interviewed fell below the poverty line. According to current income categories

defined by the city, indigent households fall between 0 and \$215 per month.²⁷ Inevitably, 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.

Figure 10: Approximate monthly family income



Source: Author's analysis of raw data.

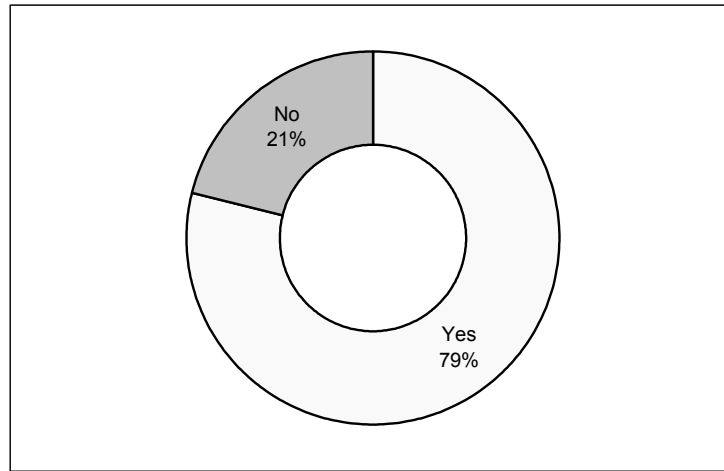
Clearly, households that are living below the breadline are struggling to afford basic services. World Bank studies suggest that average expenditure patterns above 5 per cent of monthly household income are usually unaffordable for the poor. A study conducted by Tomlinson et al. in 2001 indicated that it was unaffordable for low-income households living in Johannesburg to pay more than 10 per cent of their monthly income on basic services. If JW were to double the free allocation of water to 12 kilolitres, which would be in line with the World Health Organization standards indicated above—that is, 50 litres per person per day—for households that converted to a prepayment meter based on the 2003–2004 tariff structure, their water cost would be \$2.16 per month and \$1.16 per month for sanitation. This is a total cost per month of \$3.62, which is 1.6 per cent of the household income of \$215 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 JW, DWAF and the National Treasury is to determine the cost of doubling the free allocation to see if it is financially viable.

The three reasons for non-payment and inaccurate meter readings have collectively 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.

Households that cannot afford to keep up their current accounts have fallen into debt, and 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 to this question, 79 per cent, as indicated in figure 11, were in arrears.

²⁷ Categories provided by Kirsten Harrison, human development specialist, Corporate Planning Unit, City of Johannesburg.

Figure 11: Are you in arrears?



Source: Author's analysis of raw data.

Arrears was the most critical economic issue emerging from interviews in Klipspruit and Eldorado Park. 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 and 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 the interest and ability to pay current accounts. Residents in Klipspruit 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 relief as they thought it would alleviate their struggle to pay off arrears. Others were very apprehensive about 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, Region 6, where the residents have a very high level of indigence. Many households in this area have applied for indigency grants in order to receive subsidized essential services. The limited administrative capacity of the Special Cases Unit to process these applications may well take several years. Clearly, intermediary mechanisms must be developed to assist households that are too poor to pay and yet will not be eligible for the subsidized tariffs being applied across Soweto to make services more affordable.

Public perception of prepaid meters

As noted above, Orange Farm was a pilot area where JW introduced prepaid meters in return for an upgrading of sanitation services from LOS 1 to LOS 3 (shallow condominal 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), insufficient information was 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 rationale for JW to introduce prepaid meters was to foster greater household management of water consumption. Based on the experience of the Orange Farm pilot, JW has addressed these concerns in its Operation Gcin'amanzi pilot project

in Phiri by using a higher quality 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 obtained, which was frustrating for many residents. JW informed them that if they paid a fee of \$15 they would receive a flush toilet. They signed the necessary consent form for the change of service, which was a noticeable improvement from using a bucket or ventilated improved pit latrine, but then found that this arrangement came with a prepaid meter. The confusion may lie in the fact that when the community approached JW 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 JW meant prepaid meters. Many questioned why the issue of prepaid meters was not openly discussed from the outset when residents' consent for installing a flush toilet was requested by JW. Table 10 notes that 44 per cent of the respondents in Orange Farm said that they did not provide consent prior to having prepaid meters installed in their homes.

Table 10: Consent for prepaid meters, Orange Farm

Consent for the installation	Per cent
Yes	55
No	44
Total	99

Note: Due to rounding, the total does not add up to 100. **Source:** Author's analysis of raw data.

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

When residents were asked whether they were satisfied with prepaid meters, 61 per cent of respondents of the 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 washing of clothes in neighbouring areas where there are still unmetered taps. A few respondents mentioned that they ceased to grow their own food because they were afraid that they would run out of water for their "essential" needs; because of this, subsistence farming has diminished in this area. Similar reasons were given for households that have taken their laundry activities elsewhere. It is perhaps these very 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 acting responsibly, 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, six of the 10 respondents that said they used water less for gardening purposes since the introduction of prepaid meters were women. While these numbers are insufficient evidence to indicate that prepaid meters have a gender 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, and in particular, of sanitation. Unemployed residents have abstained from using water for sanitation purposes in order to reserve their water consumption for drinking, cleaning and washing purposes. For example, a toilet would be used four or five times before being flushed in order to save water. The side effect to saving water inevitably created 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 using the toilet. The use of newspapers clearly contributes to the frequency of blocked toilets in Stretford; however, substandard sanitation infrastructure could also be a contributing factor.

The sanitation infrastructure in these households is a shallow condominium sewer that has a tendency to clog more easily than full waterborne sanitation, which has a deeper bowl 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. The public perception in Stretford is that the incidence of blocked individual toilets turns into a collective problem because the sewer system between houses is too short. The result is that when one household's toilet becomes blocked, the adjacent houses in that same row also become blocked. Survey workers observed houses where the toilets were not blocked, but the toilet system was not working because of the sewer problems. The reason for this blockage could be linked to the fact JW tried to save on capital investment costs in this pilot area by using a smaller diameter of sewer pipe of 100 millimetres, rather than the national standards set at 150 millimetres;²⁸ the former of course does not offer the same flow-through.

JW chose condominium sewers as an alternative level of sanitation that had the benefits of full waterborne sanitation, but at an affordable level since it offered households 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 shared the responsibility of unblocking them. While there may have been a perception by JW that residents bought into this collective effort, in practice they have not been inspired to work together to unblock the frequently blocked sewers.

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

However, the surveys conducted by the CMU suggest a different story than that provided by JW—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 (see table 11). 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 Operation Gcin'amanzi and the potential risks to the city council if public concerns about prepaid meters are not properly managed.

²⁸ SABS EN295 Part 1&2 for vitrified clay pipes.

Table 11: Resident satisfaction with prepaid meters

Are you satisfied with prepaid meters?	Per cent
Yes	39
No	61
Total	100

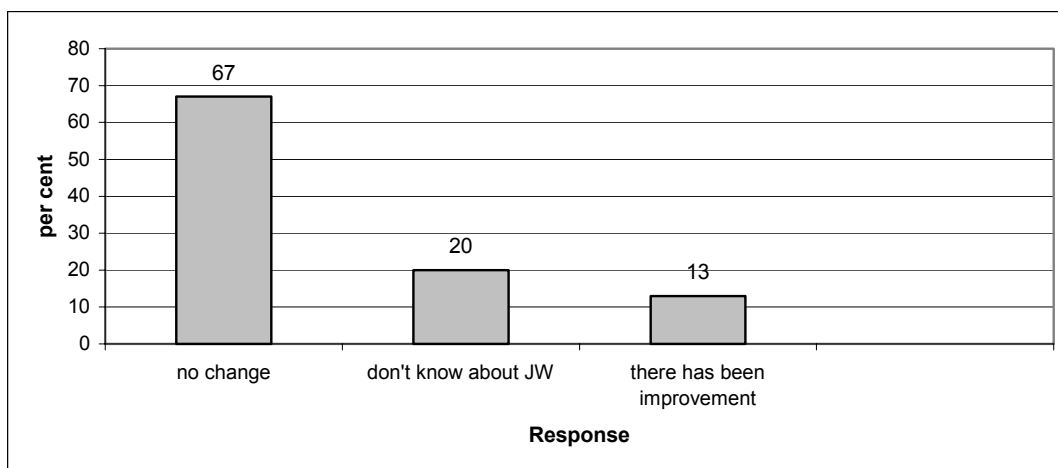
Source: Author's analysis of raw data.

JW 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.

Customer satisfaction

Part of the city's motivation in creating JW as a separate water utility was to distinguish it as a company with its own respective identity so that households could associate it with the quality of water services they receive. Despite significant efforts made by JW to brand itself, figure 12 indicates that 67 per cent respondents (N182) reported that there had been no change in water services since the utility was formed in 2001 and 20 per cent responded that they were not aware of JW's existence. Only 13 per cent responded that there had been some improvement. It seems that JW still has room for improvement in changing their customer perceptions that the utility is a world-class African water service provider.

Figure 12: Significant changes in water and sanitation services since JW took over

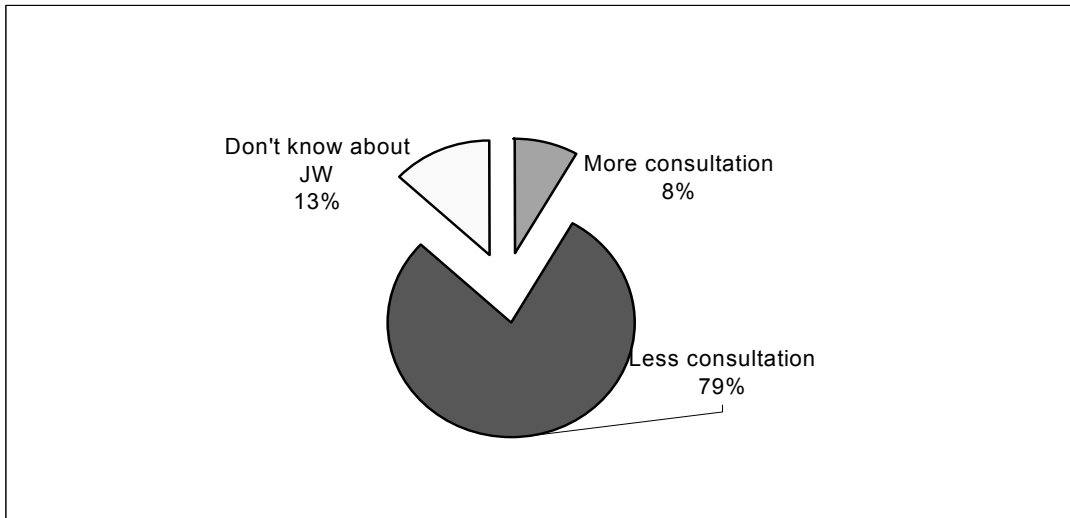


Source: Author's analysis of raw data.

The responses of residents regarding their participation in meetings or events that related to education or information sharing on water and sanitation systems were varied. Figure 13 notes that 79 per cent 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 JW 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 Operation Gcin'amanzi, JW regularly hosts public meetings and conducts door-to-door campaigns and consumer workshops. Furthermore, JW has put significant resources into public relations materials such as widespread publication of user-friendly pamphlets and billboards with the utility's logo. The findings from figure 13, however, suggest that despite JW's public education efforts, they are

not being effective in giving the impression to residents that they are being sufficiently informed by the utility regarding changes in their water and sanitation services. These figures are consistent with the findings from the Residents Satisfaction Survey 2003 conducted by the PDG for the Corporate Planning Unit. In this report, which sampled 3,500 residents across the city, 62.4 per cent of the respondents said “none” when asked how frequently they received information from the municipality that was not a bill (City of Johannesburg 2003).

Figure 13: Degree of consultation since JW began providing water services



Source: Author's analysis of raw data.

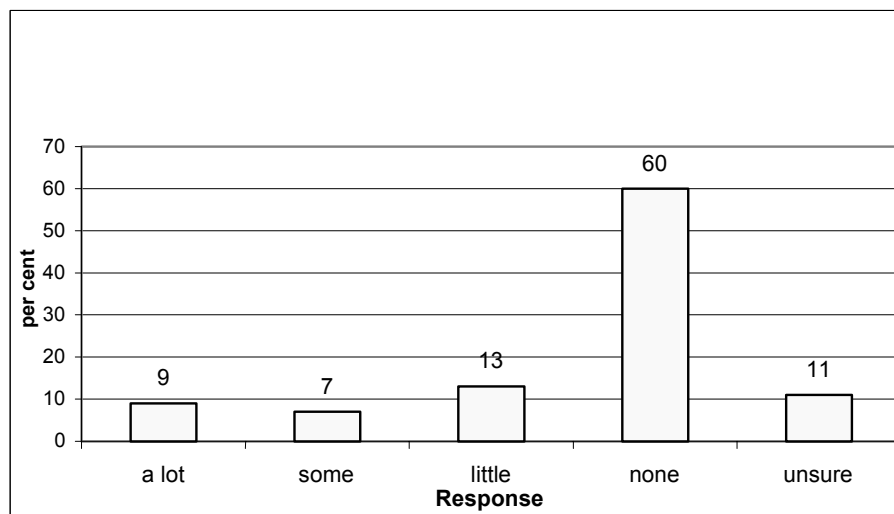
With respect to changes in water services, JW's activities have largely been channelled through existing civic structures, which also involve street committees. This is a very decentralized and important vehicle for disseminating information. Such channels are also complimented by ward committee structures that meet every month. 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, there is still nevertheless a growing low-income despondency among service users. Poverty and inequality are increasing in the city and the harsh findings from the 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 about 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 JW, as well as 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 14 shows that 60 per cent of the respondents felt that they were not involved in these processes. On the surface, these findings correlated with the Johannesburg survey where 73 per cent said they were not given sufficient information and opportunity to influence the running of the municipality between elections (City of Johannesburg 2003). Beneath the surface, however, 16 per cent stated that they felt they were involved in decision making and a further 13 per cent said they were somewhat 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 JW is how to increase the proportion of customers who have a say in the decisions that affect service delivery standards and, by consequence, the decisions that shape their day-to-day lives.

Figure 14: Involvement of households/communities in decision and planning on service delivery



Source: Author's analysis of raw data.

The city has put in more effort over the last few years to create public participation channels than has ever existed previously. Nevertheless, the findings suggest that the communication gap between local government and service users still has room for improvement and further efforts are needed for the city to develop a more integrated approach to public education.

At present, each utility conducts its own public education initiatives without necessarily ensuring that the message conveyed to residents enables them to assess the comparative advantages and disadvantages of a basket of services versus a single service for their well-being. To achieve this requires greater coordination among 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. A utility such as JW 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 who are sufficiently informed to hold their service providers accountable to a quality of service that is mandated by the shareholder, that is, the city. Finally, while the utilities, such as JW, 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 city 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 for the perceptions of the customers they serve.

Conclusion

The first part of this paper highlighted some of the reasons for recommending state reform of the public sector as a result of the bureaucratic inefficiency 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

efficiency and simultaneously create new mechanisms for a more equitable provision of water to the poor.

The second part of the paper has tried to illustrate whether the nature of the public-private partnerships made it easier or harder for the city in trying to achieve greater equity in the provision of public services. In analyzing this issue, the paper explored both the external and internal constraints that made it more difficult for the city to achieve its equity objectives in water delivery. This was compounded by institutional choices made by the provider that may have been necessary for it to become more financially sustainable, but which barely addressed the city's policies of promoting greater equity in service provision.

In effect, the city's ability to address equity issues are enormously constrained by two external circumstances that are above and beyond the nature of the institutional mechanism selected for delivery. First, the inadequate fiscal transfers from the national government to Johannesburg leave a large proportion of the poor in the city underserved or unserved. This is coupled by the lack of transparency between the city budget office and the water utility in terms of ensuring that grants provided by the national fiscus for basic water services are handed over to the water utility. Second, the history of inequality due to apartheid has created a fragmented approach to service delivery that is now compounded by the nature of the growth patterns in the city, that is, the majority of migrants moving into the city are searching for work and are unable to afford a high level of service and thus fuel the backlogs for minimum levels of service. These external circumstances cannot be underestimated when taking into account the difficulties in addressing service backlogs, while simultaneously trying to move to higher levels of service.

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, faces a rapid growth of urban poverty. What prevents the city from addressing this contradiction is the 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 world. 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, it is important to ask them to provoke thinking on how to unlock the distributive mechanisms of the state to ensure 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 disadvantaged areas. The city's continued inefficiency in billing and revenue collection threaten to undermine some of the notable efficiency gains made by JW. In addition, the company is still plagued with its shareholder's struggle to reform the redistributive mechanisms of the public sector amid age-old mistrust between officials and councillors on how to tackle this issue. In turning to corporatization without addressing these management issues, there are some difficult governance issues to contend with.

The Johannesburg corporatization model holds several unresolved tensions with regard to the dual identities that 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 postapartheid 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 surplus for its shareholder. In the Johannesburg instance, the shareholder is the city, as represented through its appointment of a board of directors that governs JW. The board, even though it is meant to act for the public interest, is driven by private sector considerations in order to ensure the financial viability of the company they are governing. For example, the board approves the use of prepaid meters to deal with a non-payment situation in an area with a 53 per cent unemployment rate. This commercial drive introduces managerial practices, such as the concentration of power that runs counter to the historical manner with 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 growth.

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 efficiency, whereas the city wants to see a social return on its investment, for instance through 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 is 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. On the surface, these issues may appear 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 reducing water leakages, tend to mask significant social issues related to the quality of services and affordability, the latter of which is important to the politicians in the city. Once the city relocates the governance of the business of water to a board of directors, it reduces its own political influence over the service provider. Such information may seem technical to a board of directors, which is operating within the very narrow confines of a single company, but such information is also largely political to the city. The latter 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 executive management team of the utility to the board of directors of JW and to the decision-making arenas of the city. This disconnect is associated with a concentration of power that was inherent in the deliberate abdication of the city's power to the board to avoid the political liabilities that are inevitable when facing hard budget constraints.

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 JW is illustrative of the disconnect between technical information and its political outcomes. This disconnect could in large part be due to the city not knowing what information is relevant, that is, what information it needs to make the appropriate policy decisions. The second part of this disconnect is the quality of data provided by JW once the right questions are asked. 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, presented a challenge for the regulator because of the latter's lack of experience in governance within a business environment.

The shortcoming of the regulator has been rooted in its limited knowledge of the water sector, as it is simultaneously focusing on monitoring 13 other public functions that have also been corporatized. In the process of moving up the learning curve, the CMU has had difficulty in determining which 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 the right information. 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 JW and therefore have a right to information. Because the city allows the utility to communicate directly with the public without involving the shareholders, it is abdicating its responsibility to ensure 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 directly consider 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 the 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 JW operates.

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