

# **Regulatory Governance of the Water Sector in South Africa**

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*Among the many challenges inherited by South Africa in 1994, one of the more difficult and pressing relates to provision of adequate water services to almost a third of the urban South African population which did not have access to potable water and sanitation facilities at that time; this number was even higher in the rural areas of the country. South Africa is a water-stressed country; thus water planners and managers are faced with an increasingly set of complex issues. This study focuses on the policy, legal and institutional framework as regards water supply, provision and regulation; access and economic issues; quality and standards; and the political context and its influence on the water sector, as it specifically relates to poverty in the post-1994 South Africa. An attempt is made to list some of the current and emerging issues in the regulatory governance of the water sector.*

## **Introduction**

It is estimated that one sixth of the 6.1 billion people in the world live in abject poverty and do not have access to adequate food, health care, education—or clean water (Vidar and Mekouar 2001). Prior to change of government in 1994, an estimated 30 to 40 percent of South Africa's population of 14 to 18 million people did not have the minimum standard water supply (United States Department of Commerce 2001). One of the more difficult and pressing challenges inherited by South Africa in 1994 was providing adequate water services.

Over and above the obvious life-sustaining significance of water in an essentially arid country, South African history in context poses a myriad of other social, economic and political issues connected to water. In this article, the focus will be on water from the perspective of the way in which the regulatory system for water impacts on its service delivery system. An attempt will be made to link the dynamic developments with respect to the regulatory system to contextual explanations in order to provide an understanding of the regulatory system related to context and changes in context.

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### The State of Water as a Resource in South Africa

South Africa is largely semiarid, and prone to erratic and extremely unpredictable drought and flood. Water is most abundant in the geographically small escarpment areas remote from the major demand centers in the hinterland. Large storage dams have been constructed to regulate the natural variable flow of rivers and to facilitate water transfers between catchments. Rivers are the main source of water in South Africa, where the average annual rainfall is in the order of 500 millimeters (mm), in comparison with the global average in the order of 860 mm. On average, only nine percent of rainfall reaches the rivers as run-off. In terms of distribution, 65 percent of the country receives less than 500 mm precipitation annually, which is generally accepted as the minimum requirement for successful dry-land farming, while 21 percent of the country, mainly in the arid west, receives less than 200 mm a year. The Orange River Basin is the largest river basin in South Africa with a total catchment area of one million square kilometers, almost 600,000 square kilometers of which is inside South Africa, the remainder falling within Lesotho, Botswana and Namibia. On average, South African rivers receive 50 billion cubic meters ( $m^3$ ) of water per annum, with a further six billion  $m^3$  available from underground aquifers. This translates into 1,400 kiloliters on average per person per annum. Of this 56 billion  $m^3$ , 21 billion is utilized. Of this volume, 52 percent is used for agriculture and irrigation, four percent for forestry, four percent for industry, ten percent for domestic use, with 19 percent allocated to ensure a sustainable environment.

Apart from erratic rainfall and the low ratio of run-off, which affects the reliability and variability of river flow, the average annual potential evaporation is higher than the rainfall in all areas, but there are a few isolated areas where rainfall exceeds 1,400 mm per year. Only about 32,000 million kiloliters of the annual run-off can be economically exploited using current methods. Usable run-off is further reduced by land uses such as commercial afforestation and sugarcane, and by high evaporative losses from the numerous storage dams throughout the country.

Furthermore, rainfall, and to a greater extent run-off, are poorly distributed in relation to the areas of greatest economic activity. Accordingly, water is transported over great distances from areas of relative abundance to areas of increasing demand. Water supplies in a populous and economically important industrial hub, for example, in Gauteng (urban area), are supplemented by transfers from the better-watered east (rural areas).

It is predicted that in the future the demand for water resources will further increase and a serious shortage could be experienced by 2025. Water is not only vital to meet the primary needs of the rapidly growing population of South Africa but it is essential for food production and other industries that

drive the engine of economic prosperity. It becomes a water-stressed country where water planners and managers are faced with increasingly complex issues.

It is therefore imperative that all economic sectors use water optimally and efficiently to ensure that the present and future needs of the environment and population are satisfied (DWAF 2003a). Nor is this problem confined to South Africa. It has been recognized that in the Southern Africa Region generally the increasing scarcity of water could result in devastating conflicts and catastrophes (DWAF 1997). All aspects of the management of this scarce resource are therefore seen to require ingenuity, commitment and application.

### **The Policy and Legal Framework Relating to Water in South Africa**

#### *A Brief Legal Historical Context*

In Roman law which has at times influenced South African water law, flowing water (*aqua profluens*) was either private good or goods that belonged to the state or to the community. Its "status" as either private or public property was dependent on whether the water flowed in a river that was navigable or rendered another stream navigable. In this case, the state had absolute rights over the water (Thompson and Thompson 1994: 28). Rivers were considered to be resources belonging to the state and were therefore available to all citizens, but were managed by the state in the public interest. It is interesting that this principle sits comfortably with that of African customary law where water is seen as a common good used in the interests of the community (DWAF 1997).

Roman law was slowly absorbed in Netherlands. In 1652, it was brought to South Africa by Jan Van Riebeeck. The basic principle of water law was that an owner could do as he pleased with the water flowing on his own land, unless there were any contrary prescriptive rights (Thompson and Thompson 1994: 29). However, it did not take long before the first exercise of state control over public streams took place in 1655. Van Riebeeck prohibited sailors who called at the Cape from washing themselves and their clothes in the streams which resulted in illnesses due to the impurities in drinking water (Hall 1939: 11).

The principles that applied in the Cape were that the officials of the *Vereenigde Oost-Indische Compagnie* (Dutch East India Company) were entrusted with dealing with matters relating to management of water resources in the colony. As the geographical area of the Colony expanded, more employees of the Company were granted land for commercial enterprise.

It became necessary to appoint *landdrosten* (magistrates) and *heemraden* (councils of respected citizenry) to adjudicate, among others, on matters and disputes related to water and water sources.

The second (and final) British occupation of the Cape in 1806 resulted in the application of the principle of English law, that the natural rights applied to land belonging to the landowner, and this principle soon superseded the rule applied by the Dutch authorities. This shift resulted from the English law tenet that all rights of land and water, including any and all rights related, became the owner's property due to the "freehold" principle. One of the major changes brought about by the advent of British rule is that the Court became the final source of interpretation of water rights.

It however became clear that there was a need to codify the water law, more especially as regards public water. The first instance of this was a law (1894) of the Transvaal ("Over the Vaal" [river]), followed by the Cape Colony, while Natal (a British colony) and the Orange Free State (like the Transvaal, a republic) relied on the common law principles which applied at that time.

The Union of South Africa in 1910 brought the four provinces together and led to the first common legislation, the Irrigation and Conservation of Waters Act, Act 8 of 1912. It was a compromise, as it was largely based on the Cape Act, but with an embrace of certain issues introduced from the Transvaal. The broad principles of this Act were that particular rights, relating to public water and surplus water from rivers and streams, relied on common law principles. In keeping with the principle established during the 19th century British rule in the Cape Colony, special water courts would deal with all disputes related to water.

This Act served an initial purpose, but due to the demands of industrial and commercial progress, the Act was replaced by the Water Act, Act 54 of 1956. The Department of Water Affairs and Forestry (DWAFF) was created through this Act. The ever-increasing centralization of powers and functions which characterized the governmental structures at that time gave rise to the increased authority and powers which the state could exercise over water rights, in addition to dealing with the issues relating to water quality and the awarding of water rights to users. The functions of the Water Courts, as the institutions to deal with and adjudicate on disputes, were left untouched. Industrial usage of water was given more prominence, while the state was granted more powers over the private rights to public and private water (Thompson and Thompson 1994: 32). This unfortunately led to the situation where access to water was tipped in favor of a privileged minority of (in the main, white) private landowners. The disadvantaged majority were moreover in an iniquitous position of not having the resources to approach the courts (Ramazotti 1996). It however became clear that with the advent of the

democratic era in South Africa, it would become necessary to redress many imbalances of the past, including access to water and, where necessary, to reinforce the principle as set out in the Water Act, 1956, that the state is the custodian of the public interest, in this case, water.

### *The Current Context*

The dawn of the democratic era in South Africa which began in February 1990 with the release of Nelson Mandela gave rise to a process of democratic reform which culminated in the first democratic elections in April 1994. The Reconstruction and Development Program (RDP) which became the manifesto of the government set out five key areas upon which it would focus: meeting basic needs; developing human resources; democratizing the state and society as a whole; building the economy; and implementing the RDP (The Republic of South Africa 1994). Water and the provision of this vital resource was an essential component of this program (DWAF 2002). The RDP iterated the principle that water is a natural resource available to all South Africans in a sustainable manner. At that time, almost a third of the urban South African population did not have access to clean potable water and adequate sanitation facilities; this number was even higher in the rural areas of the country (The Republic of South Africa 1994).

The 1994 elections and the impact on South Africa were not the end of the process, but merely a milestone in the ongoing processes of policy development and reform. The policy and legislative provisions during this phase started early with a White Paper on Water Supply and Sanitation, 1994, which although conceived late in the pre-democratic phase, was initially used in the new democratic dispensation to address the issues of access to water and more especially the principle of right of access to clean water for everyone in the country.

The period until May 1996 was spent in the process of drafting which culminated in the promulgation of The Constitution of the Republic of South Africa, Act 108 of 1996. Section 1 of the Constitution states that the "Republic of South Africa is one, sovereign, democratic state founded on the following values—(a) human dignity ...." an echo to the Universal Declaration of Human Rights (The Constitution, Chapter 1).

Chapter 2 of the Constitution contains the Bill of Rights, which entrenches the issues of social, economic and environmental rights. One of the fundamental rights encapsulated in the Constitution in section 27 (1) states: "Everyone has the right to have access to...(b) sufficient food and water." Section 27 (2) further states that "the state must take reasonable legislative and other measures, within its available resources, to achieve the

progressive realization of each of these rights" (The Constitution, Sections 7-39).

The promulgation of the Constitution of the Republic of South Africa, 1996, Act 108 of 1996, and more especially section 27, specifically addressed the issues of the right of access to sufficient water, while Chapter 3 also looked at the issues of cooperative government and the services which must be delivered by local government in a sustainable manner—water and sanitation services, potable water supply, domestic waste water and sewage disposal systems (The Constitution, Chapter 7 and Schedule 4, part B).

It was however necessary, in the light of changing circumstances in the country, to revisit and revise the water legislation and the management of water as a natural resource. These aspects were encapsulated in the National Water Act, Act 36 of 1998, while the activities in respect of water supply were set out in Water Services Act (WSA), Act 108 of 1997.

The WSA 1997 aims to provide the setting of national standards and regulatory framework for water services institutions and intermediaries. The establishment and disestablishment of water boards are provided for, in addition to setting out the role of the Minister of Water Affairs to set the requisite standards with respect to water quality and management, while the always contentious issue of water service tariffs is dealt with, in conjunction with the Minister of Finance. The Act also provides for the creation, management and reporting structures and contractual capacity of the water service authorities.

The National Water Act of 1998 was the result of intense discussion and consultation and formulated a series of key principles which underpinned the legislation. This includes the basic principle that the state is the custodian of water which is a public resource and that the management and utilization of which has to be for the benefit of society as a whole.

It is then clear that the purpose of the legislation is to ensure the effective, efficient and economic management of the water resources, the equitable distribution of water and promoting social and economic development, while also focusing on its protection and conservation.

It is interesting to note that the principles of corporate governance which have become so important around the world in the 21st century, also find a comfortable home in the legislation regulating water resources in South Africa. The King Report on Corporate Governance for South Africa 2002, known as the King II Report (Institute of Directors 2002), is a groundbreaking document. It had, and will continue to have the impact of encouraging and promoting corporate governance in South Africa, at a time of substantial and

fundamental change in the sociopolitical-economic landscape in the country, while playing an increasingly prominent role on the African and world stage.

It is important to review the broad legislative framework and to refer briefly to the legislation which has also influenced some aspects of water delivery in South Africa. The issues relating to cooperative governance have already been noted *infra*, but it should be again highlighted that service delivery mostly takes place at the sphere of government closest to the people, i.e., local government. The Local Government: Municipal Systems Act, Act 32 of 2000, besides setting the parameters by which the performance of a municipality as an organization can be monitored and evaluated, also deals with the establishing of policies which would ensure the affordability of basic services, including water, for poor households where the combined income does not exceed a predetermined amount. However the Act does state clearly that any and all charges for the services must reflect the capital costs, in addition to those relating to operating, administration and related costs.

The Public Finance Management Act, Act 1 of 1999 (PFMA) has been referred to informally as the second most important piece of legislation after the Constitution. This Act and the Treasury Regulations published in terms of the Act prevail over all other legislation except the Constitution. The Act serves to regulate financial management in the National and Provincial Governments; to ensure that all revenue, expenditure, assets and liabilities are managed efficiently and effectively; and to provide for the responsibilities of persons entrusted with financial management and matters connected therewith. It also focuses on the outputs and responsibilities of management and improving financial management in the national and provincial departments and "other public entities: National Government business enterprises," of which Water Boards are an example.

The aforementioned PFMA has a local government equivalent which is still in the throes of the legislative process, namely the Local Government: Municipal Finance Management Bill, 2002, which will also reflect important aspects relating to delivery of basic services by municipalities. Issues such as the linking of the annual budget to measurable performance objectives for each vote which includes water as a basic service is taking into account the municipality's integrated development plan. In addition, accounting officers are responsible for the effective, efficient, economical and transparent use of the resources of the municipality to ensure proper delivery of services.

The latest document, which will eventually lead to further legislation, is the Draft White Paper on Water Services (2002b). This White Paper, which has formal and official documents, focuses on the issues of local government and service delivery. In this case, the complete responsibility for water and sanitation services is now seen as two sides of the same coin in terms of giving

effect to the human dignity element of the 1996 Constitution. This focus on local authorities has led to a shift in the roles and responsibilities of DWA from direct service provider to a supporter of the local authorities in their endeavors to ensure sustainable service delivery. This changing role also reinforces the principle of cooperative government in that the other two spheres of government must provide assistance and capacity to the local government structures.

### **The Institutional Landscape for Water Supply, Provision and Regulation**

The broader institutional context within which water services were to be provided changed dramatically during the democratization phase. These contextual changes in broader governance system are summarized by Thompson et al. (2001: 24-26). Briefly this governance context provides for:

- (1) A three-sphere government consisting of national, provincial and local spheres which are distinctive, interdependent and interrelated. This means that provincial and local governments are now, for the first time, independent in their own right and not merely functions of the national government. Other water service provision institutions, such as Catchment Management Authorities (CMAs) and Water Boards that exercise powers and functions are also organs of state, but not part of any sphere of government.
- (2) The allocation of functional areas to different spheres of government. These areas, as allocated, are:
  - *Exclusive national government functional areas* relevant to water management include water resources management specifically.
  - *Concurrent national and provincial government functional areas* relevant to water management include agriculture, disaster management, education at all levels excluding tertiary education, environment, housing, industrial promotion, aspects of nature conservation, pollution control, regional planning and development, soil conservation, trade, tourism and urban and rural development. The provincial sphere also has regulatory functions over local government in respect of, inter alia: municipal planning, storm water management systems in built-up areas and water and sanitation services limited to potable water supply systems and domestic waste-water and sewage disposal systems.



- *Exclusive provincial government functional areas* affecting water include abattoirs, provincial planning and provincial recreation and amenities. Provincial government also has regulatory functions with respect to local government matters such as cemeteries, cleansing, control of public nuisances, municipal parks and recreation, municipal roads, refuse removal, refuse dumps and solid waste disposal.
- *Local government functional areas* relating to water services delivery include, inter alia, building regulations, municipal planning, storm water systems in built-up areas, water and sanitation services limited to potable water supply systems and domestic waste-water and sewage disposal systems. More related functions include cemeteries, recreation and waste management.

National and provincial governments hold regulatory authority to ensure effective performance by municipalities in respect to all their functions.

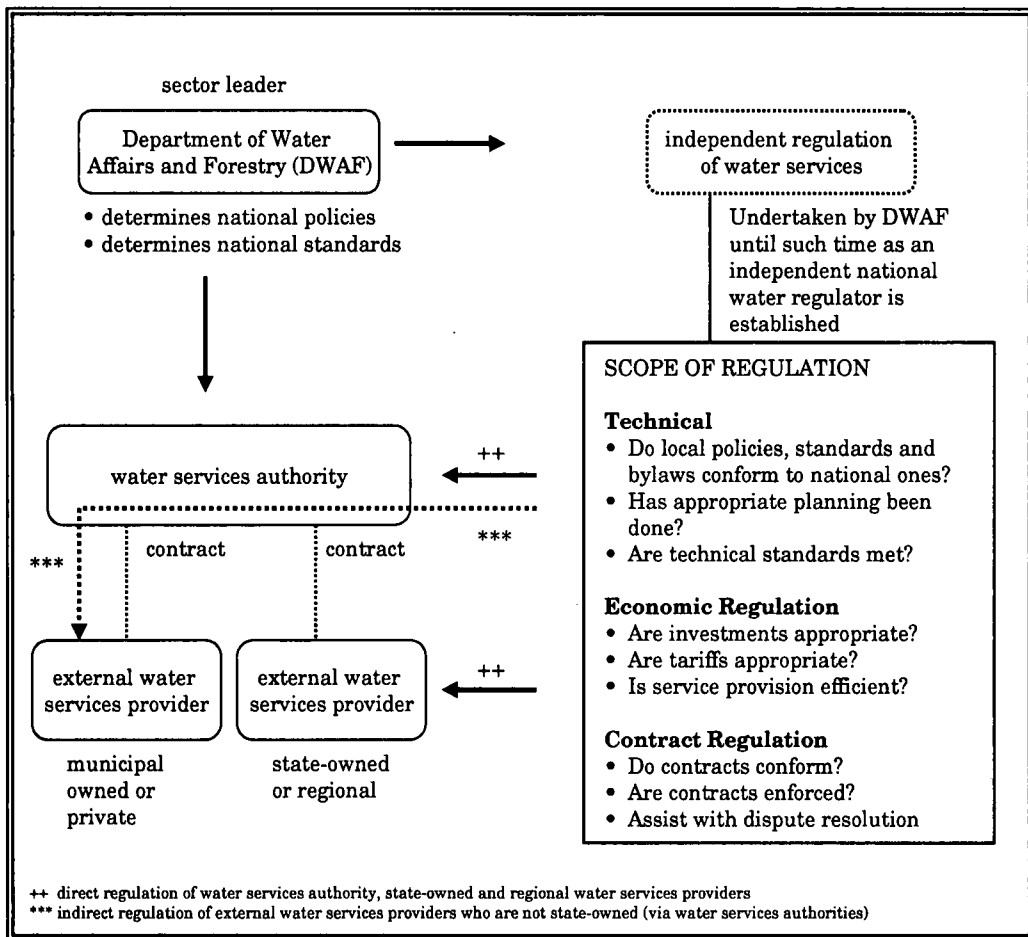
Some other important contextual factors in respect to the governance context referred to by Thompson et al. (2001: 26) relate to cooperative government and intergovernmental relationships. Cooperative governance requires all spheres of governance to:

- cooperate and consult with each other;
- respect the responsibilities of the other spheres; and
- exercise powers and perform functions in such a way as not to encroach on the integrity of the other spheres.

Intergovernmental relations are still evolving, but it has to be noted that the national government is in the powerful position that it collects the majority of taxes and distributes monies mainly according to its determined priorities.

A useful diagram taken from the Draft White Paper (DWA 2003b) provides a perspective on the water services monitoring and regulatory framework. This framework is depicted in Figure 1.

A further graphic illustration, which enhances understanding of the interface between the regulators and service providers from an interactive perspective, was developed by Thompson et al. (2001: 50). Although it is slightly outdated in some of the detailed local government matters, it still provides a useful conceptualization of the interactions involved in water management and the relationships between regulators and other role players. The illustration is depicted in Figure 2.

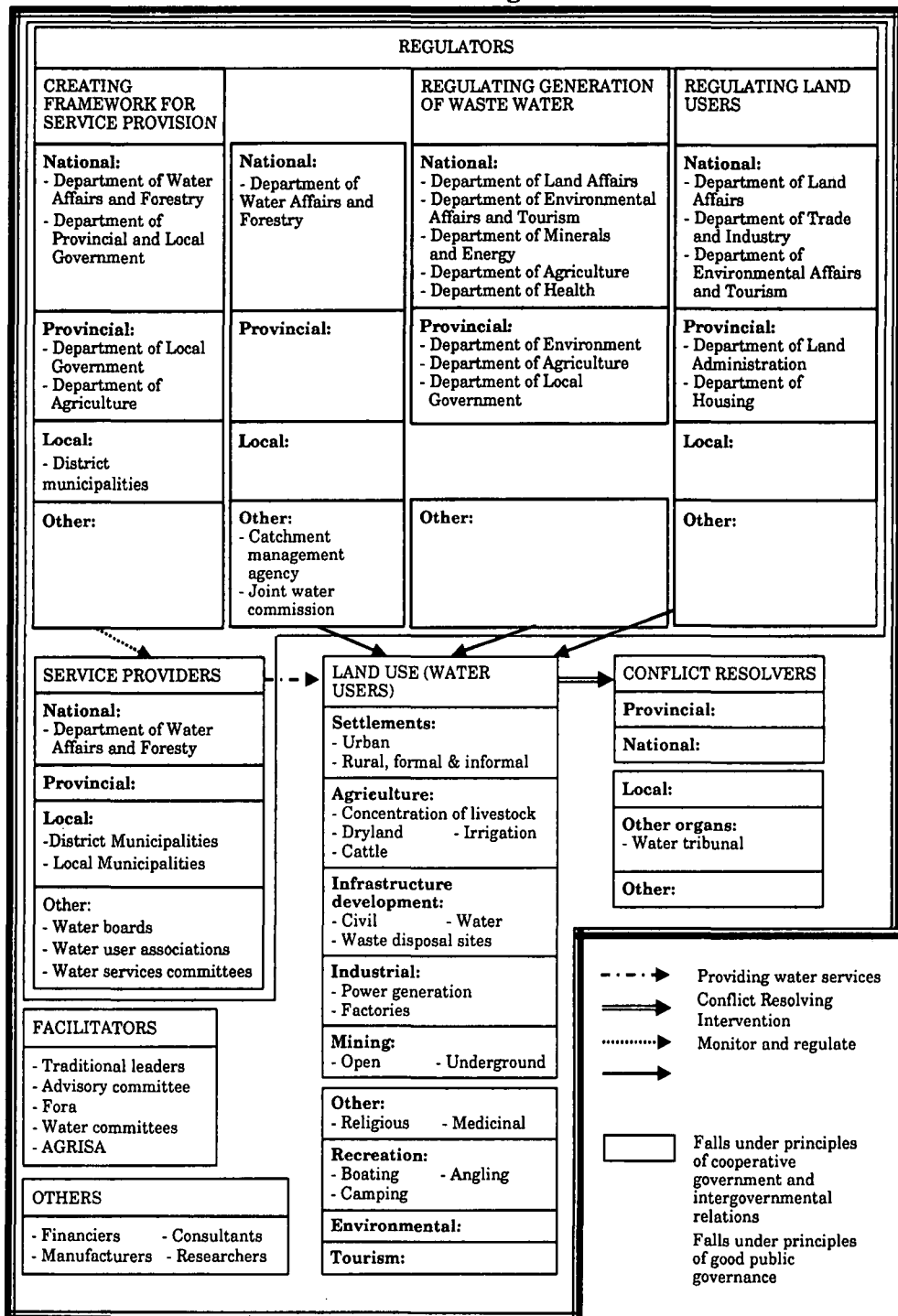
**Figure 1. The Water Service Monitoring and Regulatory Framework**

Source: DWAFF 2003.

In terms of the Constitution, local government is an independent sphere of government. The constitution assigns to local government the executive authority for water supply and sanitation (water services). Nevertheless, National government and Provincial government are obliged to support and strengthen the capacity of municipalities, and to see to the effective performance of municipalities via regulation. These relationships are depicted in Figure 1 (DWAFF 2002).

With the above graphic illustrations as backdrop, it is now possible to investigate the institutional landscape and process implications of the current policies and legislation. This investigation will be based on three questions, namely who regulates, what is regulated and how the regulation takes place?

**Figure 2. Interactions of Organizations Involved in Water Management**



To enhance the integration of these three elements, the point of departure will be the locus of regulation and regulators and the other aspects will be covered from this point of departure.

The national government is the overall regulator of the water sector. It regulates through the Minister of Water Affairs who is the executive political office bearer of the DWAF, which department acts on behalf of the Minister in implementation. In the broadest sense, regulation aims to ensure that all role players comply with all the regulatory goals, objectives and measures with respect to the economic, social, political, environmental and technical desirables as provided for in all relevant policy and legislation.

The real and potential complexity of this regulatory mandate, given the context, policies, legislation, institutional complexity and implementation dynamic, is awe-inspiring. In order to deal with this complexity the DWAF concretely sees its role as the overall regulator on behalf of national government as:

- setting national norms and standards including planning specification and economic regulation (tariffs);
- the regulation of the water service authorities in terms of the set norms and standards;
- the regulation of contracts with respect to water service authorities and water service providers; and
- the direct regulation of organs of the state, for example, the Water Boards.

In this way DWAF wants to:

- create macro policy and legislation as a sector leader and oversee the implementation of these policies;
- regulate water service provision, water quality, water tariff structures, planning requirements, water service contracts and the performance in the sector;
- support other spheres of governance as part of cooperative governance and the ideas of developmental regulation; and
- serve as a source of reliable and valid information to support the water sector in its management, monitoring and regulatory functions.

The Water Services Act of 1997 provides the Minister and DWAF with real authority to regulate and intervene, but the approach seems to be developmental rather than punitive which is in line with the ideals of cooperative governance and developmental state.

The provincial sphere of government is involved with regulation of water in accordance with the general principles of cooperative government. Provincial government also fulfills regulatory functions in respect of its other functions, such as planning and control, as well as its broad mandate to oversee local government.

At the local government sphere, municipalities should be water service authorities (WSAs) that fulfill a regulatory mandate with respect to water service providers (WSP). They can, however, also act as water service providers themselves, which may create potential conflicts of interest. Municipalities and their elected councils are also held accountable to and regulated by their citizens as voters and constituents.

### *Operationalization of Water Services at Local Government Level*

The primary responsibility for water services provision rests with local government. Section 84 of the Municipal Structures Act (Act 117 of 1998) holds district and metropolitan municipalities responsible for providing water service. However, the Act allows the Minister of Provincial and Local Government Affairs to authorize a local municipality to perform these functions or exercise these powers. The district (or authorized local) municipality is the water services authority as defined in the Water Services Act (Act 117 of 1998). There can only be one water services authority in any specific area (water services authority areas cannot overlap).

The WSAs have the following primary responsibilities:

- Realization of the right to access basic water services;
- Planning-preparing water services development plans;
- Selection of water services providers;
- Regulation of water services provision and providers; and
- Communication and consumer education.

Within this framework, the WSA is essentially the regulator of the service and is responsible for ensuring that services are provided effectively, efficiently, sustainably and affordably. The operational function is undertaken by the WSP, the institution that actually provides the service. A WSP can be a municipality, municipal-owned entity, water board, community-based organization, private operator or other types such as water user associations, industries or mines. There must always be a contract between the WSA and the WSP.

A WSA may either provide water services itself (internal mechanism), or contract a WSP to provide water services (external mechanism). For an internal mechanism, the WSA must manage and account separately for the

two functions. In practical terms this might mean that a municipal manager, acting on behalf of the municipality, contracts (as the WSA) with the manager of the water services department to provide water services under a performance contract with the municipality. In the second case, the WSA must regulate the WSP according to the contract specifying clearly the allocation of roles and responsibilities between the regulator and the provider.

The main duty of WSPs is to provide water services in accordance with the Constitution, the Water Services Act and the bylaws of the WSA, and in terms of any specific conditions set by the WSA in a contract. A WSP must publish a consumer charter which is consistent with by-laws and other regulations. It is approved by the WSA, and includes the duties and responsibilities of both the WSP and the consumer, including conditions of supply of water services and payment conditions.

A final perspective on water regulation, for current purposes, must be from the vantage point of the consumer. Consumers, who are in a different but relevant reality, are also citizens who require affordable usable water for drinking and sanitation purposes. This is the ostensibly pure and simple essence of the water system whether in its catchment, storage, delivery or regulatory form.

This ostensible simplicity is, however, hugely misleading. In reality the water system is, or has become, extremely complex. This complexity is clearly illustrated in the Draft White Paper (2002: 5.7) which also represents a first attempt to operationalize the regulatory dispensation of water. It is in all probability a valiant attempt, but from the authors' perspective, it is unsuccessful as it fluctuates between general and specific matters and seems to get caught up in the complexities rather than deconstructing and simplifying it (Draft White Paper 2002: Sections 7 and 2.2).

### **Access to and Economic Regulation of Water**

Fundamental to the manner in which access to water is managed in South Africa is the consideration of the affordability of water, and particularly so the affordability of a minimum individual quantum of water consistent with constitutional requirements. Access to water as a productive asset is recognized as fundamental to the survival strategies of the poor and the rich alike (Wilson and Ramphela 1998). What distinguishes between them is the ability to pay for water and the potential herein for effectively and arbitrarily curtailing the right of access of the poor through the levying of charges for water that lie beyond their means. High levels of poverty (in the order of 71% of the population in rural areas and 50% of the population overall) and unemployment (at least 38%) exist making it difficult for most people to pay for even the most basic services (Health Care in South Africa 2003).

At a deeper level then and in a country such as South Africa the issue of affordability looms large as a determinant in effect of the means for regulating access to water consistent with the Constitution. According to the activist group, in the last months of 2001, the Municipal Services Project (MSP), 700,000 people were affected by water cut-offs for nonpayment (Thompson 2002). The problem of water cut-offs has itself spawned innovative and proactive approaches to determine the effect of water rationing system to ensure that consumers do not overreach their capacity to pay. Most recently in 2002 Johannesburg Water has installed prepaid meters in townships that utilize digital smart card technology to record payments and dispense water from public taps according to the consumer's available water "credit."

### *Economic Regulation of Water in South Africa*

Economic regulation may be defined as a body of regulatory intervention. Its objective is to achieve economic efficiency in the allocation of scarce resources between competing ends in the water sector. Economic regulation of water takes the form of both supply-side and demand-side interventions. Preeminently, the focus of broadly-defined "economic" regulation of water in South Africa has varying relative degrees:

*Supply-side interventions* aimed primarily at the mobilization of resources for the development of water resources, distribution, and reticulation systems and particularly financially on making books balance in the water sector. Typically these interventions have tended to focus on:

- The development of innovative financing mechanisms and specifically the leveraging of private sector funding into the development of the capital web supporting water service provision. This has included both the commercialization of water service provision and its privatization in some cases;
- Innovation in the area of water-efficient technologies, the exploitation of groundwater and the development of small-scale water resources by way of spring reclamation and the like; and
- Ecological initiatives aimed at removing alien invader vegetation and reestablishing indigenous ecosystems in water catchments.

*Demand-side interventions* aimed at managing water demand by means primarily of tariffs and charges, an approach pioneered in Israel (Alan 1996) and water rationing systems at local level. The application of demand-side interventions in South Africa has however generally not extended to a full-fledged economic regulation regime that has set out to bring about

fundamental changes in the water economy of the country. Demand-side instruments are still applied primarily in order to "recover costs" of water provision and therefore in effect to balance the books in a narrower financial sense rather than to bring about fundamental restructuring of the profiles of supply and demand.

Neither the current legislation in South Africa nor draft regulations and guidelines thereto provide regulatory detail as to the approach that municipalities must take in regard to economic regulation of water and specifically so in regard to: cost determination of water services provision; guideline rates of return on assets; depreciation of the capital web; and the approach to tariff regulation whether by means of rate of return on assets, a cost-plus approach, tariff capping, or capping of "profits," i.e., excess of revenues over costs (Eberhard 2002).

This reflects a significant current regulatory deficit in South Africa with many emergent local authorities effectively at large on the minutiae of tariff application and in somewhat of a vacuum as regards the objects to be achieved through such regulatory interventions. At the same time this regulatory deficit suggests a potentially fruitful field of further investigation into appropriate good practice in setting of tariffs that reflect key economic principles.

In addition, with significant legislative overlap (as for example between the Water Services Act and the Municipal Systems Act) it is not clear which provisions will prevail. In addition, contradictory legislative provisions create confusion as to the application of economic regulation (Eberhard 2002).

#### *Current Water Pricing Policy in South Africa*

The stated objective of South Africa's current water policy is the management of the quantity, quality and reliability of the nation's water resources to achieve optimum, long-term, environmentally sustainable social and economic benefit for society (DWA 1996).

To achieve this objective:

- All significant water resource use is to be charged for, regardless of where it occurs, and including the use of water for effluent disposal or the interception of water to the detriment of other users. Government is moving systematically to achieve realistic water pricing within a reasonable time frame;
- The only exception will be with regard to the "reserve" for basic human needs. This is (to be) provided free of charge in support of



the current policy of Government which is to encourage the adoption of lifeline tariffs for water services to ensure that all South Africans can achieve access to basic services. This program is still in the roll-out phase;

- Government budgetary expenditure on the capital costs of water resource development will increasingly be limited to projects that provide for basic needs, assure the environmental reserve or assist in meeting South Africa's commitments to its neighbors;
- The water tariffs to be charged by the Government on its own water schemes will be adjusted over a reasonable period to cover the full operation, maintenance and financial costs of existing Government Water Schemes including (where applicable) interest and redemption of loans, depreciation of assets and water resource management costs. A resource conservation charge will be introduced as and when appropriate;
- Outside of Government Water Schemes, the price of water will reflect water resource management costs as well as an appropriate resource conservation charge;
- The price of water (water tariff) will vary according to location and will be calculated on a system, catchment, or subcatchment basis. It will include operating, maintenance and capital costs where appropriate as well as a water resource management levy and a resource conservation charge. The levy may include charges for effluent disposal and significant interception as a result of land uses such as afforestation or agriculture;
- Disadvantaged individuals and communities will be supported through specific measures for beneficiaries of land restitution, land reform or other programs of corrective action. These may include periods during which the full cost of water will not be charged. This would be a form of establishment support in the case of newly established enterprises;
- Where the imposition of the full water tariff discourages the use of available water, provision may be made for some elements of the tariff, including capital and depreciation costs in existing Government water schemes, or the resource conservation charge, to be suspended for a limited period of time;
- Provision may be made to allow trading in water-use allocations in limited areas. This will be subjected to varying degrees of

control depending on whether it is within a single user sector or between sectors and whether it is within or between water management areas. Particular attention is to be paid to evaluating whether equity objectives and fair resource allocations are achieved;

- Water tariff income will be divided between operational agencies, water management authorities and national government in accordance with their contributions and responsibilities (DWAF 1996).

The tensions both in policy and practice between equity and the pursuit of water efficiency are as yet plainly evident. In adopting this policy the South African government appears to be bent upon charting a course that takes the country towards commercialization of the water sector while at the same time maintaining the integrity of the constitutional right to water as a basic need.

### **Water Quality and Standards**

As mentioned, prior to the change of government in 1994, an estimated 30 to 40 percent of South Africa's population or 14 to 18 million people were without the minimum standard water supply (United States Department of Commerce 2001). Furthermore, in those rural areas where water supply existed, drinking water quality was most often poor. This was in contrast to a privileged minority who enjoyed levels of water provision comparable to developed nations. The resulting impact on primary health was significant, 20 percent of death mortality was caused by diarrhea, mostly children aged one to five years old (Bourne and Coetzee 1996) and an annual estimated 43,000 deaths and 3 million incidences of illness, with an associated treatment cost of some R3.4 billion (Pegrum, Rollins and Espey 1998). Not surprisingly, the water sector received significant government attention, and the Water Services Act of 1997 and the National Water Act of 1998 heralded landmark changes in South African water law.

Regulatory reform via the National Water Act and the Water Services Act has brought about substantial improvement in equitable and sustainable water utilization in South Africa. Initially via RDP initiatives, and more recently via the Rural Water Service (RWS) program, government has addressed the lack of access to water in rural areas. The RWS program provides poor rural communities with a "basic level of water" as stated in Water Services Act provisions. According to DWAF (Naidoo 2003), as of 9 July 2003, some nine million additional people have been supplied with drinking water. This reduces the backlog from 1994 of about five to six

million. Such progress is indeed impressive. Nevertheless, attention is now increasingly drawn to the challenge of ensuring that the provided drinking water is of suitable quality.

Various studies and programs in South Africa have shown, and continue to show, that drinking water quality in nonmetro communities is of generally poor quality and often not suitable for consumption. It has also been conclusively shown that, where basic water supply and treatment infrastructure exists, fairly simple and inexpensive drinking water quality management programs can readily result in the dramatic improvement in drinking water quality. Considering the significant primary health impact of drinking water, the following section considers the role of effective regulatory governance in ensuring that good drinking water quality becomes reality for all South Africans.

#### *Compulsory National Standards for Quality of Potable Water*

At present, two references to National Standards for Quality of Potable Water exist. The first is the Water Services Act in which clause 4 in terms of section 9(1) (b) of Water Services Act, refers to a compulsory national standard. The regulations relating to compulsory national standards for the quality of potable water are described in Government Gazette No. 22355 of 8 June 2001. The second is the White Paper on Water Services Policy, in which Clause 6.2.2 of the penultimate draft White Paper on Water Services Policy makes reference to drinking water quality. Both specify that water service providers should supply water not only for drinking but for domestic use and must be consistent with South African Bureau of Standards (SABS) 241: Specifications for Drinking Water or (in the case of the Act) the South African Water Quality Guidelines published by the DWAF.

It is worth noting that the present governing version of SABS 24-2001 differs in a not inconsiderable manner from its long standing predecessor, SABS 241-1984, and is more closely aligned to the philosophy first introduced by the South African Water Quality Guidelines published by the DWAF and Forestry. Simply stated, rather than having two classes of water (recommended and maximum allowable limit) in terms of physical, microbiological and chemical quality, SABS 241-2001 specifies three classes of water: Class 0 (ideal, international standards), Class I (acceptable for lifetime consumption) and Class II (maximum allowable for short-term consumption).

This acknowledges that in many cases, South African drinking water does not satisfy the previous existing Maximum Allowable Limit, and that the need for a relaxed level for short-term consumption is a practical necessity. In SABS 241-2001, Class 0 is largely based on present first world standards such as those pertaining to the European Union and the United States of

America; even South Africa's largest water boards will be hard pressed to satisfy these with regard to some of the determinants. Satisfaction of Class I limits would therefore be the objective of most South African WSAs and WSPs.

The WSA preamble contains an acknowledgment to the effect that although municipalities have authority to administer water supply services and sanitation services, all spheres of Government have a duty, **within the limits of physical and financial feasibility** (our emphasis), to work towards this objective. The Act therefore proceeds from the foundational perspective, that such limits do exist and it is in this context that the aims of the national standards should be interpreted. Reference to compulsory national standards relating to drinking water quality will need to be interpreted in this light.

The national standards possibly threaten to burden some water suppliers to a degree that they appear incapable of meeting. However, section 11(2) of the Water Services Act obliges WSAs "to **progressively ensure** (our emphasis) efficient, affordable, economical and sustainable access to water services." The duty is tempered by a wide range of factors stipulated in the WSA. In addition, the reference to "the availability of resources" in section 11(2) seems to bear out an argument that the posited levels cannot be achieved immediately. The reference to "resources" is wide enough to encompass financial and logistical resources (or lack of them) of the public authority supplying the water services. It appears therefore, that the drafters of the Regulations have set out to impose standards that can be achieved progressively.

On the face of it, the WSA does not criminalize noncompliance with the national standards (and this appears to be in keeping with the phased approach contemplated in the WSA). However, the WSA makes it an offense for any person to "fail or refuse to give information or to give false and misleading information when required to give information in terms of this Act." This offense as regulated by the WSA would appear to have had an influence on the drafting of subregulation 5(4). As long as water service authorities comply with the peremptory obligation under subregulation 5(4) and inform the Minister and the Province, as well as its consumers, of its inability to meet its obligations under the law, it faces a vastly reduced risk of incurring penalties under the Act.

#### *Effects of Reforms on Water Quality*

According to Mackintosh et al. (2000) in almost all South African metropolitan areas, and those areas provided with water by major water boards, the consumer is supplied with high quality drinking water. A recent

survey conducted among water boards has shown that South Africa is one of an estimated twelve countries worldwide where the water supplied by major water boards is safe for drinking (*Sunday Times* 2003). The drinking water supply systems are usually well-managed, and have water quality monitoring programs designed to at least meet SABS 241–2001 class requirements. Also some peri-urban areas like Stellenbosch and Western Cape have drinking water quality monitoring programs now and therefore provide high quality drinking water.

For the poor rural and some peri-urban communities and towns, regulatory and market reforms have resulted in limited improvement in the drinking water quality. Efforts have been put by DWAF and national government to provide potable water through water infrastructure projects. Filtered tapped water has been installed in a number of rural communities around South Africa under RWS programs. However, despite these concerted efforts to improve water provision, affordability and access, many villages and towns still consume water of very poor quality. Even DWAF concedes that there have been little improvements in the quality of drinking water supplied to rural and some urban communities (MaConkey 2003, DWAF 2003). Statistics of deaths linked to waterborne diseases in South Africa confirm that the quality of water provided to communities outside centers serviced by established utilities is poor. For example:

- 20 percent of all deaths in one to five age group are attributable to diarrhea.
- The outbreak of cholera in KwaZulu-Natal in 2000 which was linked to poor drinking water quality affected over 120,000 people and killed 290 people (Kasril 2002, *Afrol News* 2002).

Although regulatory initiatives to improve water quality served rural areas and other urban centers (e.g., development of a national microbiological water quality monitoring program and development of a simple guide for assessment of health related quality of water supplies), the quality of drinking water in these areas has not improved significantly. For example, the results of quality assessments by CSIR (2000) in the Eastern Cape and Western Cape provinces showed that:

- 72% of samples collected in Western Cape failed the SABS 241 Recommended Limits.
- 62% of samples collected from Western Cape failed the SABS 241 Maximum Limits.
- 72% of samples collected from Eastern Cape failed the SABS 241 Recommended Limits.

- 50% of the samples collected from Eastern Cape failed the SABS 241 Maximum limits (Mackintosh et al. 1999).

These results clearly show that despite the implementation of regulatory and market reforms the water supplied to many South Africans, especially the poor sector, is of poor quality.

Clearly, regulatory reforms have made water accessible to many South Africans at affordable cost. In extreme cases water has been provided at zero cost to poor sectors. Through regulatory provisions, the poor got subsidized water. Implementation of the free basic water policy has helped many poor South Africans, providing water to about 70.4 percent of the population or ten million people (DWA 2003). Reforms, however have not yet significantly improved the quality of drinking water in most nonmetropolitan areas. The current political debate, driven by the affordability of basic services, such as water, between the proponents of commodification of water as a private good and its decommodification as a public good, is analyzed in the next section.

### Political Issues

The current political issues relating to water are best understood in historical terms. Muller (2001: 4) captures the essence of this when he states that the pre-democratic phase in South Africa lasted until 1994 and included the colonization of South Africa during the 17th Century. After colonization the indigenous peoples were subjugated into colonial rule. Further change took place when the independent Boer Republics were reincorporated into the Union of South Africa after the South African war and in 1910 when the Union of South Africa was constituted.

In 1948 the National Party came to power and used its political hegemony to formally institutionalize the apartheid regime on the already existing base of segregation and discrimination. This led to the continued exclusion of the majority of the population from political and economic life up to the 1994 successful transition to a system of democracy.

Muller (2001: 4) continues to succinctly point out that the water regulatory dispensation for water under this context moved from the precolonial collective realm to become a publicly regulated resource in terms of Roman Dutch law. British colonial rule and Anglo-Saxon jurisprudence, combined with building pressures for settler expansion and economic development, led to a situation where water was gradually captured as a private resource for the benefit of the minority (See "A Brief Legal Historical Context").

This left an inheritance in 1994 of profound inequalities in access to water as resource and water service provision (Muller 2001: 4-5). The policies and legislation in respect of water regulation for this phase therefore initially benefited mostly white minority and their economic interests in agriculture, developing urban commerce and industrial endeavors. With this inheritance the intention of the new government is clear, namely that benefits should be redistributed from a previously advantaged, mainly urban white minority, to an all-inclusive community, including the relatively poor and powerless black rural communities. This is addressed in the next section.

The current political debate is characterized in particular by the high profile of affordability of basic services on the political agenda. It throws into sharp relief the tension between the opposing poles of approach to water whether as a public or a private good. Water has been suggested to be a public good. Its benefits and costs extend beyond the direct provision of services to individuals (Eberhard 2002). Nevertheless to the extent that water may be "commodified" and access to water regulated by the imposition of conditions inter alia of payment, water can indeed be managed as a private good. The inherent tension in the debate in South Africa at present as between the proponents of commodification of water as a private good and its decommodification as a public good derives largely from the perceived difference between these two approaches upon the interests and well-being of the poor. What remains the operative consideration therefore is less who delivers the water, but what its price is at the point of supply to the consumer.

#### *The Case for and against Commodification of Water in South Africa*

"Commodification" consists in the application of an approach that accords water the status of an article of trade and the corresponding status of water as a productive commodity sector. For a variety of reasons, the importance of water as a staple resource necessary for the maintenance of life, has been challenged in South Africa.

The arguments of those favoring all-out commodification of water in South Africa echo those of the World Bank that has routinely included in its structural adjustment loans and water and sanitation loans conditions requiring increased cost recovery, full cost recovery or "economic pricing" for water services placing increasing emphasis upon the consumer to cover water system costs to the extent even of supporting profitability within the sector. It has been successfully argued in South Africa that increased consumer tariffs for water can make safe water unaffordable for poor and vulnerable populations. In particular as water becomes more costly and less accessible, women and children, who bear most of the burden of daily household chores

must travel farther and work harder to collect water, often resorting to water from polluted streams and rivers. Families are forced to make trade-offs between water, food, schooling and health care (Grusky 2001).

Increased cost recovery is motivated on the grounds that it will improve the economic viability of water utilities for private investors and contextual experience seems to suggest that these approaches can, all other things being equal, lead to improved water supply. Efficiency arguments advanced in South Africa also echo the stated position of the World Bank to the effect that "Effective water resource management requires that water be treated as an economic good" (<http://www.worldbank.org/html/fpd/water/topics/servicing.html>) and that "private participation in water and wastewater utilities has generally resulted in sharp efficiency gains, improved service, and faster investment in expanding services" (<http://www.worldbank.org/html/fpd/water/topics/servicing.html>).

The burden of these arguments thus is that cost recovery and ultimately privatization enabled by increased cost recovery, to the extent that it mobilizes resources into the water sector that government otherwise cannot infuse on a sustained basis, will actually expand access to clean water and sanitation. Where tariff structures are economically inappropriate, middle-class consumers pay subsidized rates that shift to the government the financial burden of the water they use and often waste with negative spin-offs by way of reduced resources to provide services to the poor.

In South Africa much of the population resides in areas relatively remote from water sources necessitating the transfer of water over long distances. So the counterargument goes that most frequently these are the very people, who are the least able to bear high tariffs associated with the provision of water services to the areas where they live. Even tariffs that do not reflect full cost recovery but lie beyond the means of poor families result in recourse to alternative frequently unsatisfactory sources such as polluted rivers and springs with severe attendant health risks.

The problem in South Africa adduced by some is the cost recovery principle itself as the ideology behind its application. From the historical injustices of who receives subsidies to unfair tariff structures, it is alleged that cost recovery on basic services in South Africa has been largely counterproductive to the goals of equity and environmental sustainability and threatens to undermine postapartheid reconstruction and development efforts in the country (MacDonald 2002). It is pointed out that cost recovery has not always been the *modus operandi* of the South African government. During apartheid, many South Africans received subsidized services and infrastructure. Mostly white suburbanites and white-owned industry benefited from these subsidies, with service levels and subsidies in white



areas that equal, and often surpassed European and North American standards. Much of this subsidization came at the expense of black workers and consumers who generated the economic surplus necessary but even South Africans—to the extent that services were delivered to the townships and rural “homelands”—received some subsidized service delivery (McDonald 2002). This ideological argument still features strongly in political rhetoric.

A further symptom of the imposition of unaffordable water tariffs in South Africa brought to fore by those opposed to tariff imposition and borne out by experience is the proliferation of illegal connections into bulk and local reticulation systems. These illegal connections in parts of South Africa have at stages contributed as much as 40 percent to water systems transmission losses.

But ideology apart, in the face of the patent inability of government to sustain subsidies to a growing population, few would argue that cost recovery has no place in a highly inequitable country such as South Africa. To the extent that increased cost recovery contributes to improved return on water services infrastructure investment and leads to the mobilization of private sector investment in the water sector, and curtails excessive discretionary demand above the minimum necessary, it is generally supported, provided that it does not curtail the constitutional rights of any segment of the population to a basic sufficient supply of water. This can be achieved through an approach based upon differential tariff structures that progressively penalize high water consumption but enable access to a minimum basically “sufficient” zero-rated allocation by all South Africans, whether the richest of the rich or the poorest of the poor. Such an approach is dualistic in nature in that while incorporating strong elements of commodification of water for discretionary consumption above a basic threshold necessary to sustain life, it in effect “decommodifies” water below that threshold. It represents a practical compromise that accommodates both the proponents of commercialism and those such as organized labor and advocacy groups that have consistently and at times stridently called for the entrenchment of the right to sufficient water consistent with the exercise of constitutional rights.

### *Privatization of the Water Sector in South Africa*

Acrimonious debate on privatization in South Africa has overflowed to the water sector, as the pragmatic compromise on the imposition of water tariffs by way of a differentiated “block” tariff structure has suggested. But the predominant issue in South Africa is less who delivers the service than at what price? Generally the imperative of the South African government by way of rationalization of state assets (frequently confused with privatization *per se*) has been driven by a complex of considerations including the

mobilization of resources locked up in state enterprises where private sector interests could quite credibly and effectively step into the breach. The dismantling of state monopolies that result in economic inefficiencies has also been a consideration.

There is however no evidence at the policy level to suggest any prior preference for "privatization" per se on the part of government in the water sector. In the words of the Director-General of DWAF (Thompson 2002): "This is not privatizing—it is a massive reorganization of a government and how it provides services. We are still working it out." There is a stated commitment certainly on the part of national government generally to examine each and every case of restructuring on its own merits. Likewise there is at the policy level no evidence to suggest that the water sector is subject to any different approach save that the fundamental resource or "asset" namely South Africa's water resources themselves cannot be alienated. This however does not prevent the privatization of service provision duly regulated to ensure adherence in letter and spirit to policy principles.

At present only relatively few smaller local water service projects are entrusted to longer-term concessionaires and the take-up by the private sector of such opportunities at present is slow. KwaDukuza became the first municipal authority to enter into a long term service agreement with a private company. This was concluded in 1999 with Saur who obtained control over the water utility for 25 years. A relatively few other instances are on record but generally affecting smaller to medium-sized authorities although not exclusively.

### **Current and Emerging Issues: A Provisional Listing**

The systems for regulatory governance of water in South Africa, as currently envisaged, are to be found in the policies, legislation and proposals discussed above. At least the intention is that the regulatory system should be effective, productive, and efficient as well as pro-poor and developmental. Whether these objectives can be met jointly or severally as well as the priority thereof in the concrete, practical real world will remain issues with practical consequences for regulatory governance and systems. Given the long-term projections for water availability (or lack thereof) in South Africa over the next quarter of a century, there are a number of current and emerging issues which have come to the fore and which, in the short-, medium- and long-term will require to be addressed to ensure that the legal structures, institutions and instruments relating to water with specific reference to regulation, provision, commodification and quality are capacitated and sustainable:

- The plethora of legislation, policies and the institutions created to deal with the water sector in South Africa has given rise to an

extremely complex regulatory and governance system. The overlapping legislation provides some potential for confusion and declaratory intervention is indicated to head off such confusion.

- The multitude of regulatory institutions created in the water sector with both national and provincial spheres of government having regulatory functions with respect to water and current planning seems to indicate that each municipality could potentially become a water service authority with regulatory functions vis-à-vis water service providers. This has the potential to create a myriad of close to 300 water regulators in the system with resultant coordination and cost implications.
- Given the institutional complexity and potential diversity, jurisdictional conflicts are sure to arise in the regulatory governance system. Cooperative governance is essentially positive and value adding, but there is and there will be a need to start thinking through the issues of consistent decisionmaking and action. A set of precedents and conventions will have to be created in theory and practice to ensure inter- and intra-jurisdictional coherence and consistency.
- Although regulatory reforms have made water accessible to many South Africans at affordable cost, the reforms have not yet significantly improved the quality of drinking water in most nonmetropolitan areas and many villages and towns still consume water of very poor quality.
- Because of the high profile affordability of basic services such as water, the political debate at present is between the proponents of commodification of water as a private good and its decommodification as a public good: the predominant issue in South Africa is less who delivers the service than at what price.
- With the strong ideological objections from some groups to the principle of full cost recovery, a practical compromise of differential tariff structures that accommodates both the proponents of commercialism and those who called for the entrenchment of the right to sufficient water was implemented.
- There is no evidence at the policy level to suggest any prior preference for “privatization” per se on the part of government in the water sector and at present the take-up by the private sector of such opportunities is slow with only a relatively few smaller local water service projects are entrusted to longer-term concessionaires.

- The generally undeveloped state of formal economic regulation of water usage in South Africa represents a significant current regulatory deficit. This manifests as an (understandable) preoccupation with balancing the books of the water sector while neglecting to bring about a basic remodelling of South Africa's water economy.
- Even in respect of the application of the more modest objectives of tariff recovery for water, regulatory deficits exist more especially in the area of tariff development at the municipal level. Emergent municipalities in particular are at large in an area where their experience and expertise generally are seriously lacking in most instances.
- Key developmental decisions continue to be taken on political, ideological and other grounds without full impact assessment on the overall water economy and particularly on the poor that features high on the socioeconomic agenda. Because of these, South Africa to all intent and purpose can as yet not lay claim to a full-fledged economic regulatory regime for water.
- And finally, most of the generic issues previously identified (Schwella 2001, Ackron et al. 2002) relating to the emerging competition and regulatory governance system in South Africa, e.g., resource and capacity constraints, systems of democratic control and public accountability, the state of consumer constituencies and their actions, are also applicable to the water sector.

### **Summary and Conclusion**

Water, a life supporting resource as well as a social and economic good, creates a formidable platform for issues to develop. This general proposition is even more acutely manifested in South Africa, given its history and limited water sources. It is therefore not surprising that many hard battles are fought on all aspects of water in this country. These battles are premised upon the multitude of large and small issues pertaining to water. At the most basic level, the issue with water is its scarcity and accessibility. Ostensibly there is agreement that water should be for the benefit of all and therefore provided to all. The methods for such provision are, however subject to serious debate between marketing of water and prices that recover full costs from all consumers in an equitable way and its "decommodification" (Bond 2002: 2-4) as a public good.

As neither of these two extreme positions is attainable, the compromise positions are open to debate and the influences of power and economics in any given reality. In South African reality the current position (since July 2001) involves a lifeline supply of 6,000 liters of free water to all residents with a commitment to continue cost recovery even if it results in inaccessibility to those who do not meet the obligation to pay for water used in excess of the free provision. This position, of course, necessitates a system of regulation. The system currently envisaged is to be found in the policies, legislation and institutions discussed above. At least, the intention is for the regulatory system to be effective, productive and efficient as well as pro-poor and developmental. Whether these objectives are met jointly or severally as well as the prioritization thereof in the concrete, practical real world will remain issues with practical consequences for regulatory governance and systems.

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