

# *South Africa*

## **Community Water and Environmental Sanitation for South Africa's Unserved**

*Supporting the Transition*

**Report of the UNICEF-Coordinated UN Inter-Agency  
Water and Environmental Sanitation Mission to South Africa  
30 October - 10 November 1994**







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*A Note from the Mission Leader:*

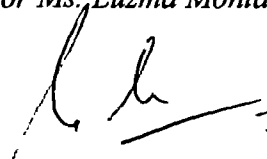
*It was indeed a rare opportunity to be a small part of the transition process in South African Reconstruction and Development of the Water and Sanitation Sector towards "Some for All rather than More for Some". Myself and other team members consider ourselves to be privileged to play some supportive role to the effort of the new South Africa. In that effort we tried to identify the areas of collaboration which any individual or any agency can pick up and be a party to such change.*

*The mission was primarily possible due to the enthusiasm and encouragement of Dr. Richard Jolly, Deputy Executive Director, UNICEF, New York, and Ms. Scholastica Kirmayo, UNICEF Representative in South Africa. My special thanks are for Mark Hildebrand of HABITAT, Brian Jackson of ODA and Sam Ozolins of WHO, who agreed at my request to nominate representatives of their organizations to the team. ODA not only supported Mr. David Grey's participation as a consultant but also participated through Mr. Peter Roberts. Interestingly, as an example of collaboration among agencies, David Grey was financially supported by ODA as a UNICEF/ODA consultant and was also endorsed by Mr. Jean Doyen, Chief, Africa Infrastructure Division of the World Bank, who always encouraged and promoted interagency collaboration in the WES Sector.*

*We are extremely grateful to Prof. K. Asmal, Minister of Water Resources, who, despite his busy schedule in Parliament, spared his valuable time for the team and discussed at length the issues and challenges faced by the Sector.*

*The team was benefitted immensely from the active participation of Mike Muller and Len Abrams, of the Government of South Africa. We wish them success in their endeavour.*

*Last but not least, the efforts put by Mr. Admassu Tedesse of UNICEF, Johannesburg, who made the mission possible in such a short time. His meticulous planning kept the mission on schedule and helped cover a broader scenario of the WES sector. It will also not be out of place if I put on record our appreciation for the efforts made by Mr. David Grey, who in between discussions with me and flying between Mongolia and Gaza, finalized the report, with support from another colleague, Dr. Ashok Nigam; and finally for Ms. Luzma Montano for giving the final shape to it.*

  
Gourisankar Ghosh, Chief  
Water and Environmental Sanitation

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# COMMUNITY WATER SUPPLY AND ENVIRONMENTAL SANITATION FOR SOUTH AFRICA'S UNSERVED: SUPPORTING THE TRANSITION

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**UNITED NATIONS INTER-AGENCY  
COMMUNITY WATER SUPPLY AND ENVIRONMENTAL SANITATION  
MISSION TO SOUTH AFRICA**

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## A. INTRODUCTION

### 1. Mission objectives, activities and output

*Mission objectives.* The mission objectives were: a) to examine the status of water supply and sanitation service provision to low-income people in South Africa, to include institutions, policies, delivery strategies, plans, programmes and current service coverage; b) to share with government the experience of the UN and others in the provision of water and sanitation to the poor in other countries; and c) to discuss with government possible roles for UN and other external support agencies in providing support to the extension of sustainable water and sanitation services to the rural and urban poor and to identify and agree follow up actions.

*Mission genesis.* The mission arose out of recent discussions between the Government of South Africa and Mr. James Grant (Executive Director of UNICEF) and Dr. Richard Jolly (Deputy Executive Director of UNICEF), where it was proposed that UNICEF investigate the possibility of providing support to the water and sanitation sector. In discussions with other agencies, it was concluded that an inter-agency reconnaissance mission would be of most benefit to South Africa, minimising the burden on the Government and bringing together the complementary expertise and experience of sister agencies. The mission visited South Africa between October 30 and November 10 and comprised staff of UNICEF, WHO, UNCHS (HABITAT) and UK/ODA, with a mission member also endorsed as a representative of the World Bank, Africa Technical Department (AFTES).

*Mission timing.* The mission arrived in South Africa at an exciting time. Over the last three years there has been much intellectual work on policy and strategy options for the sector, beginning in earnest with the Water and Sanitation 2000 Workshop held in Johannesburg in 1991. Since the elections in April 1994, activity has greatly accelerated. A National Water Supply and Sanitation Policy Conference was held in July 1994. Most important, at the time of the mission, a draft White Paper, *Water Supply and Sanitation Policy Paper: Water - an Indivisible Asset, Draft 4*, was in the final stages of preparation prior to going before Parliament. The Minister of Water Affairs and Forestry kindly shared this draft with the mission. South Africa's new Government of National Unity is very busy addressing the practical implications of implementing its Reconstruction and Development Programme (RDP). The Department of Water Affairs and Forestry (DWAF) is in the process of transformation from old roles to new ones, and a new Directorate of Community Water and Sanitation has been established.

*Mission activities.* With much urgent work to be done and many donor fact-finding visits, the mission was acutely aware of the pressures that government staff are under, and attempted to minimise the additional burden. Nevertheless, over a ten day period the mission met with many people in Pretoria, Johannesburg and Cape Town, including the Minister of Water Affairs and Forestry, the Director General and many Ministry staff; officials from the RDP office; the Ministry of Health; the Mvula Trust; the Development Bank of Southern Africa; the South Africa National Civics Organisation; the National Rural Development Forum; and others. In addition mission members went to the three provinces of Eastern Cape, Kwa-Zulu Natal, and the Northern Transvaal, meeting with local government officials, NGOs, water boards and universities. Most important, the mission was also able to visit a number of rural and urban settlements in the three provinces.

*Mission outputs.* During the mission's meetings and field visits, the challenges faced by the sector in South Africa became progressively clearer. This report presents the more important of the





mission's perspectives on some of these key challenges. It would be presumptuous to attempt to provide any solutions, in part due to the brevity of the visit, in part due to the complexity of the challenges and in part due to the ongoing intensive engagement of so many governmental and non-governmental professional staff in an intellectual dialogue on the issues faced by the sector. At the specific request of government, we do, however, draw on relevant international and personal experience (both positive and negative) and give some insights (not solutions) that may guide Government towards viable solutions for both the immediate and the longer term. The report focuses particularly on community-based water and sanitation provision in rural and urban fringe areas, due to the recent and intensive work on the extension of more conventional services to township areas undertaken by Government, the Urban Foundation and donors. The report also has as a secondary target other members of the donor community, who expressed interest in the mission's findings and in supporting Government's efforts.



## B. BACKGROUND

### 2. Political, economic and institutional transition

*The challenge of political transition.* Following the first universal suffrage held in April 1994, an Interim Government of National Unity (IGNU) was inaugurated at national level, with similar coalitions administering the country's newly determined nine provinces. The broad acceptance throughout the country and internationally of the IGNU offers tremendous potential for the development of a better future for all South Africans. The government promotes a spirit of compromise and a stated goal of meeting the basic minimum human needs – including provision of basic social services and human rights, along with broad political and economic participation. However, despite the goodwill engendered through the transition process, the challenges facing the IGNU are daunting. The policy of apartheid provided an inequitable system for the development of people's lives. The legislative framework has hitherto provided inadequate protection of human rights for black people, particularly black children and women. The on-going political transformation and peaceful transition has significantly raised aspirations and expectations among the majority black population for rapid social and economic transformation. The new Government faces formidable challenges in trying to address existing disparities and to meet expectations.

*Demography.* The total population of South Africa in 1991, including the independent homelands was 37.7 million. Africans made up 75% of the total population, whites 13%, coloureds 9% and Indian 3%. The majority of the African people were living in the homelands (62%) and the remaining (38%) in the common areas. More than half of this latter number were concentrated in the Transvaal. While 49% of the population resided in urban areas and 51% in rural areas, the homelands collectively accommodated 77% of the rural population, with a concentration of 28.5% in Kwazulu, 20.5% in Transkei; 17.2% in Lebowa and 11.5% in Bophuthatswana. In 1991, there were 13.7 million children in South Africa of whom 81% were African, 8% whites and coloured and 2% Indians. The infant mortality rate of 52.8 per 1000 among African children is considerably higher than for other racial groups; coloureds 28 per 1000, Indians 13.5, and whites 7.3. Six diseases account for more than 90% of the known causes of deaths in the first year of life - perinatal causes (56%), intestinal infections (17.3%), respiratory diseases (10%), bacterial and viral diseases (5.5%) and nutritional diseases (3%). Diarrhoeal diseases are a major killer in South Africa. Data from the late 1980s shows that of the 30,000 deaths that occurred each year, one-fifth (6,000) were the result of diarrhoeal disease. These figures are an underestimate since they exclude data from the former homelands, and, in addition, it is estimated that almost half of African deaths are not reported.

*Revitalising the economy.* The government inherited an economy which, despite being the strongest and largest in Africa, with a population of around 40 million and a mean GNP per capita of US\$ 2,600, is characterised by serious structural weaknesses owing to decades of distortionary policies in labour, housing, land, capital, and trade markets. This economic malaise is partly manifested by sizeable fiscal deficits, an ageing capital stock ill suited to effective absorption of labour, and a powerful conglomerate sector concentrated in few hands. Since the late 1970's, growth has stagnated in South Africa, investment has dropped significantly due to sanctions and protest at the government's apartheid policies, and productive investment has been replaced by speculative investment, with a consequent decline in job creation. The policies of the former government prevented any growth in the small-scale and micro-enterprise sector. In the labour market, decades of discriminatory practices have left the workforce with a distorted and inadequate skill base.



Revitalising the economy, reducing unemployment and creating equity in the workplace are all major challenges for the Government.

*Reconstruction and development.* Notwithstanding, South Africa does have rich potential. The country is well endowed with natural resources which provide a strong foundation for economic activity and a reliable source of foreign exchange. The country also has extensive infrastructure in roads, communications and ports, although these mainly connect white and urban areas, ports, and neighbouring countries. With the exception of large commercial farms, rural areas have little infrastructure. In order for sustainable growth to occur in South Africa and to address the problems of poverty and gross inequality across all aspects of society, the new Government has committed itself to pursue vigorously a framework for socio-economic development - the Reconstruction and Development Programme (RDP) - overseen by a Minister without Portfolio within the Office of the President. The RDP envisages five key programmes: Meeting Basic Needs, Developing Human Resources; Building the Economy; Democratising the State and Society, and Implementing the RDP. There are however, many obstacles to implementing the RDP (see Box 1).

*Civics, forums and local government.* Over decades of apartheid, undemocratic institutional structures and mass protest resulted in the creation of a wide range of community-based organisations - the civics - which became the focus for community organisation and development, commonly in opposition to appointed and often unrecognised local government structures. With the unbanning of the liberation movements in 1990, many different transitional institutions, known as 'Negotiating Forums', were born at local, regional and national levels, to facilitate the democratic restructuring of sectors and government. As the different levels of government undergo democratic transformation, these forums will possibly be transformed into formal advisory bodies, or platforms for post-election civil society to influence policy. After many years of struggle, it is clearly not easy to perceive a time when democratic community-level organisations merge into formal local government structures. At provincial and local level, government structures are not yet established, as non-racial democratic local government elections have not yet taken place. These elections are not expected to take place until the end of 1995, at the earliest. In the meantime, the Local Government Transition Act of 1993, which makes provincial committees responsible for establishing local government, provides for a Local Interim Government composed of statutory bodies (previous government structures) and non-statutory bodies (representative structures previously excluded from participating in local government elections such as civics, local branches of political parties, municipal workers and farm workers to name a few). These statutory and non statutory groups come

**Box 1. Obstacles to reconstruction**

- \* a civil service requiring reorientation and retraining, and an attitude inversion towards acceptance of change and commitment to the process;
- \* the need to shift expenditure patterns to meet the new priorities;
- \* transformation of state and parastatal institutions - their policies, programmes and delivery systems;
- \* physical restructuring of these institutions, including geographically into nine provinces and one unitary State,
- \* fiscal discipline to reduce public debt and contain government consumption;
- \* development of democratic local government structures to deliver programmes, and
- \* return of law and order and the creation of an environment conducive to investment.



together in 'Local Government Negotiating Forums' and will constitute Local Government (see Figure 1).

### 3. Water and sanitation

**Water resources.** South Africa is a water deficient country. Water is already scarce in several regions of the country and is becoming increasingly so, due, inter alia, to: rising demand; an unfavourable climate; an uneven geographic distribution relative to demand, declining quality; and the obligation to share with other countries. South Africa's average annual rainfall of 500 mm is unevenly distributed, particularly relative to areas experiencing growth in demand. Only a narrow region along the eastern and southern coastlines is moderately well watered, while the greater part of the interior and western part of the country is arid or semi-arid. 65 % of the country receives less than 500 mm of rain annually, which is generally considered the minimum for dryland farming, whereas 21% of the country receives less than 200 mm. The average annual potential evaporation is well in excess of the average annual rainfall, which reduces the surface run off greatly.

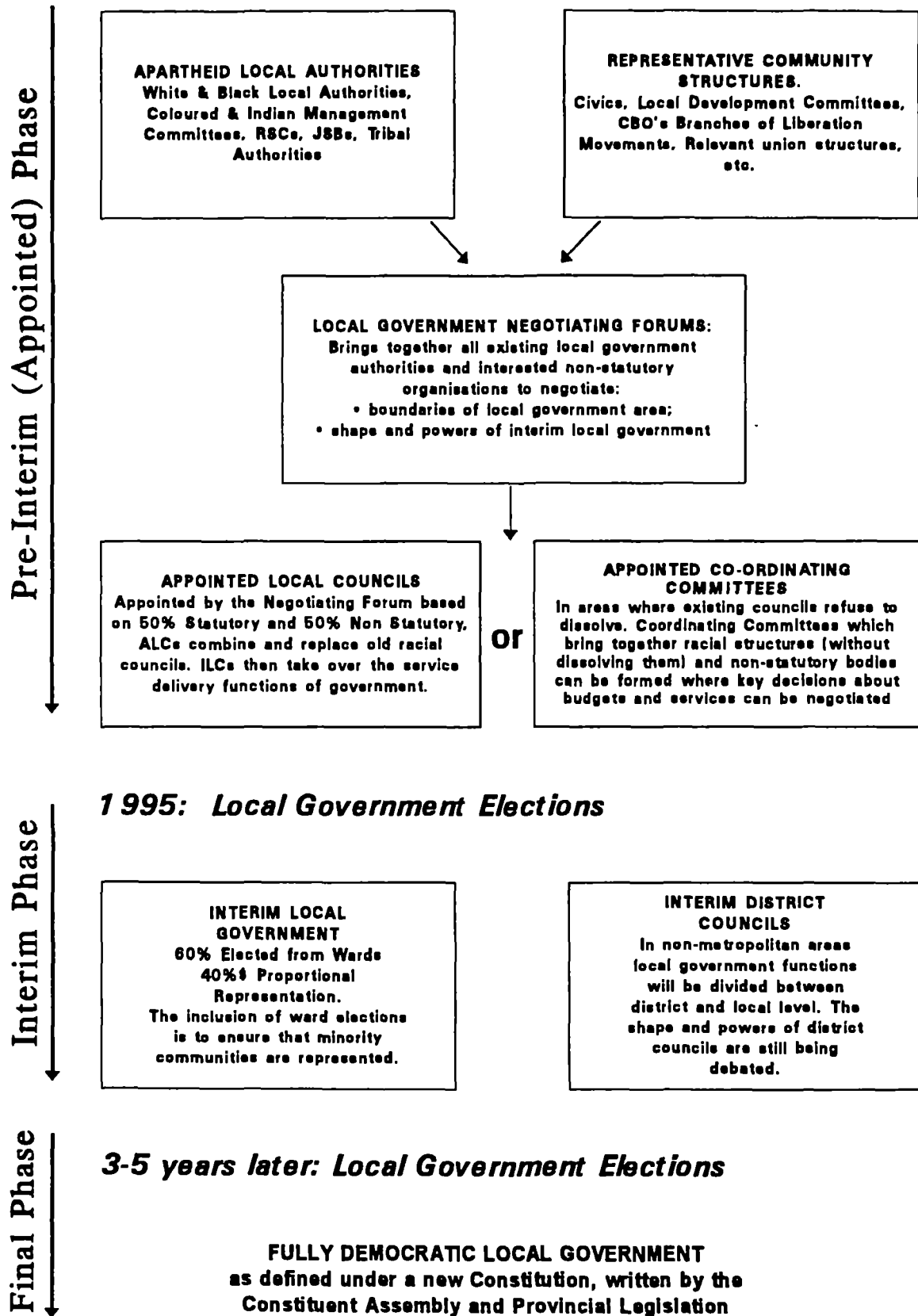
#### **Box 2. Groundwater: a key resource for small community water supplies.**

About 80% of South Africa is underlain by secondary aquifers comprising weathered and fractured rocks, which generally have low permeability and limited groundwater storage. While groundwater is less important than surface water in terms of overall quantity – it is often the only, or the most cost-effective, source available to rural communities. A difficulty constraining the use of groundwater is uncertainty about yields, mainly owing to insufficient knowledge about the hydrological characteristics of groundwater sources, such as natural recharge rates, utilisable storage capacity and abstraction potential. The Government has initiated a mapping programme - which it wants to accelerate - to overcome this constraint. As a supply option for many rural communities, local groundwater development presents a cost-effective strategy for improved access to basic water supply, often employing simple and low-cost but nevertheless highly effective technologies such as handpumps. This strategy also empowers communities to become self-reliant, by conferring responsibility for and ownership of the supply system to local people, and building capacity and local governance.

**Water and sanitation coverage.** The development of South Africa's water resources has historically been geared toward meeting the needs of large scale commercial agriculture and industry, as well as to the needs of particular population groups, notably whites and formal urban dwellers. This has typically been to the exclusion of large numbers of people, predominantly black, living in informal settlements, townships, and rural areas. Accordingly, a large proportion of the population lacks basic services in water supply and environmental sanitation. This is despite the fact that the country has considerable economic and technical capacity, as well as an impressive network of infrastructure, including nuclear power generators and vast inter-catchment water transfer schemes. Numerous different statistics are given regarding service coverage. The figures in Tables 1-4 are drawn from data from a study of about 9000 households by the Southern African Labour and Development Research Unit (SALDRU) of the University of Cape Town (1994). Note that the rural and urban marginal categories in Tables 3 and 4 are considered to be predominantly black. This study is quoted in the draft 4 White Paper (Water an Indivisible Asset).



**Figure 1: Interim Local Government Structures**  
 (Source: National Rural Development Forum, 1994)



**Table 1. Percentage coverage by reticulated system, by race**

Type of system	Black	Coloured	Indian	White
House connection	17.5	78.9	99.2	99.7
Yard tap	25.8	16.5	0.8	0.2
Public standpost	23.8	3.0	0	0.1
Total	67.1	98.4	100	100

**Table 2. Percentage of population with flush toilet, by race**

Type of system	Black	Coloured	Indian	White
Flush toilet	34.2	88.0	99.6	99.8

**Table 3. Proportion of the Black Population with different types of water supply service broken down by type of settlement**

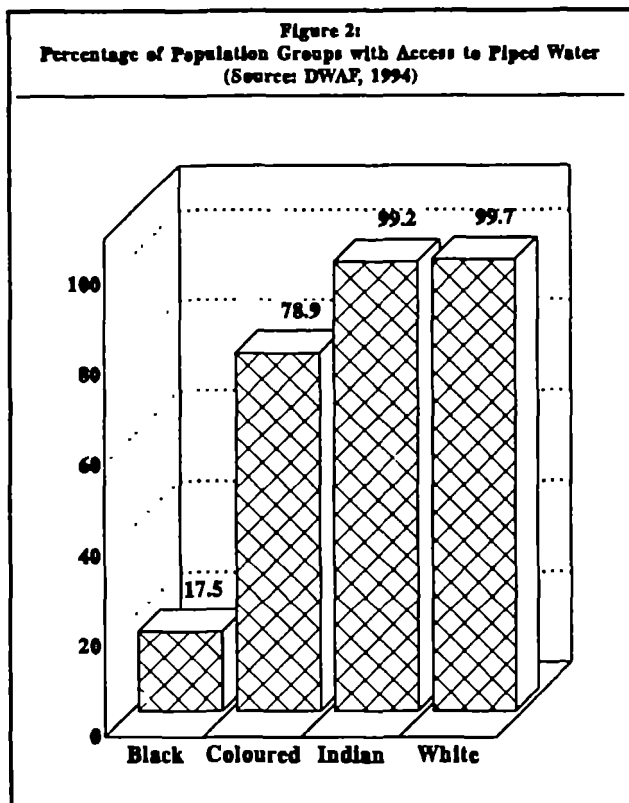
Water supply type	rural	urban marginal	metropolitan
House connection	7.7	27.5	40.0
Yard tap	13.9	42.8	48.9
Public standpost	26.8	27.8	10.9
Other	51.6	2.9	0.2

**Table 4. Proportion of the Black Population with different types of sanitation service broken down by type of settlement**

Water supply	rural	urban marginal	metropolitan
Flush toilets	13.1	55.9	83.0
VIP latrines	1.8	2.0	0.6
Pit latrines	59.7	13.3	6.4
Bucket latrines	1.4	24.5	6.9
Other	24.0	4.3	3.1



*Some perceptions.* In a survey undertaken in 1993 by the Department of Health as part of its monitoring activities, 90% of the rural respondees identified water supply as a major problem. Key concerns were as follows: distance to the supply (62%); water quality (57%); and availability of supply (only 8%). For the peri-urban population, key concerns were: distance from the waterpoint (84%); and water quality (only 11%). However, urban respondees considered availability of supply a much greater problem, with 40% identifying this as the main issue. This would suggest that reliability of supply in the townships is a major concern. In the case of sanitation, the population of the rural areas with their own facility had the following major concerns: ratio of population to facility (50%); ultimate disposal of waste (43% - reflecting the use of bucket latrines); and condition of the latrine structures (39%). In the case of urban marginal populations sharing communal facilities the main problems were with final disposal of waste (72% - again indicating the prevalence of bucket latrines); the high ratio of users per facility (61%); and the condition of the structure (52%).



*Sector policy.* The RDP sets out a framework of clear policy objectives for the provision of safe drinking water and sanitation. Within the policy of "Water Security for All" the first RDP paper stated that water supply to nearly 100% of households should be achieved over the medium term and adequate sanitation facilities should be provided to at least 75 % of rural households. The aim is to assist communities to secure a safe water supply of 20-30 litres per capita per day, within a 200 m reach where feasible, as well as safe sanitation facilities. At national level, the Department of Water Affairs and Forestry (DWAF) has been established as the custodian and main actor in the sector, with all water and forestry related personnel in the different parallel administrations to be amalgamated under the Department. Consequently, the Department is expected to grow three fold, and undergo

restructuring and re-orientation over the next 18 - 24 months. A primary objective of the DWAF has been to define sector policy in accordance with the goals of the RDP. The draft *White Paper: Water an Indivisible Asset* (since published) is a comprehensive statement of sector policy; Box 3 gives the policy principles on which the White Paper is based. The White Paper goes on to define the institutional framework, further detail basic service provision policy and set out policy for sector financing and tariffs. The institutional framework for the sector is complex and the

**Box 3. White Paper: Water an Indivisible National Asset (draft 4: November 1994).**

The draft White Paper sets out eight policy principles:

- (i) Development demand driven and community based
- (ii) Basic services are a basic human right;
- (iii) "Some for All" rather than "All for Some";
- (iv) Equitable regional allocation of resources.
- (v) Water has economic value.
- (vi) User pays.
- (vii) Integrated development,
- (viii) Environmental integrity



mission's interpretation is set out below in Figure 2 (in the next chapter).

**Sector financing.** Nearly 12 million South Africans lack adequate water supplies and 21 million do not have adequate sanitation. A very broad order of magnitude of the total cost of providing adequate water supply and sanitation services is estimated to be between R10 billion and R30 billion depending on the level of service provided. More recent statements by the government indicate that the total cost of providing basic water and sanitation to all South Africans is somewhere between R 7 billion and R 19 billion. At the present rate of implementation of water and sanitation schemes, particularly for rural areas, it is estimated that it would take about 20 - 30 years for improved water supply alone to reach the majority of rural inhabitants. Priorities have to be set, resources mobilized and implementation capacities developed. The Government has recently kick-started the RDP by launching what are known as the RDP Presidential Lead Projects, one of which caters for the provision of safe and clean water and has the following budget over the next three years:

1994/95: R 59.5 m.  
 1995/96: R 135.4 m.  
 1996/97: R 87.8 m.

**Table 5. Estimated Total Capital Costs of Water Supply & Sanitation In South Africa (1990 prices)<sup>1</sup>**

	Total Costs Water Supply (R billion)	Total Costs Sanitation (R billion)	Total (R billion)
Rural	2 - 10	1 - 3	3 - 13
Urban	4 - 5	5 - 10	9 - 15
Total	6 - 15	6 - 13	12 - 28

Notes:

- (1) Capital expenditure figures are for central and provisional governments and water boards.
- (2) Source: Background Papers of the Water and Sanitation 2000 Workshop, August 1991.

The draft White Paper states that an allocation of 1% of the national budget over seven years would meet the goal of providing universal basic water supply and sanitation services to all citizens. This would mean increasing the amalgamated budget of the Department of Water Affairs from an estimated R1.6 billion per annum to R2.8 billion (1994 prices).

<sup>1</sup> Source: Water and Sanitation 2000: Strategies for Water Supply and Sanitation Provision, Workshop September 1991.





## C. OBSERVATIONS, CHALLENGES AND INSIGHTS

### 4. Introduction

*Observations, challenges and insights.* This chapter of the report sets out the main observations of the mission, drawing on meetings, documents and field trips. These observations are used to distil some of the major challenges faced by the sector in South Africa over the next few years. For each of these challenges, the mission gives some insights, drawn from relevant international and personal experience. These insights are not given as recommendations but as ideas that may guide Government in addressing the challenges which it faces.

*Rural and urban: synergies and differences.* The need to address the immense disparities that exist both within and across rural and urban areas in basic social services, particularly water supply and sanitation, is a national priority. The imperative for improving basic levels of services in each of these areas is high and prioritization between rural and urban (however defined) along any criteria will pose difficult socio-economic decisions, due to the large number of disadvantaged people in both these areas. It would be unhelpful to look at the problem as a trade-off between urban and rural areas. While clearly certain different considerations and institutional structures will be needed for each of these areas, the underlying principles of sustainability, peoples participation and governance are common. The mission focused particularly on community-based water and sanitation for those unserved in rural and urban-fringe (ie both townships and squatter settlements) South Africa, where formal extension of conventional municipal services is unlikely in the medium term. While there is no doubt that conventional water and wastewater service provision is widely relevant and brings great challenges, it is largely incorporated within the issue of housing, which is an area that is the subject of extensive work by both South African and international institutions, resulting in significant knowledge and literature. This chapter therefore focuses on less conventional strategies for community water supply and sanitation provision. Much of the substance of the discussion is relevant to both urban fringe and rural areas, although in some cases observations and insights are made that are more applicable to one area than another.

### 5. Basin management

*Observations.* During field visits and discussions with the Umgeni Water Board in Kwa-Zulu Natal, it became clear that cross-subsidization from urban to peri-urban and rural areas is justified not only on grounds of equity, impact on health and health costs, and number of lives saved, but on the basis of efficiency and effectiveness in formal urban services provision as well. If peri-urban and rural areas are not provided for with safe water and sanitation, the future costs to urban users are likely to rise due to environmental degradation of precious water sources. In the Umgeni service area, informal settlement in the catchment areas is resulting in pollution and siltation of headwaters, seriously affecting downstream reservoirs. Thus an important synergy arises from environmental considerations which call for examining issues of costs and financing in the delivery of water supply and sanitation on a catchment basis, leading to the concept of basin management.

*The challenge.* The challenge is to look at the cost of water supply and sanitation in a holistic manner and over a long-term perspective, taking into account regional environmental and economic considerations. Such an approach still requires looking at the issues of technology choice, consumer



preferences, affordability, costs and cost recovery, but from the perspective of water resources management within a coherent service area or basin. Thus the interdependencies arising from the underlying economic principles of water supply and sanitation call not so much for a choice being made between the allocation of resources between urban and rural areas but rather to suggest that both can be delivered efficiently and cost-effectively if appropriate institutional structures and financing mechanisms are adopted.

#### **Box 4. Umgeni Water - Interdependence in the provision of rural and urban services**

Umgeni Water, the largest water board in the province of Natal, takes a long term view in the provision of water supply to a catchment of 24,000 km<sup>2</sup> and a population of 5.5 million people. 1.5 million rural and 4.0 million urban, informal and transitional settlements, with a projected population increase to 13 million by 2030. Eight years ago Umgeni Water took a bold decision to invest in rural and peri-urban water supply and sanitation. With modest investments in the early years, the investment in these areas increased four fold in the last financial year. There were clearly sound economic reasons for this investment, illustrating the interdependencies in rural and urban services in a catchment which contributes about 20% of South Africa's GNP.

Development and growth is putting water resources under strain. The Water Board identified a major source of pollution to be discharge of sewage into the basin, resulting from increasing urbanization and informal settlements. In addition, soil erosion in the headwaters is causing increasing silt loads in rivers and reservoirs. As a result, the cost of water to the urban users has been increasing due to expensive treatment processes. Service expansion to rural areas could therefore be justified on economic and environmental criteria, indicating how water supply to urban areas must take account of the overall management of the river basin and environmental considerations both upstream and downstream.

Umgeni Water Board is demonstrating that services can be provided jointly to rural and peri-urban areas within its catchment area in a cost-effective manner, with full cost recovery for operations and maintenance but with a non-stifling cross-subsidy from urban to rural areas for the capital cost. The charges for providing rural and urban water supply is estimated at R1.36/cu.m and R1.85/cu.m. respectively. The latter includes a capital subsidy for the rural areas of 2.35 cents. Apart from a connection charge of R200 to R280 for household connections in the rural areas, the capital cost of rural water supply is being recovered over a 20 year period. The excellent cost recovery record in urban areas and the relative affluence of the urban districts of Durban and Pietermaritzburg have provided the board with a 'cash cow' which has been managed judiciously, spreading the benefits from economies of scale. Umgeni water is a parastatal which receives no subsidies, issuing triple A rated bonds on the capital market.

The board has an excellent record of cost-recovery in rural areas and has contributed to employment creation in the catchment area. This has been achieved by.

- the provision of services for which the community is willing and able to pay,
- providing services only after the community is mobilized: the community forms a local water committee which approaches the board and agrees to manage the project - the utility bills each consumer for the household connections and the community for the standposts; the local water committee undertakes collection and banks the receipts;
- keeping cost of service delivery low through the use of local water committee for the administration of the rural schemes. The community employs a cashier whose salary is partly contributed by the board;
- community development and training in negotiating skills, water management, and hygiene. Is promoted by the board through rural planning officers employed and paid by the Board. Their work includes promotion of sanitation through low-cost but acceptable VIPs,
- employment of local people during the construction of the pipelines and the promotion of local artisans.

*Insights: a one basin approach?* The Umgeni Water Board experience shows (see Box 4) that if the costs of urban water supply are fully recovered and calculated not on a project basis but in relation to the costs of water resources management within the basin, then services can be improved in rural and peri-urban areas in a rational and cost-effective manner. Such a long-term perspective may provide the economic rationale for capital investments in peri-urban and rural areas by water boards in many parts of the country. Cost allocation and cost-recovery in a basin management approach is thus not necessarily cross subsidy from urban to rural areas, due to the long term benefits to the



providers of the 'subsidy' in terms of the environmental impacts and effects on long-run costs. For similar reasons, other users of water resources such as agriculture and industry should also pay the full economic costs. The considerable externalities, therefore, require economic rates of return and cost-recovery to be looked at more broadly for an entire catchment area and not on a project by project basis through a traditional accounting cost approach.

*Insights: other approaches.* It is possible that in the case of some water boards the synergies may not be apparent and environmental considerations may not be considered significant. Even in these circumstances, there is a case for cross-subsidization by considering a broader basis for calculating and allocating costs. The White Paper interestingly notes that because some communities have been served for a long period of time, the historic cost of the original infrastructure is very low and has little impact on tariffs while the cost of expanding or replacing such infrastructure is very high. Calculation of tariffs could, therefore, be based on current costs of the infrastructure, which would allow both a restraint on consumption as well as providing the capital needed to expand coverage.

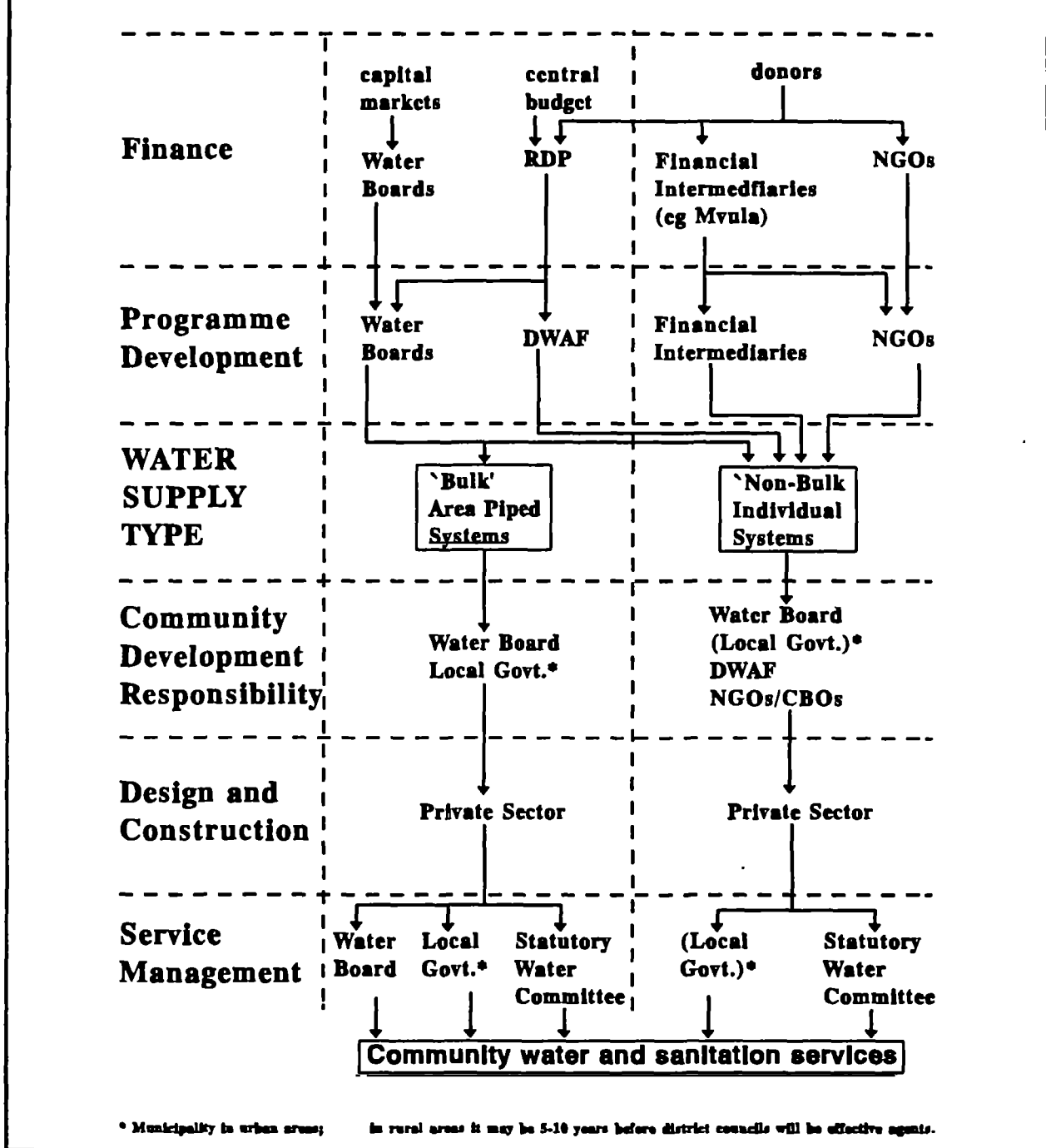
## **6. Institutions: an adaptive approach**

*Observations.* The institutional framework for service delivery, discussed above and illustrated in Figure 2, below, is complex, with a mix of 'first-world' institutions in some areas and an institutional vacuum, that few third world countries would still have, in other areas. The transformations needed over the coming few years to bring an integrated array of services to meet a wide range of demands and a rational institutional framework to deliver those services, are without precedent. The mission had the opportunity to see the work of a water board, municipalities, NGOs, financial intermediaries (the Mvula Trust) and peri-urban and rural local water committees. However in the absence of established guidelines there can be conflicting messages and resulting expectations; for example, some organisations require financial contributions from rural communities, whereas others do not. Radical transformation is taking place on the roles and functions of the DWAF; this unavoidably raises issues, some of which are discussed below. A further area of obvious concern, where there is a great void and some uncertainty, is that of the responsibility for community development. As this primarily affects non-bulk supplies in rural areas, it is discussed in section 7 below.

*Challenges.* *The challenge here is to manage a gradual and effective institutional transformation over the next few years, while using the wide range of existing institutions to deliver water and sanitation services to meet urgent demands, within a coordinated and sustainable programme. There are clearly certain short, medium and long term challenges. In the long term the White Paper proposes that the delivery and management of water supply and sanitation will be part of the mandate of local authorities. In the urban sector, negotiations are underway to form Transitional Local Governments, integrating the white towns with the townships under single authorities. However, the formation of democratically elected and fully functioning local authorities in rural areas is still between 5 to 10 years away. In the interim, government policy and strategy has to deal with two voids: (i) created by the collapse of the local authorities functioning under the previous regime, which failed to provide services, and the emerging restructured provincial institutions that are envisaged in the White Paper, and (ii) the void in the institutional structures between the community level (demand for services) and those at the provincial and central government level (supply of services) in the period of transition to local government.*



**Figure 3 - Water and Sanitation Service Delivery:  
Interpreting the interim institutional framework**



*Insights: bulk water supply and the water boards.* There is a major opportunity to extend services from 'first world' water utilities to developing communities, an opportunity almost unprecedented in the developing world. Communities which can be served include peri-urban and rural settlement



where the costs of provision of water supply (either through household connections or standposts) by extension of existing or planned regional schemes (eg from existing infrastructure such as reservoirs and trunk mains) are affordable. 'Affordable' costs here will take account of the costs of basic services which attract subsidy from the RDP, together with the consumer willingness-to-pay for higher levels of service, and, in addition, the notional cross-subsidies derived from economic and environmental benefits and economies of scale that area-based piped water supplies will provide, as discussed in section 5.1 above. This implies that many more may be served in this way than might at first be suggested by applying blanket 'basic' service level subsidies; it also implies that the additional finance would be raised through a mix of water board and consumer finance. This local resource mobilisation should be strongly promoted, without excessive government financial intervention. The 'bulk' provision will clearly be undertaken by the water boards and the Umgeni experience shows that it can be done without significant subsidy. 'Retail' provision may be through the water board itself, a municipality in peri-urban areas, or a local water committee in rural areas. However, the Umgeni experience may not be easily replicated, without significant cultural and behavioural shifts in other water boards, possibly needing government intervention in re-orientation and regulation. It is important to emphasise that much of the bulk service extension could be justified on commercial grounds alone, and its sustainability will be better assured given that incentive, without subsidy.

*Insights: non-bulk water supply and community management.* In the medium-term and long-term, a large number of communities will not be served with bulk water supply. Some of these communities will be small towns with municipal authorities; most, however will be communities in rural areas where effective local government is likely to be many years away. In the interim, statutory local water committees will act as surrogates for local government structures. Community management of services has become an institutional solution of choice in many parts of the world where local government structures are insufficiently developed and accountable. This is true in some parts of the world in peri-urban areas, such as in the 'slums' of Tegucigalpa, Honduras, where community associations purchase in bulk from the municipal utility and are responsible for distribution, billing and collection. It is, however, more widely adopted in rural areas, whether to manage handpumped supplies in Malawi, Kenya or Uganda or more sophisticated systems (there are more than 50,000 community owned and managed rural water systems in the USA and now nearly one million in India). Figure 2 illustrates the complexity of the institutional framework for service delivery; this complexity is possibly a blessing and becomes part of the solution, allowing adaptive approaches, and not blueprints, to different social and geographic circumstances in different parts of the country. Thus the mix of institutions and the timeframe for rationalisation will vary across the country and will be a rational and pragmatic judgement based on the need to meet demands quickly and effectively. This adaptive approach to the institutional problem, clearly implied in the White Paper, is strongly endorsed. However, a framework of principles and guidelines is needed to avoid conflicting approaches.

*Insight: institutional arrangements for water resources management.* A paper prepared by SCOWSAS and presented at the recent National Water Supply and Sanitation Policy Conference (July 1994) proposes institutional arrangements for the sector, which appear to draw on experiences of countries such as France with 'water parliaments', ensuring the participation of local communities, as key stakeholders, in managing water resources. The White Paper, focusing on water supply and sanitation does not develop this theme further. It does, however, imply that DWAF, which has historically been a water resources management agency, will now assume increasing responsibility for water supply and sanitation service delivery (with reference to regional water supply and sanitation offices of DWAF: 'they will also act as bulk regional suppliers of water'). Experience across the world has shown the conflicts that can arise when an agency responsible for managing water resources - including licensing abstraction, monitoring discharge quality and enforcing



sanctions against non-compliers - is also a supplier of water and discharger of waste. In many countries, the functions of water regulation and water supply are mixed in the same ministry. In some, an agriculture ministry is responsible for water (such as in Israel, resulting in major distortions in the pricing and allocation of water). A key insight is the importance of separating the gamekeeper functions of regulation of water resources from the poacher functions of water supply and wastewater services. Ideally, these functions should be vested in different institutions; if not, there need to be high walls separating the functions, perhaps reporting only at the level of the Minister.

## 7. Water vs sanitation: preferences, demand for sanitation and risks of its omission

*Observations.* All the evidence points to high demand for water supply in rural South Africa. The results of the SALDRU survey on living standards indicate that about half of the black rural population cited piped water as one of the three things that government could most do to help them. During the field visit, the demand for water was apparent to the mission everywhere; the Community Liaison Officer of the Northern Transvaal Rural Consultative Forum estimated that 80% of his time was spent on water issues, in response to demand. The same SALDRU study indicates that only 10% identified sanitation as one of the three interventions of choice, despite the very low coverage and well behind schools, clinics, roads, electricity, housing, food aid etc. It was heard that water is a rural problem while sanitation is an urban one. While there is some truth in this, it is well documented that full health benefits from improvements in water quality and quantity can only be achieved if they are accompanied by improvements in the safe disposal of excreta and changes in hygiene behaviour.

*Challenge.* The challenge is to ensure that sanitation and improved hygiene do not become marginalized as "water and sanitation" programmes are developed to respond to the population's high demand for water.

*Insights: organisation.* In water and sanitation programmes all over the world, sanitation is generally treated as a very poor second to water, not surprisingly given the commonly much higher demand for water. Despite the 'conventional wisdom' that good programmes integrate water, sanitation and health education, one option of avoiding such marginalization is to consider a free standing sanitation and hygiene programme. Indeed two of the most successful rural sanitation programmes are free standing and they are in the neighbouring countries of Lesotho and Zimbabwe. Similarly, successful urban sanitation programmes may have a full range of activities, the sanitation component could be separately managed and delivered, giving incentives for success. Nevertheless, the provision of water in some instances provides an entry point into a community for a sanitation/hygiene programme. The institutional responsibility for rural sanitation promotion and delivery is not clearly defined, although the mandate is with DWAF; this responsibility needs to be established quickly if these activities are not to be left at the starting gate by the demand for water. At the same time, political priority would give the sanitation dimension of the problem the visibility that it needs.

*Insights: standards.* The Draft 4 White Paper on Water Supply and Sanitation Policy defines adequate basic provision as one well-constructed VIP toilet (in various forms, to agreed standards) per household. There exists however various intermediate options between the (unacceptable)



bucket and a full VIP latrine, such as the Sanplat (IPL), developed in Mozambique and Malawi. With such technologies, it is possible to have an unsubsidised programme well within the capacity of local entrepreneurs, sustained through the nurturing of demand and the promotion of markets for goods and services. In dense urban fringes, such as in squatter settlements, bucket latrines often predominate and, while VIPs may represent a significant improvement, they may not be appropriate and 'intermediate' sewerage solutions may go further to meet expectations in an affordable and sustainable way. Given the magnitude of the financial cost involved in ensuring that every South African has a toilet, it is important that standards are developed that reflect incomes and affordability, even taking account of the levels of subsidy likely to be available.

*Insights: financing rural sanitation.* Provision of sanitation in rural areas is community driven with the communities meeting most of the cost but those seeking public subsidies for the capital costs will need to demonstrate widespread individual household support, including contribution to the cost of service provision. One approach that has been found to be successful in other countries such as Bangladesh, is to drive the provision of rural sanitation (pit latrines) by private sector but linked to **rural credit schemes**. The poor are good repayers of loans and alleviating the financial constraint whilst at the same time leaving the initiative and decision-making to the communities/households themselves can foster effective demand. Effective demand should be the guiding principle in sanitation because the objective is not to provide facilities that people do not want but to provide facilities that they will use. Rural sanitation programmes can create jobs, and then leave promotion to local private sector 'marketing', as demonstrated with the Lesotho rural sanitation programme.

*Insights: perceptions.* Good sanitation/hygiene programmes first identify the felt needs of the population (privacy, culture, convenience and status) and the constraints within the community to widespread adoption of improved sanitation and hygiene behaviour, in order that programme design reflects user preferences and aspirations. Public awareness programmes, exploiting a wide range of media, can play key role in changing perceptions and have been successful in other parts of the world.

**Box 5. Self Reliance In the Northern Transvaal: Mohwelere Village**

The mission visited Mohwelere village in Northern Transvaal. The village is located among granite kopjes and its traditional source of water is a river 8 km away. In 1979, 180 families in the community contributed R30 each towards the cost their borehole, which is fitted with a handpump which is reliable but not easy to maintain. This is the only source of water in the village of 500 families (5000 people). Long queues of buckets stood by the low-yielding pump; to supplement this source, water is delivered to the community by tractor and trailer every day at a cost (to those that can afford it) of R8-10 per 200 litres. The community has collected money for other sources; several other boreholes have been drilled, but all have been too dry to fit a handpump and have been capped. Concern and frustration was expressed that their money had been taken and additional water supplies had not been provided. The Village Development Committee has 8 sub-committees, one of which is responsible for water and sanitation. The community perceive that the borehole and pump belong to them, but the maintenance is the responsibility of government. When the handpump has failed, which it did earlier this year, the community has reported the breakdown and then waited 1-3 months for a Lebowa Water Affairs team to carry out the repair. Most people have to return to the traditional source in the interim. In discussion, villagers were clear that they would pay for maintaining the pump and had skilled mechanics within the community to do it. The sense of self reliance was strong.

## 8. Self reliance vs dependency: aspirations and expectations

*Observations: self reliance.* Many rural and urban-fringe communities have for decades received little support from government, and where that support has been forthcoming it appears to have often



been limited, unstructured and, at best, targeted in an ad hoc way. This is likely to have led to the development of self reliance mechanisms - coping strategies - in many communities to ensure their survival under very difficult circumstances and in hostile physical and political environments. The civics in the townships and squatter settlements have played a key role in fostering self reliance. Water supplies have provided a special challenge, particularly in many of the former homeland areas, where water resources are scarce and their exploitation requires sophisticated techniques and equipment unavailable and unaffordable to poor communities. At the same time, traditional water sources have been unable to meet the demands of increasing populations. As a result, water is very high indeed on the list of priority needs of most developing communities today, particularly in rural areas.

*Observations: expectations.* With the emergence of a democratic South Africa, the expectations of poor communities are high. Peri-urban communities want housing units with water and electricity connections and flush toilets; in some rural communities visited by the mission the aspirations were the same. There are strong political imperatives to improve service provision to communities which have been disenfranchised and marginalised for so long, and there is an urgency to do this quickly to demonstrate government commitment. As a consequence, there are significant funds being channelled into rural and peri-urban development, with a special focus on basic infrastructure provision. Government, national parastatal and non governmental financing institutions and external multilateral, bilateral and non governmental agencies are all providing - or about to provide - funds to the sector to start to close the infrastructure gap. Closing this gap will be a lengthy, difficult and costly task and clearly one that must advance as quickly as ensuring sustainability will allow. The latter will, however, require building on and not weakening the spirit of self reliance that is so widespread in black communities in South Africa.

*Challenge. The challenge here is to promote the widespread provision of water supply and sanitation services to poor communities by:*

- a. *building on organisational and financial self reliance wherever it has developed under earlier conditions of adversity, and strengthening self reliance wherever appropriate*

**Box 6. Expectations in the Northern Transvaal: house connections and flush toilets**

In the meeting in a school, the problems of water shortage and poor sanitation were described to the mission. Needs for the 44 pre-schools in the area were described as flush toilets, nutrition and piped water. Numerous requests were being made to obtain support from provincial and central government. Outside the school, built in 1945, rainwater guttering lining the extensive sheet metal roofing had largely disappeared and rainwater was not captured, the two open pit toilets which were used by all the boys had excreta all over the floor and entrance. Expectations were high, but local initiative was not being applied to developing interim and intermediate solutions. There were, however, indications that higher than basic levels of service might be affordable and appropriate. Many community members were paying R7 per drum (R35/cu.m) for water to be delivered to their home, with one lady purchasing 10 drums of water (2000 litres) per month, at a cost of R70. Matching expectations with enhancing local initiative and mobilising local funds should lead to meeting effective demand for improved services. Just providing grants to meet expectations risks unsustainable services.

In another village, the mission was impressed by the standard of housing and other community facilities, including the office of the Chief, an MP in the former Lebowa Assembly. Significant grant support had clearly been received to date and a new water scheme, providing community standpipes, was being constructed under a grant from the Mvula Trust. A clear wish, however, was expressed for house connections. The elected water and sanitation committee is collecting R5 00 per year from each family, this was to be raised to R10, which was considered all that they can afford. A proposed sanitation project had floundered because few families had made the R50 contribution required towards the cost of a VIP latrine (whose unit cost was estimated at R900). Expectations are high but willingness to pay low.



- b. *linking the building of self reliance to the development of democratic structures at the local level, and thus developing an appropriate relationship to government at district, provincial and national level*
- c. *not creating expectations of levels of service that are unaffordable to the nation in capital cost terms or unsustainable by the beneficiaries in terms of recurrent costs and complexity*
- d. *avoiding excess financial or administrative dependency on higher levels of government, on NGOs or on external agencies.*

*Insights: expectations.* There are examples across Africa and other parts of the world where political change has created expectations, which have then been shattered by failed development programmes and replaced by frustration and, often, anger. Prior to independence, few countries in Africa had significant rural water supply programmes; where they existed they were often a component of an agricultural programme. With independence came increased emphasis on economic development, with newly emerging governments concerned with a more equitable distribution of resources and a focus on the provision of social services. Many national governments prepared far-reaching development plans and ambitious targets were set in collaboration with external donors, who pledged substantial external resources. One such example is the 1967 Arusha Declaration in Tanzania, which was followed by a party declaration in 1971 that all rural people should have easy access to safe water before 1991. Major investments in pumped and piped water supply projects all over the country in the 1970s, without the institutions or resources for operation and maintenance left a countryside littered with abandoned water schemes. Lessons were learned the hard way, and in the 1980s, a more pragmatic approach was adopted, with policy statements regarding the need for community participation, including user financing. The story is well told by Ole Therkildsen in *'Watering White Elephants'*, which describes the failures of control-oriented planning and advocates an adaptive approach, with long-term (but dynamic) policies and strategies and short-term planning and implementation. There are lessons here for all development planners.

*Insights: self-reliance and participatory planning.* Similar stories can be told from elsewhere. Kenya has a long history of 'Harambee', or working together, whether for a community facility or for a community member's wedding or funeral. In the 1970s Rural Water Supply I and II projects provided pumped and piped water supply to small settlements in many parts of the country. Despite a tradition of participation, 'control-oriented' planning resulted in schemes with inadequate institutions and tariffs, which were soon not operating. More recent experience in Kenya (eg in Kwale, Nyanza and Western Provinces), indicates that community based programmes using handpumped wells and gravity schemes and VIP latrines have a much improved performance record. Without participation in planning and ultimately without consumer choice, frustration can lead to rejection of externally imposed solutions. The 'toilet cities' of South Africa are an example of this.

**Toilet Cities: The Need for Participatory Planning**

The mission visited several "toilet cities" around East London with the Duncan Village Residents' Association. These serviced areas (roads, electricity, water supply, sewerage and the hundreds of highly visible toilet superstructures) have been rejected by the community as they do not meet their aspiration for a fully serviced housing unit. Simply constructing single room housing on these sites is unlikely to solve the problem of idle infrastructure as the community have expressed a wish to construct four room housing units to avoid the construction of shacks around single room housing. Given the high expectations of urban communities, a clear challenge facing the government and the community is to negotiate expectations downwards in a participatory manner to meet the availability of financial resources to provide some for all within the medium term.



## 9. Financing: subsidies, higher service levels and intermediation

**Observations.** Financing urban water and sanitation services is directly linked to the provision of housing finance, where there is a housing subsidy of R12,500, previously generally used for site and service provision (often unsuccessfully). Unified municipal authorities will have the opportunity to use different financial instruments, such as cross subsidy across the community, other sources of targeted municipal revenue, bond raising in capital markets and other credit sources. With one important exception, much less thought has been given to the issue of financing of rural water and sanitation services, which is arguably simpler as there appear to be fewer choices. Straightforward grant-funded provision by government and NGOs, as is typical in many countries, is the norm. Linked to this is the current debate on the possible extension of the present urban housing subsidy of R12,500 to rural housing, to meet the cost of community infrastructure - water, sanitation, drainage, roads etc, implying an additional cost of R 2.5 billion/year over 10 years. The important exception is the Mvula Trust (henceforth, the Trust). The Trust is a 'child' of the 'big three' parastatal development finance institutions, the Development Bank of Southern Africa (DBSA), the Independent Development Trust (IDT) and Kageso Trust, established 2 years ago with seed funding of R150m as a financing window for water and sanitation development, given the wide demand for water supplies. The Trust's mandate is to 'improve the health and welfare of disadvantaged rural and peri-urban South Africans through increasing access to safe water and sanitation services'. The Trust has developed detailed and documented procedures for fulfilling its mandate, including targeting basic service provision, grant application and appraisal, subsidies and cost ceilings, contracting, and performance incentives. The mission found that many were concerned that the 'barriers to entry' imposed by the Trust - ie the administrative and institutional difficulty in accessing support - were considered impossible hurdles for some communities. It appeared that some of these 'barriers' were being lowered in specific cases, to facilitate entry as well as, it appears, to stay in line with others (NGOs etc) grant financing community-based water and sanitation.

**Challenges.** *South Africa faces the challenge faced by many developing countries in identifying long-term, sustainable and widely replicable financing policies and mechanisms for water and sanitation services for the poor, which will cover: capital costs of new investments and rehabilitation of old; recurrent costs for operations and maintenance; and costs of enabling technical assistance. This challenge commonly blocks the move to scale from grant-aided projects to national programmes, given the enormous financial implications of the latter.*

**Insights: subsidies for rural services.** The policy on financing set out in the White Paper is that government subsidies may be used only to meet basic levels of service (25 l/cap/day at a maximum distance of 200m from the dwelling and one VIP latrine per household), with TA support but no grants for higher levels of service. The Trust achieves a similar policy objective by providing a grant of no more than R170 per capita, and loan funds to provide for higher levels of service. The R12,500 housing subsidy to rural households is potentially a different issue altogether. This would achieve equitable resource distribution between rural and urban dwellers, and may limit rural-urban migration. However, the overall cost implications are enormous and the short-run distortions to the rural economy may be significant. This figure contrasts with a typical household grant for basic water and sanitation of about R 2,000. There are risks that infrastructure so developed would be inappropriate and would not be sustained. In counterpoint, there is a case for saying that such an unprecedented injection in rural infrastructure would provide a kick start that could lift the rural population from the poverty trap. This is clearly a very difficult issue. It is, however, worth noting that high levels of services that are not sustained (as happened in the 1970s with water projects in parts of rural



Tanzania, following the Arusha Declaration which, inter alia, proposed free piped water for all) can create greater frustration than no services at all. Sustainability of services will depend not only on the local capacity to meet recurrent costs, but also on the institutional capacity to sustain them, as poor communities - particularly in rural areas - rarely have the 'voice' of their better-off counterparts and are thus less able to demand the attention of higher-level formal institutions.

*Insights: intermediaries.* It was clear that the role and the modus operandi of the DBSA is undergoing scrutiny and the mission did not look at this issue in any detail. Much closer to the sector, the Mvula Trust has many characteristics in common with the social investment funds in operation in many countries in Latin America and now beginning to spread in Africa (see Box 7). The 'hurdles' created by administrative procedures are themselves instruments for capacity building, creating the capacity to manage the service for which support is sought. Ideally, the hurdles can be tailored to the support requested, the higher the level of service, more costly and more sophisticated the infrastructure service planned, the higher the 'barriers to entry'. The easy entry to grant funds from other sources should not negate the potentially valuable need to hold a community meeting, form an association, open a bank account, complete application forms, prepare a plan, collect an 8% capital contribution, negotiate contracts etc. The principles under which

the Trust is working are firmly endorsed but implementation is not easy, however, and start up has been slow and disbursements limited so far. One issue that was raised was that of governance. Social Funds are typically outside the bureaucracy of government, with direction provided by representatives from government, the private sector and NGOs. The director may nevertheless be accountable at a high level in government (to the President in Bolivia, for example). A further issue is the risk of fostering small and expensive private sector consulting enterprises marketing the Trust in order to engage in planning and implementation contracts. In some cases it appears that consultants prepare a plan on a risk basis, on condition that they are awarded the contract if funds are forthcoming. The Trust is grappling with this issue, with lists of approved consultants and capped fees and there may be room for more formal pre-qualification criteria, assuring appropriate short listing while not restricting the entry of appropriately trained and experienced firms. Private sector marketing of services and available sources of finance is in principle good, as the incentives for effective outreach are high.

#### Box 7. Social Investment Funds (SIFs)

SIFs exist in ten or more countries in Latin America and in several countries in Africa (eg Egypt and Zambia), often but not always established to target the poor during structural adjustment. Characteristically they are developed to supplement government activities by channelling funds through existing community-based organisations (including NGOs, cooperatives and local government) for small-scale social and productive programmes specifically targeting the poor. Funds are generally designed to provide a fast, flexible, decentralised, demand-driven mechanism for program funding, driven by a bottom-up process of project identification and sponsorship and a top-down process for funding and technical assistance. SIFs generally have four main objectives:

- a) to target scarce resources to reach the most vulnerable groups, and also create temporary employment,
- b) to strengthen local government and community capacity to mobilise resources and implement development projects;
- c) to increase and coordinate external assistance, and
- d) to provide incentives for decentralisation of and coordination among line ministries.

A SIF is generally established as a legal, autonomous or semi-autonomous institution, with a fixed life span. The highly decentralised staff typically undertake promotion, project selection, coordination, contracting, training and supervision. In addition, extension agents play a pivotal role in community mobilisation and organisation. 'Social' infrastructure is commonly grant funded, whereas 'economic' infrastructure is loan funded.

SIFs are not without many problems, such as line ministry apprehension about loss of control and NGO apprehension about working with government. The risks of politicisation are always great and the problems of ensuring that benefits reach the most vulnerable are substantial. SIFs are often small and short term, the magnitude of funds in relation to needs for basic social services suggests that concerted actions over longer periods and with adequate resources will be necessary if serious poverty alleviation efforts are contemplated.



*Insights: Urban financing and cost recovery.* The government has provided end user subsidies as part of the government's approach to the urban housing challenge. Subsidy policy is envisaged to be as flexible as possible in order to accommodate a wide range of tenure and delivery options and enable the flexible application of subsidies at the delivery (provincial and local) level in order to obtain maximum gearing with private investment, savings and sweat equity. There are various financing options for funding water and wastewater services in the event that the subsidy can only be applied to pay for on-site costs and not for the off-site costs. Opportunities exist for local government urban authorities to mobilize loan finances for paying for off-site services. Liaison and collaboration between the Department of Water Affairs, local urban authorities and the Department of Housing would be crucial to the establishment of modalities of financing off-site infrastructure and for applying the housing subsidy in part or in total to the provision of basic services. However, the government's effort to provide basic services and housing to the majority of the population is facing a major challenge from the culture of boycotting payment of rent, bonds and service charges, developed out of the struggle for equity and a share in political process and economic development. The lingering culture of non-payment for public services clearly needs to be overcome. It is important to ensure that the users are involved in the decision-making process as well in the development; ownership of both process and the product is one way of ensuring that the end users will be responsible and will make payments as an important part of the deal. Community participation will not only considerably reduce the costs but will also provide the necessary sense of ownership that will ensure future maintenance and upgrading.

## **10. Basic services and income generation: cause and effect**

*Observations.* The SALDRU study indicated that employment was, together with water supply, at the top of the list of felt needs of both rural and urban communities. The mission visited two rural communities where women's groups had established small-scale horticulture enterprises. Other communities visited expressed keen desire to engage in similar activities, or others such as brick manufacture - for both, water is essential. It was impressive to note that most communities visited indicated that they could draw on extensive skills from within the community itself. Water was often a critical constraint, however, as was seed capital, to undertake ventures. In East London, the mission visited an urban Presidential Project in its preparatory phase, whose programme including housing, infrastructure and basic services, such as education and health. The mission discussed the programme with the communities involved and with the Provincial Government. In the discussions, it was clear that comprehensive development programmes need to go beyond physical and social infrastructure and integrate income-generating activities as part of the engagement of local government. For this water and waste could provide both essential inputs and opportunity.

*Challenges.* *The provision of water creates opportunities for income generation and requires incomes to meet service costs. The challenges are to promote income generation activities that both capitalise on improved access to water and sanitation and also support the raising of finance essential for improved water and sanitation services, possibly creating opportunities for higher levels of service.*

*Insights: opportunities.* Informal fresh food vending was apparent in the East London townships. With a considerable part of the urban population still retaining agricultural skills, urban-fringe market gardening could be promoted using surplus water or even treated wastewater. Experience in wastewater re-use for urban-fringe commercial horticulture is being gained in many parts of the



world, especially where water scarcity is rapidly pushing up the costs of water and reducing opportunities for conventional irrigation. Positive outputs can be expected not only in income levels, but also in nutrition and environmental management and even in children's education, through school activity. Similarly, waste recycling can bring both income and substantial environmental improvements, justifying substantial support. In rural areas, the potential for using improved water services as an entry point for income generation is substantial. For example, in dry and drought-susceptible southern Zimbabwe, 'collector wells' (large diameter wells with horizontal adits) in granite terrain have irrigated large community plots throughout the recent drought.

*Insights: promotion and planning.* Such small-scale income-generating activities not only improve living conditions, but also provide income to improve both infrastructure and service delivery. Additionally, these type of activities tend to benefit women who are more likely to stay in their communities rather than commute for work. Local government has a role both in establishing or supporting community-based small credit mechanisms and in providing training in basic managerial techniques and productive skills. In peri-urban areas, these activities require both space and services that should be provided for when planning the layout for new neighbourhoods or when upgrading existing ones, reversing the culture of developing residential-only neighbourhoods that lingers from township typology.

## **11. Sector capacity building**

*Observations.* Discussion throughout this report implies the need for transformation: transforming institutions, developing new skills, acquiring new orientations and increasing awareness in the public sector, in the private sector and among communities themselves. It was everywhere apparent that this process is underway, and it was often surprising to see how quickly and (apparently) painlessly this transformation is taking place. It was also clear that, after so many decades of entrenched positions, there is in many cases still a long way to go and a need for capacity building, in the broadest sense, at all levels. The Water and Sanitation White Paper is explicit about the need for training and capacity building, as is the RDP White Paper. The former proposes the establishment of a National Community Water and Sanitation Training Institute (at the University of the North in Pietersberg, Northern Transvaal), as a locus for a network of institutions across the country contributing to a major training and re-training programme. There is a clear perception, both inside and outside the sector, that water and sanitation programmes can be an entry point for the development of local government structures at community level, with the statutory local water committees becoming formal, democratic agents of the community, responsible for service delivery and requiring administrative ability and financial accountability. Over time, these committees would broaden their mandate and blend into emerging, legitimate local government structures. This is a particularly ambitious challenge that the sector faces. Immediately prior to the mission, the DWAF organised a workshop to establish a national training strategy for water supply and sanitation. The challenge is clearly recognised and is being addressed.

*Challenges.* *The challenge of transformation is a challenge for South Africa as a whole and for all spheres of activity. For the sector, the challenge is to move forward with a major public investment programme in water and sanitation, while at the same time developing the capacity: (i) in government to plan and manage a community-based programme; (ii) in communities themselves to define their needs and to manage services; (iii) in the private sector - both formal and informal - to work with and within poor communities and deliver appropriate technologies; and (iv) in the water boards to refocus their attention on poor settlement. Ultimately, a further challenge for the sector is to play a key part*



*in building governance at the community level. In addition, there is a need to build awareness across society of the scarcity of water and its socio-economic value, and of the importance of conservation and protection of water and soil.*

*Insights: community development.* Capacity building is an area where the mission considered that external support may be of assistance to the Government. The different levels where capacity building could be promoted are therefore developed in some detail in 8c below. Some insights only are given here. Figure 2 above is useful for illustrating some of the areas where capacity building is needed within the community water supply and sanitation programme. Starting with communities themselves, they need to be empowered through training, organisation and economic development, so that they can become decision makers and can help themselves. Building the capacity of communities to organize themselves - for needs assessment, to access capital, to contract works and to manage services - is a significant area for support. This will involve several layers of activity within the community, for example: training of formal committees; training of private artisans; and outreach to all community members through schools, adult education and a range of different media. At the same time, this capacity building will lay foundations for the first tier of local government, particularly in rural areas where there is now a complete void. To undertake these tasks, a cadre of community development extension agents is needed and is largely absent, with the exception of a few community liaison officers and other outreach staff within several NGOs. In some African countries, these tasks are performed by a government community development agency, which has an intersectoral mandate. The risks of developing central, sectoral extension cadres - common in many countries - is that a plethora of agents (for health, agriculture, water, education, etc) can create as much of a burden on communities as it sets out to resolve. It appears that the ultimate aim in South Africa is to provide extension support from district local government; this should permit integrated, responsive and accountable extension activities, even if not always well founded. A further void is that of trade training outside the major municipalities and mines; even though trade skills are relatively widespread due to the mobility of migrant workers, there may be benefits in developing a network of training centres in rural areas (along the lines of the 'village polytechnics' of Kenya).

*Insights: 'appropriate' technology and professional training.* Engineers are the primary developers of improved water and sanitation facilities. World wide, professional training for engineers addresses the problems of the industrial world and adopts its design and construction standards. However, these are often inappropriate, unaffordable and unnecessary in poorer settlement in the developing world. An excellent example is conventional sewerage, whose substandard implementation and management in many developing country cities has led to financial loss and environmental hazard. Intermediate sewerage designs (eg in terms of burial depth, diameter, access) and alternative management structures (eg the 'condominial' system of Brazil, involving community management of branch sewers) are pragmatic and effective adaptations of conventional solutions. Similarly, very simple solutions, such as the 'VIP' or SANPLAT latrine for sanitation and the 'VLOM' (Village Level Operation and Maintenance) handpump (eg the India Mark III and the Afridev handpumps) for water supply, are proving themselves to be first stage solutions providing basic services to enormous numbers of people worldwide at low cost. At the same time such solutions are not necessarily universally applicable - sanitation solutions may depend on housing density, for example. Understanding, promoting and implementing these 'unconventional' solutions, together with the social and institutional aspects essential for their effective delivery, requires unconventional training. The International Training Network for Water and Sanitation (ITN), managed by the UNDP-World Bank Water and Sanitation Program, is a network of institutions across the world offering this unconventional training to professional trainees. The proposed South African network of training centres would do well to learn from ITN experience, and perhaps link up more formally with the ITN in Harare and Nairobi or with ITN in Calcutta, India.



*Insights: reorientation.* South Africa's situation is extraordinary in that there are a large number of world-class engineers and other professionals who have no experience of meeting the needs of the 'other' group within their own society - the poor. Nevertheless, the sudden appearance of substantial funds targeting infrastructure development in poor communities has awakened great interest in the professional community. The mission visited a remote community in Kwa-Zulu Natal where a new water supply piped from a distant spring was not functioning properly because of a barely-functioning water committee. At the same time, a firm of consulting engineers is proposing flush toilets and a package treatment plant for the community's new primary school (which is surrounded by a high wire fence and 'keep out' signs in Afrikaans and English). Several features of this 'new' development appeared flawed, in part, because of the lack of awareness of the planners, designers and implementers. This serves to illustrate the importance of re-orientation of the professional community, with perhaps even the requirement of attendance at an appropriate training course for pre-qualifying for development work. Nowhere is re-orientation going to be more important than in the water boards. The mission was able to visit only one water board so it is difficult to draw general conclusions. However, while Umgeni provides an example of a water board which has moved with determination towards the provision of rural and peri-urban water supply and sanitation, other water boards may need to re-focus their business plans to take account of all settlement within their catchment areas, while retaining a commercial outlook. Incentives and advocacy with these water boards will most likely be essential, together with targeted training.

*Insights: sharing experience with other countries.* South Africa has an enormous reservoir of skill which could become instrumental in developing the infrastructure of neighbouring countries over coming decades. At the same time, there is much to be learned from other countries from their experiences, both positive and negative, in community water and sanitation development. Lesotho and Zimbabwe have remarkable peri-urban and rural sanitation programmes; Malawi's rural water experiences are a legend beyond Africa; Cote d'Ivoire's rural water programme is extraordinary in its move from private (contracted) maintenance to community management, experience of rural water supply in India and sanitation in Bangladesh and Indonesia. Uganda, Ethiopia, Tanzania, Kenya, Mali, Togo..... most countries have successful and less successful programmes from which there is something to be learned. Further afield, countries like Brazil, Pakistan, India and Indonesia have huge cities and have good and bad urban sanitation programmes from which lessons are invaluable. The insight here is that sharing experiences with other countries could be extremely valuable and may avoid errors - costly in both financial and political terms.

## **12. From policy to practice: strategies, plans, people and technologies**

*Observations.* The tenor of the intellectual debate on water and sanitation services for the disadvantaged in South Africa is impressive. Much effort has gone into building a constituency among the liberal professional community and into learning from experience in other parts of the world, an experience that, until recently, South Africa has been excluded from sharing. This debate and learning process has culminated in the White Paper, which sets out a clear policy agenda and ambitious objectives for redressing the imbalances in service coverage in a rational and pragmatic way. Now the real work must begin, translating the policy agenda into an action agenda which will actually result in rapid transformation in adequate water and sanitation coverage of the poor, which, by any standards, is currently extremely low. Although formal urban services are being considered within the overall urban housing agenda, activity underway in rural and many urban-fringe areas today is piecemeal and small scale, and the best programmes are only pilot activities for a national effort. Moving to scale from pilot activities will not be an easy task and there is clearly a concern in



the minds of many that there is much work to do to develop area-based programmes which will develop the momentum to achieve the targets set by the RDP. Delivery strategies will require pragmatic approaches to a wide range of programme components, such as water resources assessment, community development and construction.

*Challenge.* The challenge is to translate the recently conceived policy framework and RDP development targets into practical implementation strategies and a viable development programme. This programme will need to ensure the effective links between the demand for services, the available water and financial resources, and the private and public sector capacity to deliver goods and services.

*Insights: area-based programmes.* These are likely to be the way forward in community-based water and sanitation service development, where an area may be a province, another coherent area (either administrative, such as a mix of districts, or hydrological, such as a basin), or township and squatter settlement sprawl on the margins of a city. There is justification for the development of a national approach to area-based programmes, to set regulations, standards and guidelines, where appropriate, for service delivery. At the same time, this approach will need to be highly adaptive to the circumstances of a particular area, taking account of demand, and of institutional, social and geographic variations. Programme components and their phasing and delivery need consideration. For example, community development and public awareness programmes could usefully precede construction activities. Furthermore, the 'bulking' of construction works (eg drilling) at district or sub-district level may massively reduce construction costs, through increasing economies of scale and reduced mobilisation costs, as would the bulking of procurement reduce the costs of materials. It will not be easy to strike the balance between an ad hoc, entirely demand-driven activity that builds slowly across a province and a coordinated programme which relies on outreach to build demand and orchestrates responses to achieve accelerated and affordable service delivery. The latter approach allows for: the development of area plans, targets and budgets; the identification (and capacity building) of appropriate institutions - governmental, non-governmental and private - for programme planning and management, community development, financing and implementation; and the letting of bulked contracts (while seeking to keep communities in control).

**Box 8. Extension services in rural water supply and sanitation (RWSS): some examples.**

In the Savannas and Plateaux regions of Togo, 600,000 people are served with wells equipped with handpumps installed between 1980 and 1987 in a community-based programme which had a strong extension component. 120 extension agents from the Ministry of Public Health, Social Affairs and Women were responsible for community organisation and training. The project built on existing networks, and did not create a new cadre.

In Kwale District in Kenya, the Kenya Water for Health Organisation, an NGO, has for ten years provided the sociological inputs to a Ministry of Water Development RWSS Programme, including support to community participation, training, material development and monitoring and evaluation.

In the USA, 'circuit riders' are employed as extension agents by State Rural Water Associations, under funding provided to the National Rural Water Association (an NGO) by the federal government, to provide technical and financial advice to the tens of thousands of community water associations.

*Insights: public awareness.* There is increasing recognition that perceptions of policy makers and planners and those of beneficiary communities are very different. Sanitation is often promoted through health education, even when literacy levels mitigate against understanding of germ theory, or through regulation, resulting in the 'chief's latrine' problem characteristic of many parts of Africa, or through financial inducement - providing free slabs is no guarantee of latrine use. Instead, 'social marketing' identifies, through 'market research', approaches that will maximise the uptake of the





'product' being promoted - for example, using status, privacy, property enhancement, or peer pressures as entry points for sanitation promotion. Social marketing approaches have been used in different parts of the world in promoting, inter alia, nutrition programmes, immunisation, oral rehydration, and, increasingly, water and sanitation. There could be significant benefits from developing both national and area-based social marketing programmes in South Africa, with the former having broad messages on water protection and environmental sanitation, and the latter having more culturally specific messages regarding water, sanitation and health education.

*Insights: extension services and community development.* The need for a cadre of community development 'extension' agents is discussed in section 5 above. This cadre is largely absent, with the exception of a few community liaison officers and other outreach staff within several NGOs. The extension component in one project visited in the field went little further than funds for visits by a consultant and for a training course during the construction phase; the water committee was not operating effectively. An important notion is that the project begins when water starts to flow from pumps and taps; too often it is thought that this is the end of the project, not the beginning. Community development work is a process of outreach that cannot be time limited; who should be responsible for the service, who will pay; who will deliver, and over how long? In some African countries, these tasks are performed by a government community development agency, which has an intersectoral mandate. The risks of developing central, sectoral extension cadres - common in many countries - is that a plethora of agents (for health, agriculture, water, education, etc) can create more of a burden on communities than a solution. It appears that the ultimate aim in South Africa is to

provide extension support from district local government. This should permit responsive and accountable extension activities, although it will be many years before this can be realistically

#### **Box 9. Village handpumps in Malamulele**

During 1992 boreholes equipped with handpumps were installed in some 40 villages of Malamulele in Gazankulu as part of an emergency operation to combat the effects drought in Northern Transvaal. Existing standpipes supplied by reticulation from surface sources had been installed by Government and are frequently in disrepair for lengthy periods. Currently there is follow-up assistance (managed by the NGO Medecins Sans Frontieres with funding from ODA) to establish sustainable management of the handpumped water supplies. All the handpump models used had been manufactured in South Africa and several of the types originally installed had proved inadequate and failed after very short periods. These are being replaced by a pump model which has been found to be more reliable and concrete slabs and drainage soakaways are being installed to prevent water from standing around the pumps. This work is supported by community liaison officers who are encouraging the formation of water user committees and health care groups and are promoting improved practices for domestic hygiene. The more reliable hand pump which is being introduced has a low delivery rate (less than half of that for some of the other pump designs). A number of the communities have insisted that the low delivery does not meet their needs and in a few cases this view was put so strongly that a pump type with higher output has been retained, despite inappropriateness for village-level maintenance. Trials are showing that even the more reliable pump is becoming difficult to repair as a result of corrosion if it is not regularly checked and greased.

It is unclear how quickly the capacity to carry out preventative maintenance can be established, although the communities involved indicate that they are ready to raise funds in order to ensure a reliable supply of water. However, they have no immediate prospect that the necessary skills, equipment and parts will be available when required. Continued support is now proposed to build the capacity to maintain and repair the handpumps available to the communities either by giving them training or by encouraging members of the project implementation team to set up as small, locally based enterprises which would provide the required maintenance and repair services on a commercial basis.

In summary there are many lessons to be learned regarding appropriate handpump technology (drawing on extensive international experience) which will facilitate the communities taking responsibility for operation and maintenance. It is important to establish the essential skills (both through user groups and in local enterprises) available to rural communities for operation, maintenance and repair and for managing the required finance; and it is essential for communities to accept "ownership" and develop a management framework for their water supply facilities.



expected. Alternatives referred to in the White Paper include an extension role for the Water Boards. This would require an extraordinary transformation. The potential role of an 'association of associations' as an apex NGO (such as SANCO is for civic organisations today) providing extension services to its members and funded by both grants and membership dues is worthy of thought. It must again be emphasised that, although there is a short-term need for a major extension effort during planning and construction, after schemes are operational there is an indefinite need for a lower level of activity.

*Insights: some issues of technology for rural areas.* Given the nature of the water resource across much of South Africa, the low incomes in rural areas and the relatively low level of service characterised as 'basic' and therefore supported through grants, it is likely that boreholes with handpumps will be the solution of choice for very many rural communities. Significant exceptions will include where water boards have the affordable option to extend bulk water supply mains, where gravity schemes drawing on protected catchments are possible, or where the willingness to pay for improved levels of service - such as a diesel pumped borehole and standposts (and/or house connections) - exists. Handpumps seen by the mission were models that did not incorporate current design concepts. Much work has been done, experience gained and much written about low-cost borehole design and construction and 'village level operated and maintained' (VLOM) handpumps. All this is equally relevant to South Africa, as is the debate over many issues. For example, handpump standardisation (as in India with the India Mk II, and its recently modified VLOM variant, the India Mk III) simplifies manufacture, procurement, spares distribution and maintenance training. There are, however, risks in constraining a free market spread of products to meet a range of different demands. For example, experience in Asia suggests that standardising on white pour-flush latrine bowls is a mistake; product diversification to meet consumer preference for a range of bowls of different colour costs and technology widens the market and increases sales - and thus the adoption of sanitation. Nevertheless, promotion of standard handpumps, such as the India Mk II or the Afridev, through certified quality assurance, for example, has much to commend it. There are similar lessons to be learned with regard to drilling, and it is likely that tens of thousands of boreholes are needed to provide improved water supplies to South Africa's rural population. The benefits from rethinking borehole designs, developing sound contract specifications and ensuring good supervision could be considerable. Too many rural water and sanitation programmes are driven by technology considerations; these must not, however, be ignored in a shift to a demand-based approach.



## D. SUPPORTING THE SECTOR

### 13. Potential programme areas

*Introduction.* In this section, the mission draws on its observations and its undoubtedly limited understanding of the main challenges faced and proposes key areas where the external community could support the Government in ensuring widespread provision of water and sanitation services to the countries rural and urban poor. Generic areas are identified where such assistance may be useful, without excluding other areas that Government may identify. This section is deliberately brief as the rationale for the programme areas is largely given in Chapter C above, and more detailed programme frameworks are given in Annex 1 below. These programme frameworks propose objectives, outputs and activities for the 8 possible programmes described in this Section.

*Capacity building* could initially be supported by assistance in training needs assessment and in the sector capacity-building dialogue currently underway in South Africa. Support could then include assistance in the establishment / adaptation of training institutions and curricula focusing on community water supply and sanitation. Support could include capital costs and targeted technical assistance (TA) to cover, inter alia, the following areas:

*Community level:*

- \* organisational training of water committees (planning, management etc);
- \* trade training of private artisans and entrepreneurs (technical and managerial skills and certification, etc);
- \* inputs into primary, secondary and adult education (water and environmental sanitation curricula components, etc);
- \* training of local government cadres (water and sanitation service delivery and community development and extension, within a broader framework of local government training);

*Tertiary level:*

- \* community water supply and sanitation and community development components of traditional courses and purpose-designed courses;
- \* government staff (especially DWAF) training and sensitisation at all levels in community water and sanitation policies, strategies and programme design and implementation;
- \* professional private sector reorientation and refresher training in community water supply and sanitation design and implementation (to include consultants and contractors);

*TCDC' and information exchange.* The objective would be to learn from the experiences of neighbouring countries and other countries further afield as appropriate, including both successes and failures, to accelerate the process of developing successful approaches to community water supply and sanitation delivery and to reduce the risk of expensive and frustrating failure.

*Specialised technical assistance* could be provided to meet specific needs/gaps identified by the Department of Water Affairs in the areas of: policy development; implementation programme design and management; setting, evaluating and enforcing performance standards for the sector; and



technical support applications in key areas of community water and sanitation delivery. This TA could be provided at either at the national or provincial level and could be drawn from South Africa or elsewhere.

*Specific area-based programmes* could be supported by untied grant (or credit) investment support and targeted TA, as identified by GoSA, using South African human resources to the extent possible. Within the framework of provincial/area planning (such as basin management plans), programmes could include (inter alia):

*Provincial/district rural water and sanitation programmes.* Capital grants would support the RDP programme channelled through DWAF, a financial intermediary (eg Mvula Trust) or an NGO, as agreed with GoSA. Targeted TA inputs could be wide ranging to meet needs (eg management support, community development and training, and groundwater resources assessment and mapping).

*Urban township water and sanitation programmes.* Capital grants and loans could support the RDP programme, channelled through local government, financial intermediaries or NGOs, as agreed with GoSA. Targeted TA could be provided if/as needed.

*Sanitation campaign programmes.* Support could be provided to free-standing sanitation programmes (rural, urban or mixed) to mobilise communities and close the sanitation gap. Support could include programme design and testing, capital costs and targeted TA, as/if needed.

*Information systems (monitoring).* Support to information systems could include grants for the design, development, equipping and operation of information and monitoring systems, building on the current work of DWAF and the Department of Health, to ensure effective and institutionalised monitoring at community, district and provincial level. This would contribute to the planning process through identifying needs and gaps. Support could also include: training of staff; exchange with neighbouring countries (TCDC); and monitoring process evaluation.

*Public awareness advocacy and social mobilisation.* Support to public awareness activities could include grant funding for: the design of community mobilisation, health education, and innovative public awareness programmes, to include socio-cultural survey and analysis; development of programme materials; and specific, targeted programme delivery. Although a primary focus would be on communities themselves, this could also include sensitisation at all levels of society and the political and administrative system. This can draw lessons from community water and sanitation (and especially sanitation) promotion experiences in other countries.

*Research.* Support to research could include grant funding for South African research institutions active, or potentially active, in the field of water and sanitation research (eg in social survey or in appropriate technology development). Support could also include any training, specialist inputs or exchange activities that may be needed.



## 14. Potential agency involvement

*Introduction.* This Section identifies specific areas where the agencies represented in the mission consider that they could best provide assistance, although support cannot, of course, be committed without further consultation. It is possible that other multilateral and bilateral agencies may also be prepared to provide support and the mission hopes that this report will assist Government in eliciting support where it wishes to do so.

### a) United Nations Children's Fund

UNICEF has been active in South Africa for several years, prior to the formal end of the apartheid regime. This mission developed out of priority areas discussed in recent high-level UNICEF missions one led by Mr. J. Grant, Executive Director, and a second undertaken by Dr. R. Jolly, Deputy Executive (Programmes), accompanied by Dr. J. Rohde, Representative of UNICEF India. UNICEF brought together several key partners in this multi-agency mission and will continue to foster collaborative support by all other multi- and bilateral agencies active and potentially active in the sector.

UNICEF has decades of relevant sector experience from many parts of the world, both working at community level and also simultaneously at the highest policy level. UNICEF is therefore well placed to bring the experience and insights of both success and failure to the policy-makers and implementors in South Africa. UNICEF will seek to maintain close contact with the key players in the sector in South Africa, to provide a conduit of information flow in both directions, in support of the Government's efforts to implement the RDP's ambitious sector programme.

UNICEF has identified the following potential areas for immediate collaboration with Government, other partners and for strengthening its own organization.

*Capacity building:* UNICEF could give priority to help government and communities to build up capacity at ground level, collaborating with ODA and other agencies in the supporting the following areas:

- \* training of handpump caretakers and other local artisans for operation and maintenance;
- \* establishing and strengthening village level organization, including training communities for project preparation, development and implementation;
- \* strengthening the University of North or similar academic institutions to address the need for tertiary training in community water and sanitation and developing appropriate curricula in higher education establishments; and
- \* organising and training women for the management of water systems.

At Government's request, UNICEF would consider providing a consultant to assess capacity building needs and to prepare suitable proposals, linking with possible other donor support. ODA could be a possible partner in linking an area-based implementation programme and human resource development.

*Specialised technical assistance.* The Minister raised the question of the secondment of specialists to the Department of Water Affairs to meet specific needs for senior staff at national and provincial level. UNICEF would consider a proposal for such support and could assist Government identify suitable specialists.



*Communication Models.* UNICEF could also help to prepare communication models and strategies which interlink health, sanitation, hygiene, water, nutrition and education, drawing on social mobilization experience in other parts of the world. Again this could be linked to an area-based programme or the development of a generic model for implementation in different regions of the country.

*Monitoring.* UNICEF and WHO are implementing a programme of capacity building in monitoring in the sector (the JMP). This could be an important tool for government in the implementation of the RDP, providing information to underpin policy making, programme planning and priority setting. Support could be provided to build the monitoring capacity of the Department of Water Affairs.

*Workshop.* UNICEF could assist the Government in the organisation of a one day workshop in "Water Sanitation and Women" in early August 1995, as a preparatory meeting for the Beijing Women's Summit. Should Government wish, international specialists could be provided to facilitate this workshop.

*Research and technology development, including handpump technology.* UNICEF chairs the "Handpump Technology Network" and, drawing on SKAT of Switzerland and CRL of UK, could support handpump development and standardization. During the mission, a Drillers' Association Workshop was discussed; UNICEF could support this, with the participation of specialists from UNICEF, SKAT, and UNDP/WB. In addition, UNICEF could also support research and development of other low-cost water and sanitation technologies appropriate to South Africa's needs.

## **b) United Nations Centre for Human Settlements**

*UNCHS (Habitat).* The work of the United Nations Centre for Human Settlements (UNCHS, Habitat) is based on a wider conceptual understanding of the term human settlements, which is often misunderstood as a synonym for housing. Human settlements are the physical articulation of the social, economic and political interactions of people living in communities. Whether the communities are urban or rural, their development involves a transformation of the environment from its natural state to a built one. The elements required to meet basic human needs include housing and its related infrastructure, places of work, social services and recreation, and the institutions to produce and manage them. UNCHS(Habitat) has been in contact with the Ministry of Housing and will be preparing a comprehensive programme to support the National Housing Strategy. In addition, Habitat will be liaising with DWAF and UNICEF in the development of activities in urban water and sanitation. The following activities which have been identified during the WES mission will form part of the programme.

*Capacity building.* Habitat will focus on capacity building of urban local governments to improve management and delivery of urban services. Specifically, through the Urban Management Programme, Habitat could organise workshops for municipal managers to analyse the new management demands and to develop relevant management approaches for the transformed urban local governments. Habitat could offer courses on service delivery techniques and on community participation approaches. This could be done by bringing technical staff to Habitat-run training programmes for technicians and by attachments to on-going community management programmes in other countries.

*Information Systems.* Habitat has a global Indicators Programme which supports governments to develop indicators on housing and living conditions. The indicators programmes is also providing



information for the preparatory process for the UN City Summit which will take place in 1996 and in which South Africa has agreed to participate in. In developing the country plan of action, all sectors and actors involved in human settlements will be invited to contribute information on approaches and good practices. Assistance will be available to agencies to develop the information. The DWAF could facilitate the identification of municipalities which can be assisted to demonstrate water and sanitation approaches.

### **c) World Health Organisation**

There are several clear areas where WHO could support the water supply and sanitation sector in South Africa. These include:

*Health aspects of water resources management.* WHO, as secretariat of the Joint UNEP/FAO/WHO PEEM, has at its disposal a wealth of experience in the area of environmental impact assessment, with particular reference to the health consequences of water resources development on both the large and small scale. Included in this area of competence are irrigation development (both large and small scale), surface water run-off (both urban and rural), and bulk water transfers. This is an area where WHO and FAO could collaborate in providing support.

*Water quality standards.* This includes the development of drinking water quality standards and the training for and establishment of surveillance systems. Capacity building for the surveillance of drinking water quality could play an important role, particularly in the first instance, in the evaluation of the actual status of rural water supply, which at present appears to be only monitored in terms of the type of service, distance from source and other physical characteristics. This area also includes the development of guidelines for the use of treated wastewaters in agriculture and aquaculture. Workshops to review proposed guidelines and standards and exchange international experience, with particular consideration being given to the health of agriculture and aquaculture workers, could be of value.

*Health and hygiene education.* Health and hygiene education in relation to water supply and sanitation development is a particular focus of WHO. These efforts particularly focus on rural and peri-urban needs, and the primary school as an entry point through the inclusion of health and hygiene in the curriculum. Experiences have shown that, where social attitudes permit, the child or the teacher can even be an entry point for change in the home. A particular focus of health and hygiene education is community participation and the empowerment of women.

*Operation and maintenance.* O&M of water supply and sanitation systems are essential to the sustainability of systems and, to ensure that this is done effectively, the community has to be trained and given responsibility for their system. The nature of community participation and community capacity building will vary widely with the settlement type. The approach to ensuring effective rural services through the development of rural artisans, on the one hand, and, on the other, to the development of organisations within urban-fringe areas for the operation and maintenance of services, would be very different. Support to the development of training models, establishment of training courses/institutions, and participatory training at community level are all areas of specialist expertise available within WHO.

*Monitoring.* UNICEF and WHO are implementing a Joint Water Supply and Sanitation Monitoring Programme (JMP), whose objective is the building of capacity in the development of monitoring as a tool for water supply and sanitation sector planning and management. In South Africa, through the Department of Environmental Health, significant progress has been made to date in developing software and undertaking initial assessments of the status of services in the country. The JMP could



provide support to this process, particularly with regard to the development of the network for data collection at the community level. The establishment of the capacity and understanding of the need for data within the community also contributes to local capacity building and empowerment. Within the framework of information exchange, the South African experience in developing a water supply and sanitation monitoring system could be a basis for sub-regional collaboration, which could be internationally supported. In addition, the water component of the Global Environmental Monitoring System (GEMS) is a programme in which the participation of South Africa would be welcomed. This would expand the network significantly in Africa, the continent with the fewest monitoring stations. The GEMS programme is a joint UNEP, WHO, WMO programme.

*Healthy cities.* Within the context of township development and their merger with the neighbouring municipalities, the WHO Healthy City Project, which works through the networking of cities in developed and developing countries, could provide support to development. The focus of this unique approach is on health and the environment at the municipal level.

#### **d) United Kingdom's Overseas Development Administration (ODA)**

ODA has been happy to participate in the United Nations Interagency Water and Environmental Sanitation mission and endorses the recommendations for support to the sector which the mission has made. The objectives of this support correspond very well with the agreed focus of the bilateral development assistance agreement between South Africa and the UK. ODA would aim to establish a coherent programme of support contributing to the Government's strategy for the sector. This will hopefully be within a framework of coordination which Government will maintain for all related donor assistance. There will be an important need for regular joint reviews of the progress of components of the process and for assuring achievement against overall objectives. This review cycle will also give opportunities for interchange of experience with parallel activities supported by others in other provinces and with underpinning activities such as capacity building. ODA is ready to discuss the possibility of making significant contributions to the framework of support which is proposed for rural water supply and sanitation.

*Area-based programmes.* It is likely that the central element of ODA's support will be assistance to DWAF with implementing area-based water and sanitation programmes. Initially this assistance could well be focused in Northern Transvaal and Eastern Transvaal provinces, building on current modest assistance for rural water supply and sanitation. This will help to directly raise the standard of services for some poor communities. Particularly in the early stages, this will also provide a basis for assessing and improving the procedures and technology currently used in South Africa and for reinforcing capacity building for which other support is proposed. Thus ODA's support should be in the context of an adaptive process in which local resources, human and other, are mobilised to the greatest extent possible.

*Capacity building.* Capacity building will be a key element of the strategy and it is likely that ODA could make a significant contribution, probably in association with UNICEF and other agencies. This contribution might be at one or more levels and would probably complement other aspects of the strategy support by ODA. Thus, for example, support might be provided to strengthen the training of community-level skills, or to establish international links and staff exchange programmes to encourage reorientation at the tertiary and professional level. ODA might also have a role in establishing links between research bodies and in supporting a process of research review.

*Technical assistance.* DWAF has indicated that there will be a need for technical assistance. ODA would be ready to consider providing targeted short or long term support, particularly where this





directly complements other assistance such as an area-based implementation programme. Such TA could be in conjunction with activities of other multilateral agencies.

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## E. CONCLUSIONS

Considerable effort has been expended in South Africa to lay the policy foundations needed to address the needs of water supply and sanitation for the underserved. The White Paper presents a clear picture of the Government's policies, which draw upon lessons learned in the sector, both nationally and internationally, and are set within a framework of the realities and objectives of the government and people of South Africa. The White Paper is an extraordinarily comprehensive policy statement from which other countries can also learn. The overall challenge for Government now is to put policy into practice.

This report has made clear at the outset that the objective of the mission was not so much to provide policy recommendations to the Government but rather to present insights and identify key areas where catalytic support by the UN and bilateral agencies represented could be useful. It was also clear and well recognized by the Minister of Water Affairs and Forestry, H.E. Prof Kader Asmal, that while the UN agencies could not provide a lot of financial support, they can provide insights based on their collective experiences from other countries both for policy and implementation strategies, and within these areas identify possible support by the respective agencies. This report has set out to do this. In this concluding section, the key challenges and the mission's insights, as developed in the report are summarized.

Challenges	Insights
<p><b>Basin management:</b> To develop an integrated, long-term approach to urban and rural water and sanitation, taking into account regional environmental and economic considerations</p>	<p><b>A one basin approach?</b> Cost allocation and cost-recovery across a basin could bring benefits to all settlements, reducing costs of basic service provision as well as the long-run costs of conventional urban services. Even where environmental benefits are not clear, resource mobilisation for upgrading services could result from tariff calculation based on current costs of urban infrastructure.</p>
<p><b>Institutions: an adaptive approach.</b> To manage a gradual and effective institutional transformation over the next few years, while using the range of existing institutions to deliver water and sanitation services to meet urgent demands, within a coordinated and sustainable programme</p>	<p><b>Bulk water supplies</b> could be extended by utilities to reach many developing communities and local resource mobilization should be strongly promoted. <b>Non-bulk water supplies</b> will be the only option for most communities; the mix of institutions and the time frame for rationalization will vary across the country, however, a framework of principles and guidelines is needed to avoid conflicting approaches. <b>Institutional arrangements for water resources management:</b> should ideally ensure that the functions of supply and regulation (licensing abstraction, monitoring discharge quality and enforcing sanctions, etc) are vested in different institutions: if not, there needs to be 'Chinese walls' separating the functions, perhaps reporting only at the level of the Minister.</p>



Challenges	Insights
<p><b>Water vs. sanitation: preferences, demand for sanitation and risks of its omission</b> Ensure that sanitation and improved hygiene do not become marginalized in a rush to meet the high demand for water.</p>	<p><b>Organization:</b> Consider a free standing sanitation and hygiene programme. The institutional responsibility for rural sanitation promotion and delivery is not clearly defined, although the mandate is with DWAF; this needs to be established quickly if these activities are not to be left at the starting gate by the demand for water. <b>Standards:</b> It is important that standards are developed that reflect incomes and affordability. <b>Financing:</b> Effective demand should be the guiding principle in sanitation. Provision of rural sanitation carries the potential of a job creation, and promotion through local private sector 'marketing'. <b>Perceptions:</b> Public awareness programmes, exploiting a wide range of media, can play a key role in changing perceptions and have been successful in other parts of the world.</p>
<p><b>Self reliance vs dependency: aspiration and expectations :</b> Build on organizational and financial self reliance; link this to the development of democratic structures; do not create expectations of service levels unaffordable to the nation; and avoid excess financial or administrative dependency.</p>	<p><b>Expectations.</b> Political change has created expectations but in other countries experience has shown that governments prepared far-reaching development plans and ambitious targets were set, in collaboration with external donors, which could not be met. <b>Self-reliance:</b> Community-based programmes have a much improved performance record; without participation in planning, frustration may result.</p>
<p><b>Financing: subsidies, higher service levels and intermediation</b> Identifying long-term, sustainable and replicable financing policies and mechanisms for community water and sanitation provision, which will cover capital costs of new investments and rehabilitation of old; recurrent costs for operations and maintenance; and costs of enabling technical assistance.</p>	<p><b>Subsidies</b> Government subsidies may be used only to meet basic levels of service; nevertheless, the overall cost implications are enormous. Sustainability of services will depend not only on the local capacity to meet recurrent costs, but also on the institutional capacity to sustain services. <b>Intermediaries:</b> The principles under which the Mvula Trust is working are firmly endorsed, as they seek to build community capacity to manage; but implementation is not easy and start up has been slow and disbursements limited so far. Issue include that of governance and the risk of over-reliance on inexperienced and expensive consultants.</p>
<p><b>Basic services and Income generation: cause and effect:</b> To promote income generation; provision of water creates opportunities for income generation and requires incomes to meet service costs.</p>	<p><b>Opportunities:</b> In urban areas, informal fresh food vending and urban-fringe market gardening could be promoted using surplus water or even treated wastewater. In rural areas, the potential for using improved water serves as an entry point for income generation is substantial. <b>Promotion and planning:</b> Local government has role both in establishing or supporting community-based small credit mechanisms and in providing training both in basic managerial techniques and in productive skills as well.</p>



Challenges	Insights
<p><b>Sector capacity building</b> To move forward with a major public investment programme at the same time develop the capacity in government, in communities, and in the private sector; to play a key part in building governance at the community level. In addition, to build awareness across society of the scarcity of water, its economic value, importance of conservation and protection of water and soil.</p>	<p><b>Community development.</b> Building the capacity of communities to organize themselves — for needs assessment, to access capital, to contract works and to manage services — is a major need. <b>"Appropriate" technology and professional training:</b> Understanding, promoting and implementing 'unconventional' solutions, such as VIP latrines and intermediate sewerage for sanitation and the VLOM handpump for water supply, together with the social and institutional aspects essential for their effective delivery, requires unconventional training. The proposed South African network of training centres would do well to learn from ITN experience, and perhaps link up more formally with the ITN. <b>Reorientation:</b> There are a large number of world-class engineers and other professionals in South Africa who would benefit from re-orientation training in unconventional solutions needed to serve the poor. Re-orientation will be important in the water boards. <b>Sharing experience with other countries</b> could be extremely valuable and may avoid costly errors — in both financial and political terms.</p>
<p><b>From policy to practice: strategies, plans, people and technologies:</b> To translate the recently conceived policy framework and RDP development targets.</p>	<p><b>Area-based programmes:</b> There is justification for the development of a national approach to area-based programmes, to set regulations, standards and guidelines, where appropriate, for service delivery. <b>Public Awareness:</b> Sanitation is often poorly promoted through health education or regulation. There could be significant benefits from developing both national and area-based 'social marketing' programmes in. <b>Extension services and community development</b> will be central to long-term sustainability, and clarity is needed over who will pay, who will deliver, and over how long? Extension through an 'association of associations' as an apex, providing services to its members and funded by both grants and membership dues is worthy of <i>thought</i>. <b>Some issues of technology:</b> Too many rural water and sanitation programmes are driven by technology considerations; these considerations must not, however, be ignored in a shift to a demand-based approach.</p>



# ANNEX 1

## SUPPORTING THE SECTOR: Possible Programmes

<b>TITLE</b>	Capacity Building (1): Community level
<b>OBJECTIVES</b>	
To build capacity within communities to ensure the affordable delivery and the effective use of community water and sanitation services for improved health, social and economic conditions of rural and urban settlements.	
<b>OUTPUTS</b>	
<ol style="list-style-type: none"><li>1. appropriate training centres (as needed and based on existing institutions as far as possible), curricula, training materials and trainers for formal education through schools, informal training and trade skill development, specifically addressing the training and capacity building needs of communities themselves;</li><li>2. community members, including water committees, artisans, and the general public, with special attention to the needs of women and children:<ol style="list-style-type: none"><li>a. trained in the planning, management, operation and maintenance of community water supplies</li><li>b. reached by health, hygiene and environmental sanitation education</li><li>c. benefiting from new organisational and trade skills, together with opportunities for improved water supplies, in enhancing economic development activities (eg agriculture and small industry)</li></ol></li></ol>	
<b>ACTIVITIES</b>	
Activities will be needed in the areas of: <ol style="list-style-type: none"><li>1. organisational training for community level structures</li><li>2. artisan and trade training of local entrepreneurs for construction, operation and maintenance of community water supply and sanitation;</li><li>3. health, hygiene and environmental education.</li></ol>	
In each of these areas, activities will include: In a first phase: <ol style="list-style-type: none"><li>a. assess needs, including existing skills;</li><li>b. identify current and potential organisations and entry points for raising skill levels; both for delivery of organisational and artisan training (NGO's, technical schools etc); and for entry points for health, hygiene and environmental sanitation training, including primary and secondary schools, adult literacy programmes, women's groups, churches, and other formal and informal organisations;</li><li>c. identify numbers and skills of trainers;</li><li>d. develop and test curricula and training materials (taking account of linguistic, gender and cultural diversity etc) for each of the three areas above;</li><li>e. train trainers.</li></ol>	
In a second phase: implement training/education programmes, ensuring regular monitoring and evaluation, with adaptive development of training approaches and materials.	



## ANNEX 1 (continued)

<b>TITLE</b>	Capacity building (2): Tertiary education
<b>OBJECTIVES</b>	
To establish in the public and private sectors the required professional capacity in community development approaches, institutional and financial requirements and appropriate technologies relevant to the needs of the community water supply and sanitation sector.	
<b>OUTPUTS</b>	
1. Training institutions, departments within training institutions, curricula, training materials and courses which specifically address the tertiary training, re-orientating and sensitising needs of the sector.	
2. A trained and retrained cadre of professional staff in central and local government, the private sector and NGOs, sensitised to the needs of the sector.	
<b>ACTIVITIES</b>	
Phase 1 Together with an identified lead institution:	
1. undertake an assessment of the needs for training and re-orientating of sector professionals ( to include engineers, economic / social / natural scientists, medical professionals and administrators);	
2. identify a potential network of partner institutions for the delivery of training and retraining courses;	
3. develop curricula and training material for:	
a. diploma/certificate courses for junior technical and administrative cadre;	
b. incorporation within undergraduate courses;	
c. incorporation within postgraduate courses and possibly a specific postgraduate course in community water supply and sanitation;	
d. mid-career retraining programmes for public and private sector professionals, including both short sensitisation courses and longer certificate courses;	
e. short sensitisation courses / briefings for senior administrators and policy makers.	
4. train trainers.	
Phase 2. An implementation phase would include:	
1. initiate training courses at different levels at the lead institution for a pilot phase of curricula and course testing and refinement;	
2. consolidate training programmes in lead institution and extend outreach through network of partner training institution in different parts of South Africa;	
3. continuous monitoring and evaluation of the effectiveness of the training and sensitisation programme;	
4. establish process for regular review of training requirement, with feedback to revise the scale and content of planned training programmes.	



## ANNEX 1 (continued)

### **TITLE** Capacity Building (3): Technical Cooperation between Developing Countries (TCDC)

#### **OBJECTIVES**

To learn from the experiences of neighbouring countries and other countries further afield as appropriate, including both successes and failures, to accelerate the process of developing successful approaches to community water supply and sanitation delivery and to reduce the risk of expensive and frustrating failure. A further objective is to share South Africa's experiences and skills with other countries.

#### **OUTPUTS**

Key outputs for South Africa will include:

1. Professional, technical and community development staff, local government officials and community leaders sensitised to the experience of other countries in the delivery of community water supply and sanitation services, to include (as appropriate to their work) policy, training, planning, implementation and operation and maintenance aspects of national programmes. Particular examples could include the rural sanitation programmes of Lesotho and Zimbabwe and the urban sanitation programmes of Brazil and Karachi, Pakistan.
2. Incorporation of the lessons learned, as appropriate, into the policies, plans and delivery of the national community water supply and sanitation programme.
3. Active participation by DWAF in international information exchange networks, in place since early in the 1981/90 IDWSSD.

#### **ACTIVITIES**

Activities could include:

1. Identification of key information needs in South Africa, and then the relevant learning opportunities in other countries;
2. facilitation and organisation of study tours, participation in training programmes, seminars etc in other countries,
3. participation in regional and inter-regional fora (such as the Collaborative Council for Water and Sanitation)
4. short- and medium-term exchange of staff with other countries;
5. organisation of inward visits to South Africa



## ANNEX 1 (continued)

**TITLE** Specialized Technical Assistance

### OBJECTIVES

To provide short- to medium-term specialized technical assistance to meet specific needs/gaps for senior staff at national and provincial level, as identified by the Department of Water Affairs. The need for this TA is due to the lack of experienced sector professionals in Government able to implement the new mandate of the DWAF, which is to ensure provision of water and sanitation to the entire population, and due to the urgent implementation explicitly required by the RDP. TA could be provided in the following areas (with special emphasis on closing the sanitation gap), inter alia:

1. support to policy development;
2. support to implementation programme design and management,
3. support to setting, evaluating and enforcing performance standards for the sector;
- 3 specialised technical support in key areas of community water and sanitation delivery.

This TA could also provide a mentor role in the above areas

### OUTPUTS

Outputs will include:

1. An enhanced capacity to formulate and adopt sector policies
1. An enhanced capacity to design and implement sector strategies
2. A capacity to accelerate the implementation of successful programmes at the scale required by the RDP's ambitious targets.
3. A critical mass of trained senior sector professionals covering the range of skills for community-based development.

### ACTIVITIES

Activities will include:

1. Identification of specialised technical assistance requirements by Government, as and when needed, to include full terms of reference (within, say, a rolling two year plan).
2. Provision of specialised national or international TA staff, selected by Government.
3. TA activities, with particular reference to policy advice, management support or highly specialised inputs.
4. Training of senior national government staff (in-country or elsewhere)
5. Reporting by and performance evaluation of TA staff.





## ANNEX 1 (continued)

<b>TITLE</b>	Implementation Support to Area-Based Programmes
<b>OBJECTIVES</b>	To meet national objectives of ensuring that all communities (both rural and urban) have access to at least the basic level of water supply and sanitation services, which are effectively used and sustained by the communities themselves; additional objectives include social and economic improvement through institutional strengthening at community level, and, where water availability and effective demand exist, enhanced water use for small-scale agriculture and/or industry and for livestock.
<b>OUTPUTS</b>	<ol style="list-style-type: none"><li>1. A national programme approach to water and sanitation delivery, including standards and guidelines, adaptive to the needs of coherent rural and urban areas.</li><li>2. Effective provincial/district rural water and sanitation - or free-standing sanitation - programmes providing sustained services</li><li>3. Effective urban township water and sanitation - or free-standing sanitation - programmes providing sustained services</li></ol>
<b>ACTIVITIES</b>	<p>Support to the development of a national programme approach to water and sanitation delivery (including standards, guidelines and regulations) and then its implementation adapted to the specific requirements of coherent areas. Activities may include (inter alia)*:</p> <ol style="list-style-type: none"><li>1. Development, within a Provincial strategic framework, of area-based (eg catchment or district) outline plans for water resources management, including meeting the needs for water supply, sanitation, drainage, waste disposal and irrigation, targeting the special needs of the poor .</li><li>2. Establishment of water and/or sanitation committees and development of community-based plans, supported through extension and training, incorporated into an area-based needs assessment for water and sanitation, which may need support through feasibility analysis (eg water resources surveys in marginal areas).</li><li>3. Analysis and capacity building of institutions (government, NGO and private) within the area, to implement a programme, including extension, financing, construction, operation and maintenance and training.</li><li>4. Programme implementation as community-centred activity, including the support of agents (local government, NGO or private), contracts for design and construction works, and monitored financial disbursements.</li><li>5. Links to (and possible support of) related activities at the community level, including health and hygiene education and small-scale industry and agriculture.</li><li>6. Post construction extension, training and monitoring at the community level, coupled with audit and evaluation feeding back into programme design (particularly early in programme).</li></ol> <p>* these activities are particularly, but not exclusively, relevant to rural areas.</p>



## ANNEX 1 (continued)

<b>TITLE</b>	Information Systems (Monitoring)
<b>OBJECTIVES</b>	
To develop a system to monitor the status (ie type, level, extent and functioning) of water and sanitation services. This will provide a sound data base for the planning and management of service delivery and operation, institutionalised within the appropriate national structure (DWAF and Department of Health), and reaching up from the community level to central government.	
<b>OUTPUTS</b>	
A unique water supply and sanitation monitoring system (including software meeting the specific needs of all users) comprising:	
(i) a network of persons at the community level (community members, health workers etc), trained in and responsible for the collection of data;	
(ii) an institutionalized structure at district, provincial and central government level, mandated to receive and interpret the data for use in the planning process at the respective level (with a process of refining since the level of detail required will decrease from the community to the central government level);	
(iv) established procedures for analysis and reporting, so that the system is routinely and widely available as a managerial and advocacy tool;	
<b>ACTIVITIES</b>	
The activities will include:	
Phase I:	
(i) review present monitoring systems and consult with all active sector agencies to assess individual needs and commonalities,	
(ii) develop a prototype monitoring network;	
(iii) evaluate the existing capacity at community level to collect data, and assess needs;	
(iv) prepare regulations and guidelines and inter-departmental agreements, if required;	
Phase II:	
(i) identify and train community data collection staff;	
(ii) institutionalise the system at district, provincial and national levels;	
(iii) implement data collection and analysis;	
(iv) provide reports to meet the needs of various users;	
(v) evaluate monitoring, analysis, reporting and information uptake and refine the system as necessary.	



## ANNEX 1 (continued)

<b>TITLE</b>	Public Awareness, Advocacy and Social Mobilization
<b>OBJECTIVES</b>	
To achieve sustainable management of water resources and delivery of water and sanitation services through widespread awareness among the public and among policymakers of (inter alia):	
<ol style="list-style-type: none"><li>1. the value of water and the need to manage water resources and watersheds through quantity conservation and quality protection;</li><li>2. the importance of sanitation, using whichever entry points (eg health, privacy and status) prove effective in increasing the demand for improved sanitation;</li><li>3. the social and economic benefits arising from improved water and sanitation, including hygiene and health improvement, and income generation through small-scale industry and agriculture development, with a particular focus on women; and</li><li>4. the importance of community participation - as stakeholders or watchdogs - in water and sanitation service delivery.</li></ol>	
<b>OUTPUTS</b>	
<b>Outputs will include</b>	
<ol style="list-style-type: none"><li>1. pre-tested public awareness material on a range of topics and in various media, for use in different campaigns;</li><li>2. appropriate public and private institutions with social mobilisation staff trained in advocacy techniques and public awareness raising;</li><li>3. successfully completed public awareness and social mobilisation campaigns for water and sanitation development;</li><li>4. successfully completed water/sanitation-related health and hygiene education programmes.</li></ol>	
<b>ACTIVITIES</b>	
Support to the development of national and local public awareness and social mobilisation programmes targeting water, sanitation and health education. Activities could include:	
<ol style="list-style-type: none"><li>1. institutional review to identify appropriate public and private agencies suited to public awareness / social mobilisation programmes</li><li>2. training of appropriate staff cadres in advocacy techniques and public awareness raising;</li><li>3. sociocultural surveys to identify cultural patterns, perceptions and needs;</li><li>4. public awareness programme design, material development and pretesting;</li><li>5. implementation of public awareness and social mobilisation programmes and campaigns;</li><li>6. monitoring and evaluation, feeding back into programme design.</li></ol>	



**ANNEX 1 (continued)**

**TITLE:** Support to Research for Community-Based Water Supply and Sanitation

**OBJECTIVES**

To establish more successful techniques for assessing the needs and determining the preferences of rural and urban communities for water supply and sanitation services; to improve the effectiveness of providing rural and urban water supply and sanitation facilities and of the processes/systems used to manage those facilities to deliver the intended services on a sustainable basis.

**OUTPUTS**

1. A process to review the national programme for adaptive research which addresses the key opportunities to improve the effectiveness and sustainability of water supply and sanitation services.
2. Guidelines for appropriate participatory appraisal practices.
3. Performance guidelines for equipment (such as handpumps) to cover the maintenance requirements as well as output.
4. Guidelines relating standards to service levels for key facilities (such as latrines).

**ACTIVITIES**

1. Establish a mechanism for reviewing the requirements for research to address constraints and opportunities in the provision of water supply and sanitation; and for considering proposals to address these constraints.
2. Establish a mechanism for the critical review of current research, for guiding this with regard to the most effective dissemination of findings.
3. Encourage links between relevant technical and social science research bodies in South Africa and appropriate bodies in other countries for information exchange, cooperative research and staff exchanges.
4. Support the preparation of appropriate guidelines for appraisal practices, designs and equipment etc., for targeted dissemination.



## ANNEX 2

### LIST OF PERSONS MET

In chronological order:

Mr. I Erasmus, Director General, Department of Water Affairs  
Mr. M Muller, Donor Coordinator, Department of Water Affairs  
Mr. L Abrams, Special Advisor to Ministry of Water Affairs and Forestry  
Mr. P Makhado, Department of Water Affairs  
Mr. D Ralitsela, Department of Water Affairs

Mr. P Cross, Executive Director, Mvula Trust

MrG Oberholster, Chief Director, Environmental Health Control, Department of Health  
Mr. D J van Rooyen, Director, Water and Waste Control, Department of Health  
Mr. W van der Merwe, Assistant Director, Water and Waste Control, Department of Health  
Mr J J A Nel, Deputy Director, Environmental Health, Department of Health

Prof F Wilson, Director, Southern Africa Labour and Development research Unit, University of Cape Town

Mr. I Palmer, Palmer Development Corporation, Cape Town  
Mr. R Eberhard, Palmer Development Corporation, Cape Town

Prof Kader Asmal, Minister of Water Affairs and Forestry

Mr. G Dor, RDP Coordinator, SANCO  
Mr. L Mngomazula, Provincial Council, SANCO  
Mr. A Mkamsinde, Provincial Council, SANCO

#### East Cape Field Mission

Mr. R Farrugia, Hawdins Hawkins and Osborn, Consulting Engineers  
Mr S Mnqayi, Town Clerk, Alice Municipality, and Border Rural Development Forum  
Ms Mapaso, Town Treasurer, Alice Municipality  
Mr. F Zetu, Alice Municipality Forum  
Mr D Mcamashe (Prince), Tribal Authority, Tyume Tribal Authority

Mr. Mhlalo, Provincial Minister of Public Works, Eastern Cape Province  
Ms. N Balinslela, Provincial Minister of Education and Culture, Eastern Cape Province  
Dr. D Mkhathshiva, Director, Strategy Management Team, Provincial Government, Eastern Cape Province  
Mr. R Tywakadi, Deputy Director, Strategy Management Team, Provincial Government, Eastern Cape Province

Mr. V R Naidoo, Provincial Cape Government  
Dr. R van Wyk, Provincial Cape Government  
Mr. T Makhetha, Head, RDP, Provincial Cape Government

Mr. T Zagade, Strategy Manager, Ministry of Local Government and Housing, Provincial Government, Eastern Cape Province  
Mr. Y Gupayo, Rural Development Department, Ministry of Local Government and Housing, Provincial Government, Eastern Cape Province



Ms N Gwayi, Chief Development Officer, University of Fore Hare

**Kwa Zulu/Natal-Northern Transvaal Field Mission**

Prof R Fincham, University of Natal

Staff of the Umgeni Water Board

Staff of the University of Natal, Institute of Natural Resources

Mr. E Tjatjje, Chairman, Northern Transvaal Regional Consultative Forum, National Rural Development Forum

Ms. O Ramathlodi, Regional Coordinator, Northern Transvaal Regional Consultative Forum, National Rural Development Forum

Mr. Z Mabbiletja, Community Lines Officer, Northern Transvaal Regional Consultative Forum, National Rural Development Forum

Mr. F Engel, Director, National Rural Development Forum

Ms. L Thipane, Policy Officer, National Rural Development Forum

Ms. A Pillay, Finance and Coordination Officer, National Rural Development Forum

Ms. T Abrahamse-Lamula, Director in Chief, Programme Implementation and Planning, and Human Resources Development, RDP

Mr. P Voges, Multilateral Coordination Officer, RDP

Mr. B Gnmwood, Natural Resources Advisor, Pretoria, ODA, UK

Mr. K U Pelpola, Director, Community Water Supply and Sanitation, Department of Water Affairs, Ministry of Water Affairs and Forestry

Mr. P Magatho, Department of Water Affairs, Ministry of Water Affairs and Forestry

Mr. L K Romain, UNDP, Johannesburg

Dr. F K Nkrumah, WHO, Johannesburg

Mr. I Sam, Resident Representative, World Bank, South Africa



# ANNEX 3

## BIBLIOGRAPHY

### GENERAL

1. Mission Report of Dr. R. Jolly, Deputy Executive Director, UNICEF, 1994.
2. Mission Report on South Africa 5-17 June 1994, Habitat
3. Reducing Poverty in South Africa, The World Bank
4. Women in South Africa: A Situation Analysis June 1993, UNICEF Johannesburg
5. Planned UNICEF Assistance to Accelerate Improvements in the Situation of Children and Women 1994-1996, UNICEF Johannesburg
6. A National Programme of Action for Children in South Africa: An Outline 16 June 1994, UNICEF Johannesburg
7. Project for Statistics on Living Standards and Development, South Africans Rich and Poor: Baseline Household Statistics August 1994
8. An Investment-Tariff Model for Urban Water Supply, Palmer Development Group
9. Land Redistribution Options conference 12-15 October 1993, Land & Agriculture Policy Centre
10. Report of JCGP Mission to South Africa 18-29 July 1994
11. Ready to Govern: ANC Policy guidelines
12. Water Supply Task Force: A discussion paper for regionalisation
13. The Mvula Trust: Specific Policies for Water and Sanitation Project Development, Fifth version October 1994
14. 1993 - 1994 Annual Report: Umgeni Water
15. Rural Water & Sanitation Supply Progress Report: Umgeni Water
16. Annual Report for the Year to 31 March 1994 Development Bank of South Africa

### WATER AND SANITATION BACKGROUND

1. A Review of Rural Sanitation EHMP 94/1, Department of National Health & Population Development
2. National Water Supply and Sanitation Policy Conference, Minister of water Affairs and Forestry
3. Water Supply and Sanitation Services in South Africa, Human Sciences Research Council



4. Management of the Water Resources of the Republic of South Africa, Department of Water Affairs 1986
5. Water & Sanitation RSA 1993 EHMP 93/3, Department of National Health & Population Development
6. Access to Environmental Health Services: National Perspective July 1994 EHMP 94/5, Department of Health
7. Water and Sanitation 2000: Strategies for Water Supply and Sanitation Provision Johannesburg - 26th September 1991
8. Department of Water Affairs and Forestry Draft Policy: Water Supply and Sanitation for Development Communities July 1991

#### **POLICY**

1. Water Supply and Sanitation Policy Draft 4, Department of Water Affairs and Forestry White Paper
2. RDP White Paper
3. The RDP Reconstruction and Development Programme, ANC

#### **WATER RESEARCH COMMISSION PUBLICATIONS**

1. Evaluation of Water Supply to Developing Urban Communities Draft 1-April 1994: Summary Report, Palmer Development Group
2. Costing of Water Supply Systems (Draft): Evaluation of Water Supply to Developing Urban Communities May 1994, Palmer Development Group
3. Water and Sanitation in Urban Areas: Financial and Institutional Review, Report to the Water Research Commission by the Palmer Development Group on:
  - Overview of Institutional and Financial Arrangements in Water Supply and Sanitation (WRC Report No. 571/1/94)
  - Overview of the demand for and Costs of Water Supply and Sanitation Services in South Africa (WRC Report No. 571/2/94)
  - Meeting the demand for Water and Sanitation Service: Getting it right in the transition
  - International Perspective (WRC Report No. 571/4/94)
  - Summary Report (WRC Report No. 571/6/94)
4. Evaluation of Water Supply to Developing Urban Communities in South Africa, Report to the Water Research Commission by the Palmer Development Group
5. Urban Sanitation Evaluation, Report to the Water Research Commission by the Palmer Development Group and University of Cape Town
6. Water Supply and Sanitation in Urban Areas: Financial and Institutional Review Draft by Palmer Development Group:







**Working Paper 11: Some Ideas to Inform the Current Tariff Policy Debate for Urban Water and Sanitation Services (FIN/W12/d)**

- **Working Paper 13: Institutional Restructuring in the Urban Water and Sanitation Sector, A Review of the Current Debate, and Contribution of Some Further Ideas (FIN/W13/d)**
- **Working Paper 14: The Management of Water and Sanitation in Brazil, Some lessons for South Africa (FIN/W14/d)**
- **Working Paper 15: An Investment-Tariff Model for Urban Water Supply (FIN/W15/d)**
- **Working Paper 16: The management of Water and Sanitation in Botswana, Some lessons for South Africa (FIN/W16/d)**
- **Working Paper 17: Differing Patterns of Water Agencies in Britain, France and Italy (FIN/W17/d)**

**7. Water Research Commission Urban Sanitation Evaluation, Palmer Group May 1993**

- **Sanitation Working Papers Paper A2: Sanitation and Health**
- **Sanitation Working Papers Paper A3. Current Institutional Arrangements**
- **Sanitation Working Papers Paper B1. The Mdantsane water-borne system - a case study**
- **Sanitation Working Paper A4: Technology Option for Sanitation provision to developing communities**
- **Paper B5.2: The upper Rietspruit - an example of an urbanising catchment**
- **Paper B5.1: Simple model illustrating the environmental impact of sanitation**
- **Sanitation Working Papers: Sanitation and the Environment**
  - Paper B5. An overview**
  - Paper B5.1 Simple model illustrating relative impact**
  - Paper B5.2 The Upper Rietspruit catchment**
  - Paper B5.3 The Umsunduzi catchment**
- **Sanitation Working Papers Paper B4, Bucket collection: A case study**
- **Sanitation Working Papers: Low Flush On-site Anaerobic Digester Systems**
  - Paper B3.1 Technical Evaluation**
  - Paper B3.2 Social Survey**
- **Sanitation Working Papers Paper B2: Evaluation of 2 VIP Latrine Programmes in Natal**
- **Paper B5.3 The Umsunduzi catchment above the Slangspruit confluence - a catchment and water quality description**
- **Sanitation Working Papers Paper B6: Cost comparison of Sanitation Systems**
- **Economic Aspects of Sanitation: Giving people clear choices by Barry M. Jackson**

## OTHER DOCUMENTATION

1. A discussion paper for regionalisation of the community Water Supply, Water Supply Task Force, Consultative
2. National Rural Development Forum: Information Pack
3. The Mvula Trust specific policies for supporting Water and Sanitation Project Development, Fifth Version, October 1994
4. Making People-Driven Development Work, Report of the Commission on Development Finance from the South African National Civic Organization.

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Rev January 1995