


WUP

WATER UTILITY PARTNERSHIP
FOR CAPACITY BUILDING IN AFRICA

REFORM OF
THE WATER AND
SANITATION
SECTOR IN
AFRICA

*Issues and
Challenges*

November 2001


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Forword

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This report is a first attempt by the Water Utility Partnership for Capacity in Africa (WUP) to document the many attempts by Governments in Africa to reform the Water Supply and Sanitation Sector.

It was developed out of a desk study carried out on behalf of WUP by OXERAL td of the United Kingdom on the reform of the water sector in Africa, with particular reference to private sector participation (PSP) in the water supply and sanitation sector.

The report brings out the major issues and challenges of reforms in Africa. It has gone through a number of revisions including input from the regional conference on the reform of the water and sanitation sector held in Kampala, Uganda on 26th to 28th February 2001. The Kampala statement which defines the agenda for reform is available as an extra document.

The report contains rich information that will prove useful to not only policy makers in Governments but also utility executives, regulators and indeed those technocrats charged with the responsibility in developing strategies and institutional frameworks for the water supply and sanitation sector.

The Water Utility Partnership continues with its objective of exchange of experiences between different approaches to reform of the sector in different countries on the continent. We remain committed to contributing to the attainment of the vision for the water sector in Africa. The vision of "a clean and healthy world: a world in which every person has safe and adequate water and sanitation and lives in a hygienic environment" -Vision 21

Dennis D. Mwanza
Managing Director
WATER UTILITY PARTNERSHIP

Executive Summary

This report on the status of the water and sanitation sector reforms in Africa, was developed based on publicly available information, through different seminar papers, documents, reports e.t.c. It may therefore not present a picture in the right way as it exists on the ground. However we are convinced that it is a necessary first step.

In December 1999, the Water Utility Partnership commissioned OXERA Ltd to undertake a study on the reform of the water sector in Africa, with particular reference to private-sector participation (PSP) in the water supply and sanitation sectors⁽¹⁾. This report presents the findings from this study and gives the status of reforms in the water and sanitation sector in Africa.

The aim of this report is to provide an overview of the key issues emerging in the water and sanitation sectors in Africa. By its very nature, the report can only provide summary information on each country, and readers are directed to other sources for more detailed country-specific information.

Budget and time limitations have meant that it was not possible to undertake primary research into each country and, in most cases, only publicly available secondary sources were used as the basis for the report. Not surprisingly, much of this information relates to those countries which have undertaken significant reforms in the water sector and which have the longest experiences with PSP. Primary information on developments in Zambia, Senegal and Ghana was obtained through interviews. However, it should be recognised that, even here, the information is limited to the perspective of the individual interviewed in each country, and more widespread consultation would be useful.

The limited sources used for this report, and the absence of extensive consultation, means that some of the information provided is incomplete. It is assumed that water providers in Africa, and other organisations involved with the sector, will be able to provide additional information to the Water Utility Partnership to allow a more detailed picture of reform in the African water sector to be presented. Given the pace of reform in many African countries, it is also expected that the information contained in the report will be updated on a regular basis. It is therefore suggested that this report be treated as the beginning of a rolling study into water sector reform in Africa, which would be updated by the Water Utility Partnership on a regular basis to reflect ongoing changes in the sector.

Reform in the African water sector takes place at two levels:

- service provision;
- decision-making, management and regulation by the public sector.

¹ Throughout this document the term "Water sector" relates to the combination of the water and sanitation sectors. Where points made are different for each of these sectors. The text indicates which specific sector is being discussed.

Experiences suggest that changes in both areas have the maximum impact on sustainable improvements in the sector.

Benefits of both types of reform have begun to emerge in a range of African countries. The main benefits are:

- improved access to water and sanitation services; delivery of services in a more efficient manner; tariff development allowing for cost recovery to become a realistic target; and improved management of resources and of the impact of water and sanitation sector on the environment.

It is clear, however, that significant barriers to reform remain in the African water sector, and a key issue for future developments in this area is an understanding of how these barriers might be minimised. The main barriers can be categorised as follows:

- lack of political commitment;
- absence of a clear policy, legislative and regulatory framework;
- the power of incumbent administrations;
- social and political discomfort with PSP; and
- feasibility concerns (customer ability to pay for service; budgetary constraints on investment; and prioritisation of reform relative to resource concerns in the water sectors of many African countries).

This report considers the key aspects of reform: the role of the public sector; the organisation of service provision; the role for PSP; and the need for regulation. It examines how decisions on each of these matters might allow a country to overcome obstacles to reform. Key findings from the analysis are summarised below. It is hoped that these conclusions, combined with an analysis of country-specific factors, will assist countries currently undertaking reform, or considering the introduction of reform in the water sector, in optimising the benefits which can be extracted from developments in this area.

PUBLIC-SECTOR INVOLVEMENT IN THE WATER SECTOR

A number of the identified barriers to reform relate to the political organisations involved with the sector. These elements therefore need to be tackled alongside the improvements in service provision. In particular, a decision needs to be made as to which roles the public sector should undertake; at what level (ie, national, regional or local); and how public-sector performance in service provision and sector management can be improved.

Failure to assign duties and responsibilities within the public sector has been a primary barrier to reform. The main changes that need to be made are as follows:

- **Policy-making** - the first step in the reform process should be the establishment, preferably in legislation, of a clear policy statement on the water sector, outlining the principles on which reform will be based, and clearly stating objectives and timescales within which they are to be achieved. This will allow for reform to be based on a coherent and consistent set of objectives and will, importantly, provide a basis on which the government's performance in the water sector can be assessed.
- **Designing and implementing reform plans** - the policy statement must be accompanied by government commitment to strive to reach the objectives outlined. This requires the establishment of a set of reform plans, over a range of timescales (ie, short-, medium- and long-term), which clearly set out how the government intends to meet the objectives for the sector. The key issues to be covered in such plans include changes to the way in which the public sector manages the water sector, increased focus on PSP and regulation, and, potentially, changes in the way in which service provision is organised in the country. Details of how reform will be financed should also be included in the plans. Implementation of reform plans should be monitored, and revisions made to future plans at regular intervals to reflect lessons learnt and changing operating conditions. Organisational changes (of service provision and sector management by the public sector) should be implemented through legislation. Other changes, for example relating to the type of PSP to be introduced, might be best considered in individual contracts, to ensure flexibility in the regime in order to reflect ongoing changes in the sector over time and across regions.
- **Regulating service providers** - the public sector should be responsible for establishing a regulatory framework for monitoring and incentivising the performance and conduct of the service providers. Ideally, regulation should be undertaken by an independent regulatory agency, and should focus on the level of charges, the efficiency of service provision, and the quality of services provided.
- **Service provision** - in all African countries, the public sector continues to play a central role in service provision. The public bodies involved with the supply of water and sanitation services should be established as a separate entity from the decision-making bodies and regulatory agency. It would also be beneficial for an asset-holding company to be established separate from the service provider, allowing for duties and responsibilities to be clearly assigned to each separate public body involved, and ensuring the appropriate incentives are provided to asset-holders and service providers through the regulatory regime.

Reform proposals also need to include an analysis of whether decision-making about the water sector should rest with central government, or whether some element of decentralisation is beneficial. There is an increasing trend towards decentralisation in the African water sector, and, if carefully designed, it is clear that this can improve the

management of the water sector. Improvements can be made to the organisation of the many government bodies involved with the water sector in the following ways.

- A lead department should be identified at central government level that is ultimately responsible for decision-making and the implementation of reform plans in the sector. Other departments will, however, have an interest in the sector, and a system is also required to ensure that they are included in decision-making (for example, through a consultative committee).
- Where feasible, local government should be involved with decision-making. In particular, local government bodies can adapt reform plans made at central government level to local needs, and can provide central decision-makers with important insights into what customers require at local level. Where decentralisation of decision-making and water sector management occurs, there needs to be an assurance that policy objectives and principles, as outlined in the sector policy statement, are followed by local government bodies.
- Local government can also play a role in regulation by monitoring service provision at local level and collecting information on local service providers, which can be used to undertake comparative analysis of efficiency and service-delivery performance.

The efficiency and effectiveness of public-sector organisation in the water sector also need to be improved. Reforms in the sector should therefore incorporate plans for improving the performance of public-sector providers, decision-makers and regulators.

- Efficiency in **service provision** can be improved by increasing the role of PSP and by introducing performance targets for the public bodies involved with service provision. Such targets should be introduced for both asset-holders and other public bodies involved with service provision. Incentives will only be provided to the organisations involved, however, performance targets should be accompanied by rules which outline how the service provider will be rewarded (penalised) for outperforming (underperforming) the set target. More work on designing such penalty/reward schemes is needed. Clear monitoring responsibilities also need to be established within the public-sector framework. These should lie with the body responsible for regulation.
- Efficiency in **decision-making** and the **management** of the water sector by the government requires, as outlined above, a clear policy statement for the sector, accompanied by detailed plans for reform. More fundamentally, the effectiveness of the public-sector bodies involved requires an increased number of personnel and improvements in the skills they have to undertake reforms.
- Improvements in the efficiency of **regulation** require the establishment of an independent regulatory agency and the clear definition of its responsibilities in the sector. As with other public-sector bodies, human resource development will be essential to the effectiveness of these regulatory agencies.

ORGANISATION OF SERVICE PROVISION

The key issues to be addressed with regard to service provision are:

- should services be provided at a local or national level?
- should water and sanitation services be provided separately, jointly, or as part of a multi-utility organisation?

Analysis of alternative geographical organisational structures in the African water sector suggests that the benefits from reform are not significantly affected by the decision to provide service at national or local level. In particular, coverage rates do not vary across the alternative regimes. There are, however, potential benefits from local service provision which countries may wish to consider when determining how best to provide services. In particular:

- local operators are able to adapt to local conditions;
- service providers will be in close contact with users, increasing incentives relating to responsiveness and accountability;
- local service provision allows for the development of yardstick competition in the regulatory regime, with performance, efficiency achievements and price levels being compared across neighbouring regions; and
- local service providers may be more inclined to experiment with alternative organisational frameworks which can be monitored by neighbouring providers and government bodies. For example, decentralisation can allow for increased use of community management of water resources and services.

The gains from national service provision, largely relating to the ability to benefit from economies of scale and scope, could be reaped alongside these benefits of local provision if services were organised on a regional scale (ie, a small number of local providers are established) rather than at a very localised level.

The main advantage of joint provision is the potential to reduce costs because of the existence of economies of scale and scope. This gain should be offset against the fact that the existence of cross-subsidisation, and the potential for one sector to be favoured over another in the joint company, may make joint provision uneconomic. The ability to reduce cross-subsidies and to ensure adequate service provision in each sector, both roles for a regulatory agency, will therefore determine whether joint provision is preferred over separate service provision.

Experiences in several African countries suggest that multi-utility provision can be beneficial for water service provision. A problem with such regimes to date have been the exclusion of sanitary services from the multi-utility companies, and the apparent neglect of the sanitation sector in those countries with multi-utility providers. As with joint service provision, therefore, the extraction of benefits from multi-utility provision requires regulatory rules to be established, which ensure that each individual service is given equal weighting by the service provider and to minimise the need for cross-subsidisation.

PRIVATE-SECTOR PARTICIPATION

Reform in the African water sector - indeed worldwide - is largely associated with a drive towards increasing private-sector involvement in service provision. For the benefits of PSP to be maximised, the organisational changes outlined above, particularly with regard to the public sector's involvement in the sector, are required. In particular, if PSP is introduced as part of a coherent reform package, it is expected that it will have a sustainable impact on the country's water sector.

Issues which future reform in the African water sector may wish to address include the following.

- To date PSP has been focused, in the main, on urban areas and on water service provision. Analysis of the potential for extending PSP to non-urban areas, and to sanitation-service provision, should be undertaken as a priority, particularly in countries with significant PSP experience.
- The ability to increase the role of private operators by allowing them involvement in a broader range of service-provision areas, notably investment and possibly asset ownership, should be examined.
- Regulation of private operators, through legislation and bilateral contracts, should be considered in detail. In particular, the need to have a consistent regulatory framework across operators, and to ensure that adequate incentives are provided to the companies involved, suggests that a formal regulatory regime is required. This should allow for companies to earn an adequate rate of return on their investment, while requiring improvements in cost efficiency and the quality and quantity of service delivered. Provisions for regular monitoring of performance should also be included in the regulatory regime.
- Decisions on the introduction of PSP should include an analysis of how the competitive pressures from PSP can be maximised. In particular, the PSP contract should cover a sufficiently long period, given the tasks to be undertaken, to ensure that the threat of competition is real. Contracts should also be issued through a competitive bidding process. This should occur both for new contracts and when contracts come up for renegotiation.

REGULATION

The analysis in this report indicated a clear need for improved regulation of service providers, both public and private. The main issues raised, which need to be addressed in future reform plans in the African water sector, are as follows.

- Regulation should be undertaken by an independent regulatory agency. If duties for individual sectors are clearly defined, and staff has appropriate skills to cover the needs of all sectors, it may be beneficial for multi-utility regulatory agencies to be established.

- Human capital development will be required if those in the public sector are to have the capability to undertake regulation effectively and efficiently.
- The regulator should have clearly defined responsibilities and powers in the water sector. These should be outlined in legislation, although some flexibility and discretion in interpreting legislative rules may be required. The main regulatory duties will relate to ensuring that the services are provided to as many customers as possible and that they are of an adequate quality and are priced appropriately. Regulators should also have a duty to increase competition in the market, particularly in supply, where feasible.
- An increase in competition in the supply of water and sanitation services in some countries may only require the legalisation of existing operators. In others, consideration needs to be given to how local private operators can be encouraged to provide services. Where new operators, even small-scale companies, are introduced into the sector, it is necessary that they are regulated to ensure that services provided are of adequate quality and that prices being charged are appropriate.
- When considering the appropriate charges for water and sanitation services, regulators may wish to consider the possibility of using formal regulatory mechanisms, such as price-cap regimes, to undertake the multiple tasks of ensuring cost-reflectivity, allowing an adequate rate of return, and providing incentives for efficient service delivery. Where the use of such mechanisms is considered infeasible or unnecessary at this stage, pricing should be determined on the basis of a set of established principles.
- The focus on cost recovery should be offset against the need to ensure that services are available to a wide range of customers. This suggests, as has occurred in many African countries, a phased approach to attaining cost recovery, with the gradual reduction in subsidies over time. It should also be recognised that the attainment of cost-recovery targets will also require, in many countries, improvements in the bill-collection rate, particularly from the public sector.
- Effective performance regulation requires the establishment of detailed monitoring regimes and the development of penalty and reward schemes to ensure that the power of the incentives provided is maximised. The absence of detailed information and human resource capability problems have prevented such regimes being developed, and these issues need to be addressed in the future.

Regulation may benefit from the existence of a number of service providers in a country's water sector. In particular, comparative analysis of costs and service performance provides a useful means of increasing the incentives provided to companies. Consideration of the development of pan-African comparative analysis may also be a useful regulatory tool.

Contents

1.	Introduction	15
2.	The Provision of Water and Sanitation Services in Africa	19
3.	The Case for Water Sector Reform	25
3.1	Benefits of reform	26
3.2	Barriers to reform	27
3.3	Future reform	31
4.	Public-sector Involvement in the Water Sector	32
4.1	The role of the public sector	34
4.2	Organisation of the public sector	37
5.	The Organisation of Water and Sanitation Services	45
5.1	Geographic level of service provision	46
5.2	Separate or joint provision of water and sanitation services	48
6.	Private-sector Participation	51
6.1	The role of the private sector	52
6.2	Maximising the benefits from PSP	58
6.3	The form of PSP	59
6.4	Increasing competitive pressures in the sector	63
7.	Regulation	66
7.1	Type of regulatory agency	67
7.2	The role of the regulator	70
7.3	The form of regulation	71
8.	Lessons for Future Reform	77
Appendix 1: Country-by-country Information		84
Appendix 2: Case Studies		119
A2.1	Experiences with reform in Côte d'Ivoire	119
A2.2	Future reform in Ghana	124
A2.3	Experiences with reform in Guinea	126
A2.4	Experiences with reform in Senegal	127
A2.5	Experiences with reform in South Africa	130
A2.6	Reform in Zambia	133
Appendix 3: Proposals for Future Reform		137

• I •

Introduction

In December 1999, Water Utility Partnership commissioned OXERA to undertake a study on the reform of the water sector in Africa, with particular reference to PSP in the water supply and sanitation sectors⁽²⁾. This report presents the findings from this study.

The aim of this report is to provide an overview of the key issues emerging in the water and sanitation sectors in Africa. By its very nature, the report can only provide summary information on each country, and readers are directed to other sources for more detailed country-specific information.

Budget and time limitations meant that it was not possible to undertake primary research into each country and, in most cases, only publicly available secondary sources were used as the basis for the report. Not surprisingly, much of this information relates to those countries which have undertaken significant reforms in the water sector and which have the longest experiences with PSP. Primary information on developments in Zambia, Senegal and Ghana was obtained through interviews. However, it should be recognised that, even here, the information is limited to the perspective of the individual interviewed in each country, and more widespread consultation would be useful.

The limited sources used for this report, and the absence of extensive consultation, means that some of the information provided is incomplete. It is assumed that water providers in Africa, and other organisations involved with the sector, will be able to provide additional information to the Water Utility Partnership to allow a more detailed picture of reform in the African water sector to be presented. Given the pace of reform in many African countries, it is also expected that the information contained in the report will date quickly. It is therefore suggested that this report be treated as the beginning of a rolling study into water sector reform in Africa, which would be updated by the Water Utility Partnership on a regular basis to reflect ongoing changes in the sector.

The body of the report considers the issues relating to water sector reform on a pan-African scale, using examples from specific countries to illustrate points made. Appendix 1 provides a brief summary of the sector in each of the African countries considered. More detailed case studies on Côte d'Ivoire, Ghana, Guinea, Senegal, South Africa and Zambia are provided in Appendix 2. A summary of expected future reforms is provided in Appendix 3.

The report is organised as follows:

- **Section 2** presents a brief overview of the provision of water and sanitation services in the continent of Africa;
- **Section 3** considers why water sector reform may be needed in African countries. The analysis begins with a consideration of the ex-ante rationale for reform. It then examines the benefits that have emerged following reform in a number of African water sectors, and outlines the main barriers to reform that have emerged. The section concludes with a discussion of the issues which need to be examined if reform is to be introduced, and emphasises that lessons from other Africa countries can provide a valuable basis for addressing many of the issues raised.

²Throughout this document the term "Water sector" relates to the combination of the water and sanitation sectors. Where points made are different for each of these sector. The text indicates which specific sector is being discussed.

- Sections 4, 5, 6 and 7 examine the underlying elements of water sector reform and, given experiences in other countries, consideration is given to what the advantages and disadvantages of various changes in the water sector might be.

- **Section 4** examines the role of the public sector in water sector reform. Here, the need for a central body to establish a clear policy on the direction of reform is emphasised. The role of the government (at central and local level) in determining the legislative and organisational changes that are required to extract the maximum benefit from reform is also discussed.

- **Section 5** focuses on the organisational structure of the provision of water and sanitation services. Particular consideration is given to the implications of joint service provision and the potential trade-offs that emerge between providing services on a national basis or at a local level.

- **Section 6** examines the role for PSP in the sector and considers options for enhancing the benefits from PSP.

- **Section 7** considers the regulatory framework required for successful reform.

- **Section 8** concludes with a summary of the main lessons from this analysis of current reforms, which can be used to inform future developments in the African water sector.

Throughout this report a range of technical terms have been used, and it is important to clarify at the outset how these are defined, particularly as different interpretations are often placed on these terms by different parties. Definitions of terms frequently used in this report are outlined below.

- **Private-sector participation (PSP)**-this term encompasses the wide range of activities that can be undertaken by privately owned companies in the water sector. Section 6 of this report explains in detail the different activities that may be undertaken and the range of contractual arrangements that can be used.

- **Reform**-the generic term is used throughout this report to reflect changes, instigated by government, in the provision of water and sanitation services, and in the institutional framework (see below) within which the water sector is organised and managed.

- **Institutional framework**-this term is used to describe the operating environment within which services are provided and reform proposals are developed and implemented. It relates to the organisations (owned by the public and private sectors) involved with the water sector, the decision-making processes, the legislative and policy framework, regulatory agencies and mechanisms, and the political and social culture associated with the sector.

- **Regulatory framework**-a sub-set of the institutional framework, this term is used to describe the type of agency that is responsible for regulating service provision; the rules that are used to determine regulatory guidelines; and the particular mechanisms (eg, formal price caps, contract details) that are used to regulate service providers.

- **Public sector**-all government organisations, at national and local level, are included in this umbrella term. In particular 'public sector' includes ministries, public companies responsible for service provision and/or the holding of assets, local municipalities and, where appropriate, regulatory agencies.
- **Operators** - this term is used in place of 'service providers'. Operators are the companies (either public or private) responsible for providing water and sanitation services.
- **Coverage** - this is the proportion of the population within the defined area that has access to the services being provided.
- **African Working Group**-a division of the United Nations Water Supply and Sanitation Collaborative Group, the African Working Group was established in 1995 and has a general objective of ensuring that the water supply and sanitation sector in Africa is treated as a priority development area for African countries.
- **Water Utility Partnership**-this joint initiative, launched in 1996, launched the study of the status of reforms in Africa
- **The Water Utility Partnership** has a central objective of disseminating lessons learnt with regard to institutional reforms for the water and sanitation sector, and the design of a transparent and credible regulatory framework.

Finally, OXERA would like to thank the following for assisting with this research:

- Mr Babacar Dieng, Director General, SONES, Dakar, Senegal;
- Mr Kwabena Manu Sarpong, Executive Director, MIME Consult, Ghana;
- Mr Dennis Mwanza, Managing Director, Water Utility Partnership;
- library staff, School of Oriental and African Studies, London, England;
- George Clarke, Alain R. Locussol, Dirk Sommer, Jane Walker and Andreas Wildt at the World Bank.
- Several other people that assisted in the provision of information including reviewing the drafts. The draft report was reviewed by the following:
 - Mr B. Mpho, Chief Executive of the Water Utility Corporation, Botswana;
 - Mr Oswald M. Chanda, Director of the National Water and Sanitation Council (a new water sector regulator in Zambia).

• II •

The Provision
of Water and
Sanitation Services
in Africa

Africa is a highly heterogeneous continent, with countries varying significantly in terms of size (see Table 2.1 for population rankings), wealth (see Table 2.2), natural resource availability, political structures and culture. This amount of variety inevitably results in a wide range of experiences with water supply and sanitation service provision in Africa, and this variability has an impact on the extent and types of reform across the countries.

The variety in Africa also extends, not surprisingly, to the level of coverage of water supply and sanitation services. The Africa Working Group (AWG) has set a long-term objective for the African water sector of achieving at least 80% accessibility to adequate water supply and sanitation services. The figures in Tables 2.3 and 2.4 show, however, that many countries are far behind this target.

Where significant reforms have already taken place (eg, Côte d'Ivoire) there is quite a high level of coverage. In most countries, however, the proportion of the population receiving both these services is low. It is also notable that the level of coverage for sanitation services is lower than that for water services in many countries. Concern about the availability of water and sanitation services is a primary concern of national governments and international donors, and it has been, and remains, the main catalyst for reform in the sectors.

The data in Tables 2.3 and 2.4 also reveals a disparity between urban and rural service provision in most African countries. For the most part, formal provision of services in rural areas remains low, although non-governmental organisations (NGOs) and local community initiatives often develop alternative means of providing basic water supply and sanitation services in these areas. For example, in Mali, NGOs play a role in the water sector at the local level, while, in the sanitation sector, health structures play the major role. In Mozambique, international development agencies are involved in institutional development at all levels, as well as contributing towards investments. Local governments or tribal authorities also play a role in the operation and management of small piped-water supplies.

To date, reforms have tended to focus on the growing urban areas, although future changes are expected to consider the needs of the rural population in more detail. In Ghana, for instance, the government has published a policy document, 'Vision 2020', of which the cornerstone is the provision of sustainable water and sanitation services to small towns and rural areas. The focus of this report is also on urban water supplies, as this is where the majority of activity has taken place.

Even in those countries where coverage is at a relatively high level, there is a high level of concern about the quality of service provided. The main problems relate to:

- the quality of the drinking water provided;
- the discharge of dirty water (the key by-product of sanitation services), and implications of this for the environment;
- the level of dereliction of some of the infrastructure, which results in potential coverage levels being lower than they could otherwise be; and
- the security of the supply provided, with evidence of frequent disruptions in service availability.

It is clear, therefore, that reform in the water sector should focus both on increasing the number of people who receive water supply and sanitation services, and on ensuring that the services provided are reliable and continuously meet international health, environmental and safety standards.

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Table 2.1: Population (m)

Countries	Population	% in urban areas	Countries	Population	% in urban areas
Nigeria	110	28	Senegal	8.5	42
Egypt	57.8	45	Rwanda	7.5	6
Ethiopia	56.4	11	Guinea	6.6	39
DR of Congo	46.5	35	Burundi	6.3	6
South Africa	41.5	51	Chad	6.3	21
Tanzania	30	25	Benin	5.7	36
Algeria	28	56	Sierra Leone	4.2	39
Kenya	28	25	Togo	4.1	31
Morocco	26.6	52	C.A.R.	3.9	37
Sudan	25.5	30	Liberia	2.7	n.a.
Uganda	19.9	14	Congo	2.6	55
Ghana	18	35	Mauritania	2.3	n.a.
Mozambique	15.7	21	Lesotho	2	23
Côte d'Ivoire	14.8	49	Namibia	1.5	28
Malawi	13	13	Botswana	1.5	31
Cameroon	12.8	45	Mauritius	1.2	45
Madagascar	12.1	30	Gambia	1.2	38
Angola	11.3	42	Gabon	1.1	50
Zimbabwe	11.2	36	Guinea Bissau	1	30
Burkina Faso	10	27	Seychelles	0.8	33
Mali	9.8	24	Djibouti	0.6	n.a.
Niger	9	23	Comoros	0.5	n.a.
Tunisia	9	62	Cape Verde	0.4	n.a.
Zambia	9	42	Sao Tome	0.1	23

Note: DR = Democratic Republic; C.A.R. = Central African Republic; Sao Tome = Sao Tome and Principe; n.a. = information not available.

Source: AWG (1999), 'Africa Sector Review'.

Table 2.2: GNP per capita (1996, US\$)

Countries	GNP per capita	Countries	GNP per capita
Mozambique	90	Ghana	360
Ethiopia	100	Zambia	370
Chad	160	Comoros	460
DR of Congo	160	Mauritania	470
Burundi	170	Guinea	560
Tanzania	170	Senegal	560
Malawi	180	Cameroon	610
Rwanda	190	Zimbabwe	610
Niger	200	Côte d'Ivoire	660
Sierra Leone	210	Lesotho	660
Burkina Faso	230	Congo	670
Madagascar	240	Cape Verde	1,090
Mali	240	Egypt	1,090
Nigeria	240	Morocco	1,290
Guinea Bissau	250	Algeria	1,530
Angola	270	Tunisia	1,920
Togo	300	Namibia	2,250
Uganda	300	South Africa	3,130
C.A.R.	310	Botswana	3,210
Gambia	320	Mauritius	3,690
Kenya	320	Gabon	4,020
Benin	350	Seychelles	6,960
Sao Tome	350	Sudan	n.a.
Liberia	n.a.	Djibouti	n.a.

Note: DR = Democratic Republic; C.A.R. = Central African Republic; Sao Tome = Sao Tome and Principe; n.a. = information not available.

Source: African Development Bank (1998), 'African Development Report 1998: Human Capital Development'.

Table 2.3: *Population with access to safe water supplies (% of population in area)*

Countries	Urban	Rural	Average	Countries	Urban	Rural	Average
Algeria	36	13		Liberia			40 ²
Angola	60	20		Madagascar	75	12	
Benin	31	61		Malawi	73	45	
Botswana	100	80	90	Mali	50	49	
Burkina Faso	78			Mauritania			66 ¹
Burundi	90	45		Mauritius	100	100	
Cameroon	38	62		Morocco	100	32	
Cape Verde			52 ¹	Mozambique	39	41	
C.A.R.	37	63		Namibia	99	42	
Chad			29 ²	Niger	25	53	
Comoros			48 ²	Nigeria	58	39	
Congo	69	11		Rwanda	90	72	
DR of Congo	70	26		Sao Tome	74	74	
Côte d'Ivoire	62	67		Senegal	92	50	
Djibouti			24 ¹	Seychelles	87	84	
Egypt	98	60		Sierra Leone			39 ¹
Ethiopia	65	20		South Africa			n.a.
Gabon			67 ²	Sudan	50	35	
Gambia	67	85		Tanzania	68	46	
Ghana	76	46		Togo	75	57	
Guinea			49	Tunisia	100	72	
Guinea Bissau	36	25		Uganda	60	39	
Kenya	65	35		Zambia	69	33	
Lesotho			57 ²	Zimbabwe	100	80	

Note: DR = Democratic Republic; C.A.R. = Central African Republic; Sao Tome = Sao Tome and Principe; n.a. = information not available.

Source: AWG (1999), 'Africa Sector Review'. Except 1 African Development Bank (1998), 'African Development Report 1998: Human Capital Development', 1990 figures; 2 African Development Bank (1998), 'African Development Report 1998: Human Capital Development', 1993-95 average.

Table 2.4: Population with access to sanitation service (% of population)

Countries	Urban	Rural	Average	Contries	Urban	Rural	Average
Algeria	48			Liberia			40 ²
Angola	25	15		Madagascar	75	12	
Benin	40	6		Malawi	73	45	
Botswana	95	40	68	Mali	50	49	
Burkina Faso	42	11		Mauritania			66 ¹
Burundi	100	33		Mauritius	100	100	
Cameroon			40 ²	Morocco	100	32	
Cape Verde			10 ³	Mozambique	39	41	
C.A.R.	46	1		Namibia	99	42	
Chad			32 ¹	Niger	25	53	
Comoros			n.a.	Nigeria	58	39	
Congo	30	0		Rwanda	90	72	
DR of Congo	9	12		Sao Tome	74	74	
Côte d'Ivoire	48	53		Senegal	92	50	
Djibouti			37 ³	Seychelles	87	84	
Egypt	84	5		Sierra Leone			39 ¹
Ethiopia		2		South Africa			n.a.
Gabon			76 ²	Sudan	50	35	
Gambia	100	22		Tanzania	68	46	
Ghana	61	15		Togo	75	57	
Guinea			12	Tunisia	100	72	
Guinea Bissau	20			Uganda	60	39	
Kenya		79		Zambia	69	33	
Lesotho			35 ¹	Zimbabwe	100	80	

Note: DR = Democratic Republic; C.A.R. = Central African Republic; Sao Tome = Sao Tome and Principe; n.a. = information not available

Source: AWG (1999), 'Africa Sector Review'. Except 1 African Development Bank (1998), 'African Development Report 1998: Human Capital Development', 1995 figures; 2 African Development Bank (1998), 'African Development Report 1998: Human Capital Development', 1993 figures; 3 African Development Bank (1998), 'African Development Report 1998: Human Capital Development', 1985 figures.

• III •

The Case for

Water Sector Reform

3.1 BENEFITS OF REFORM

Similar rationales for reform in water supply and sanitation services, particularly PSP, exist across the African countries. Many of the ex-ante objectives of reform in the water sector are also the same as those that have emerged in other state-controlled industries. The main expected benefits of reform, stated as the objectives of reform in many African countries, are as follows:

- increased access to safe drinking water and sanitation services;
- enhanced economic efficiency (in the public and private sectors);
- improved quality of service;
- generation of financing for necessary investments (largely from third-party donors);
- improved resource management; and
- reduction in the negative impact of service provision on the environment.

As much of the reform in the water sector in Africa is at an early stage—indeed, in many countries, it is only at the stage of being implemented—it is difficult to comment on whether reforms have delivered these expected benefits. This report therefore only provides a brief comment, based on a select number of cases. More detailed monitoring of reforms, and their ex-post benefits and costs, should be undertaken once the impact of reform becomes more established.

The following statements can be made about the achievements of reforms successfully undertaken to date.

- Cost-efficiency improvements have been evident, although it will take some time for all operational and organisational inefficiencies to be eradicated. There has also been evidence of improved operational efficiency resulting from significant reductions in water losses. These improvements relate to efficiency in service provision, aided significantly by the increased role for PSP, and improvements in the organisation and management of the sector by central and local government bodies. For example, in Burkina Faso, the performance contract between ONEA, the National Water and Sanitation Authority, and the government is thought to have significantly improved efficiency. When looking at the number of employees per 1,000 connections, several countries with privatised systems operate at a level significantly below the majority of African countries. Côte d'Ivoire is one example of this, with private company, SODECI, operating in the 1990s with a productivity level of approximately four workers per 1,000 connections, compared with a figure for Togo in the 1980s of approximately 32 workers per 1,000 connections.
- Service coverage has improved in those countries where PSP, and other reforms, have been in place for some time. In Côte d'Ivoire, the role of SODECI in the provision of water services is thought to have been responsible for significant rises in the proportion of the population that have access to drinking water. Meanwhile, in Gabon, expanding both the water and electricity networks is an explicit part of the concession contract signed by Vivendi and Electricity Supply Board International with the government in 1997.
- There is emerging evidence of improved customer satisfaction with the quality of service provided. For example, in Casablanca, Morocco, there is evidence of significant improvements in customers' satisfaction following the introduction of private operators under a concession contract.

- The degree of cost recovery has improved significantly in some countries. This has arisen through revised pricing schedules and improvements in the rate of bill collection. In Côte d'Ivoire, SODECI is financially successful, and cost recovery is a central element of tariff design. A serious problem of non-payment of bills by public users remains, however. Similarly, in Guinea, there has been a significant increase in the tariff, enabling cost recovery, but resulting in a rise in the default rate. This problem is heightened by the fact that, in many cases, notably Côte d'Ivoire, the water provider is unable to disconnect public-sector entities for non-payment. Even if this is allowed, many service providers are simply unwilling to disconnect public-sector buildings, as has been evidenced in Guinea.
- In countries where PSP has been implemented, employees who were previously against private participation are now promoting the benefits of PSP. This has resulted in those who are developing plans for PSP (eg, Ghana) to use experiences in other countries when discussing the issues with the joint workers' committees. Such a change in opinion, by those directly involved with the sector, suggests that there are significant benefits from reform for the sector and the economy as a whole. It must be noted, however, that such a sea change has not occurred everywhere. In South Africa, for example, the South African Municipal Workers' Union (SAMWU) continues to be particularly vocal in its opposition to the PSP plans put forward by the government.
- The ability of the public and private sectors to extract benefits from reform has been aided, in some countries, by:
 - improved political commitment to reform;
 - the introduction of capacity-building exercises, which focus on infrastructure and human capital development; and
 - the establishment of a clear policy and institutional framework underpinning reforms.

3.2 BARRIERS TO REFORM

In many African countries planned reforms have failed to emerge, and, in others, even where reforms have been implemented, the expected benefits have not emerged. This is because significant barriers to reform exist, which require a carefully managed reform programme to be developed if they are to be overcome. The main identified obstacles to reform are outlined below. Section 3.3, and the remainder of the report, considers what decisions need to be made to ensure that any barriers are overcome and the potential benefits of reform are maximised.

3.2.1 Lack of political commitment

Successful reform requires commitment from the government at national and local level to the plans that are being implemented. Private operators, in particular, are unwilling to become involved in a country's water sector if there is no evidence of government commitment to the proposals for reform.

- Commitment will only emerge if social conditions and the degree of political stability allows for priority to be given to the water sector. Political instability and social unrest is a common feature of many African countries, however, and is a serious impediment to water sector reform—indeed, any reform. Examples of areas where reform has not emerged because of political and social instability include the following.

- In Algeria the political situation is thought to have prevented the government from implementing policies for improving water services. Legal restraints and problems in the banking system, which were exacerbated by political uncertainty, have also delayed progress with PSP and reform.
- In Burundi, water sector reform, particularly PSP, is unlikely to emerge in the near future, given the political crisis in the country since 1993. Although peace negotiations have taken place, rebuilding of the economy is expected to take some time, and policies relating to the provision of water and sanitation services are expected to be considered for some time.
- In Congo, civil unrest is believed to have delayed plans to privatise state-owned industries, including the national water company, SNDE.
- In Guinea Bissau, worsening conflict caused IPE Aguas de Portugal and Electricidade de Portugal to withdraw from the bid for a concession to operate water and electricity services.
- In Liberia, the extent of damage caused by the civil war is sufficient to have destroyed the country's infrastructure, with severe shortages of potable water and electricity still evident.

If the government is to commit to water sector reform, its ideology also needs to be consistent with the objectives of the envisioned reforms. In some countries, however, government ideologies have, in the past, been fundamentally in conflict with the generally accepted principles of efficient reform. In particular, when Communist and military governments were in power, there was unlikely to have been support for increased PSP in any sector, let alone in the provision of a major utility. One case of political ideology potentially having an impact on reform plans is the Gambia, where, in 1995, the new military government cancelled a private operator's franchise (awarded in 1993), on the grounds of poor performance and failure to respect the terms of the contract. There is some concern that the contract was cancelled owing to political reasons also. The impact of a government's ideology on the provision of water and sanitation services was also evident in South Africa, where the previous government's apartheid policy saw the bulk of the water available being distributed and consumed by the minority of the population.

Evidence of a government's commitment to water sector reform comes in two guises. First, as discussed below, there is a need for political debates to be accompanied by the development of long-term policies and implementation plans, including reform in the institutional framework underlying the sector. Second, the government needs to demonstrate its commitment to reform through its actions as a customer of water supply and sanitation services.

In many countries, the public sector (Government Departments, schools, military and police establishments e.t.c.) has jeopardised reforms by failing to pay for water and sanitation bills, thereby undermining cost-recovery objectives. Unfortunately this is common in many countries on the continent. Even in Côte d'Ivoire, where SODECI has been successful at improving the efficiency and delivery of service to customers, there are problems with collecting payments from the public sector. The government in Guinea has also failed to pay its bills to the private operator, SEEG. The company has responded by withholding payments to the public water authority, SONEG, which has resulted in reduced revenues for required investments. This places obvious financial limitations on the operations of the service provider, but, perhaps more importantly from the context of future reform, it undermines the principles on which the reform has been based.

3.2.2 Absence of a clear policy, legislative and regulatory framework

A key obstacle to successful reform has been the organisational structure and policy arrangements in place. In particular, in many countries, proposals for reform in service provision (eg, PSP) have not been accompanied by a consideration of additional required changes in the legislative and regulatory frameworks in the sector.

The main problems which have been evident in the institutional framework of African water sectors, and which have resulted in reforms not delivering the expected benefits are as follows.

- As noted by the AWG, in most African countries, there has been no clear policy statement (i.e., an outline of sectoral objectives and principles of reform) on which the plans for reform have been based. This has meant that there has been no consistency in reform plans. It is common in a number of countries that no specific policy for water supply and sanitation has been devised. Only a general strategy sometimes exists to try to meet government objectives for the sector, which include 100% rural coverage by the year 2025, the assessment of all water resources, and the rehabilitation of old water systems.
- The duties and responsibilities of all players (public and private) in the water sector are not clearly defined in many countries, resulting in uncertainty and the ability of all players to avoid particular duties, on the grounds that they are not responsible for them. For example, in Guinea, both SONEG (the asset-holding company) and SEEG (the private operator) are able to influence the rate at which connections are added and the amount of reduction in unaccounted-for water. Such dual responsibility enables free-riding to emerge, with each operator blaming the other for slow progress in these areas.
- In most countries, the poor technical capacity and expertise of the public-sector organisations (often the rationale for reform in the first place) mean that no suitable body exists to design and implement efficient and effective reform plans. One specific problem has been the absence of the required range of expertise (ie, economic, legal and operational) in the development of reform policy. In this area, international agencies and firms can be of significant use. In countries, such as Cameroon, the private sector and NGOs provide the required expertise and training. In Mozambique, the AWG also reports that international development agencies are involved in assisting in institutional development at all levels, as well as contributing to investment spending. There is no doubt, however, that there is still an expertise shortage across the continent.
- While reforms in service provision, relating to both public and private organisations, have been introduced on the basis of improved efficiency and service-delivery objectives, few countries have developed independent regulatory agencies to ensure that these objectives are met over time. The need for regulation is discussed in section 7.

3.2.3 The power of incumbent administrations

Incumbent public companies can also introduce obstacles in the reform process, particularly where PSP is being considered. Support and participation from the incumbent are often required for reform to be successful, as these companies retain a vital role in the sector, usually as asset owners and managers. For example, in Ghana, it is thought that the Ghana Water and Sanitation

Corporation (GWSC) was partially responsible for delays in implementing the PSP action plan. The company, while not opposed to PSP per se, wished to pursue an alternative form of PSP in the sector. This preferred route involved the pursuit of more private funding for resource management than was originally envisaged, and the retention, by GWSC, of a key role in distribution. (Further details of reform proposals in Ghana are provided in Appendix 3.)

3.2.4 Discomfort with companies involved with PSP

In some countries PSP has been delayed, or not implemented, because of concerns about foreign ownership. For example, in Botswana, PSP has been delayed by national interest groups, which recognise that national expertise and financial power is not sufficient for local companies to be involved with the private provision of water and sanitation services, resulting in these enterprises being owned by foreigners. Some countries, notably Côte d'Ivoire, have been successful at combining foreign and local interests when introducing PSP, reducing concerns about internationalisation of essential services. SODECI is owned 48% by local interests, 48% by SAUR and 4% by a government fund. Indeed, 5% of the company even belongs to SODECI employees.

3.2.5 Feasibility concerns

As with any country, and sector, the ability to pay for water and sanitation services is a primary constraint on developments and reform in the sector. In most African countries, this constraint is tightly binding, given the high incidence of poverty. The main types of consumers who experience problems with payment in the sector are low-income urban communities and public users (ie, government through schools, hospitals, army barracks, police, etc). In the case of the public sector, however, it is not clear that 'inability to pay' is the main reason for non-payment.

In addition, many countries face budgetary constraints on the amount of national public and private finance that is available to fund the required large-scale infrastructure projects. Assistance from international agencies and international private operators is particularly important in these areas. The AWG highlights many countries where international agencies have assisted with funding for infrastructure projects, such as Mozambique. In the Democratic Republic of Congo, agencies including UNDP, UNICEF, the European Commission, the World Bank, FAO and ADB have all been active. However, as noted below, such intervention may well be outweighed by other factors such as civil war, water shortages and flooding.

Water sector reform, in terms of the organisation and regulation of service provision, may also not be feasible because of more immediate concerns relating to the amount of water available in a country. These concerns tend to take priority over the reform of the water sector in countries where water supply is in severe shortage. For example, in the Democratic Republic of Congo, the primary focus is on dealing with current problems relating to flooding of the River Congo and water shortages in urban areas. Plans for reform are unlikely to emerge, given the ongoing war, and the government's primary focus is on finding immediate solutions to the emerging crisis. The recent floods crisis in Mozambique, and the renewed threat of severe drought in some countries in Eastern Africa like in Nairobi, Kenya, are other examples of immediate resource concerns which are likely to take precedence over sectoral reforms. Consideration should be given, however, to the role that reform could play in improving the provision and management of water and sanitation services in these areas.

3.3 FUTURE REFORM

The above discussion has highlighted the fact that there are significant potential benefits from water sector reform. Perhaps the best confirmation that such benefits are emerging, and are expected to emerge in the future, is the increased number of reform proposals that are being put forward across the continent. Countries that have already undertaken significant reforms continue to introduce new policies and contemplate the prospect of more reform. Other countries are currently experimenting with ideas for reform and considering how best to implement plans for change. Finally, there are a few countries that have not yet introduced significant plans for reform, but it is expected that these economies will follow the example set elsewhere in Africa. A brief outline of some of the expected future reforms is provided in Appendix 3.

Decisions as to whether reform is needed, and, if it is, what form it should take, require a number of issues to be addressed, however. In particular, the ability to overcome barriers to reform and to maximise potential benefits requires the development of an optimal water sector, within the confines of social, economic, political, legislative and environmental constraints.

The main issues to be considered in the context of reforming the provision of water and sanitation services are as follows.

- What is the role of government ministries in water sector reform and in the provision of water and sanitation services?
- How should public-sector bodies involved with the water sector be organised?
- How can the effectiveness and efficiency of public bodies be improved?
- Should water and sanitation services be provided at national or local level?
- Should water and sanitation services be provided separately, jointly or as part of a multi-utility company?
- What role can the private sector play in the provision of water and sanitation services?
- What form of PSP should be developed?
- What type of regulatory agency is desirable?
- What is the role of the regulator?
- What form of regulation is preferable?

The remainder of this report examines each of these issues in the context of developing a sustainable reform package for the water sector. For each issue, details of current arrangements in African countries are provided alongside an analysis of the advantages and disadvantages of alternative options. In the main, the assessment is based on actual experiences in countries that have already undergone significant reforms. This is complemented with an economic analysis of the issues.

There are obvious interactions between many of these issues, and decisions about reform in one area will have an impact on, and be affected by, developments in other areas. These interactions need to be taken into account when considering the optimal form of reform for the water sector in any country.

• IV •

Public-Sector

Involvement

in the

Water Sector

In many countries, reform proposals have incorporated an analysis of what role the public and private organisations should play in the water sector, and consideration of how the public sector should be organised to ensure that benefits from reform are extracted. Examples are provided in Box 4.1. In particular, it is recognised that decisions about the role of the government relate to consideration of what steps need to be taken (ie, establishing policy objectives, implementing precise plans for reform, and introducing required legislative changes) to ensure that reform is successful.

Box 4.1: Planning for reform

- In South Africa, considerable thought has gone into the plans for the water sector. Following the replacement of the pro-apartheid government, the legal system has been significantly reformed, with the status of water considered in detail. A White Paper was followed in 1998 by the National Water Act, which aimed to improve equitable access to water as well as to ensure the development of a coordinated management and conservation system.
- Mozambique provides a clear example of a country where water sector reform is staged in a manner which ensures that the legislative and regulatory framework, and government policies, are developed before further reforms are introduced. The initial aim of the National Water Development Project (implemented in conjunction with the World Bank) was to increase the capacities of organisations in the water sector. Immediate goals focused on restoring deteriorating infrastructure, increasing coverage, and strengthening government and private powers to manage water delivery. The current second phase of the National Water Development Project is the preparation for private-sector management of urban water supply. This has resulted in the introduction of a 15-year lease contract for Maputu, won by a SAUR-led consortium, while five-year management contracts for Beira, Quelimane, Nampula and Pemba were also awarded. It is believed that increased confidence in the institutional and policy framework, arising from the emphasis on ensuring clarity in this area, will improve the opportunities for PSP.
- It has been recognised in Senegal that effective and sustainable organisations are a necessary condition for the success of water sector reform, including PSP. The aim is to create public organisations that can ensure the continuity of resources while overseeing improvements in commercial management and cost-effectiveness. The importance of a strong organisational framework in Senegal arises in part because of the number of players involved with service provision in the sector. SDE is responsible for water supply to 47 urban centres and some renewal investment, and SONES, the asset-holding company is responsible for the bulk of investment. ONAS is the national public board responsible for sanitation. Thus, for efficient investment, a degree of coordination is essential, with the government playing an important role in ensuring that this occurs. Efforts are therefore being made to secure continuity of management, to develop human resources, and to improve cost-effectiveness.

Perhaps more significantly, many countries that have implemented reforms in service provision, without considering necessary changes in the role and organisation of the public-sector bodies involved, have experienced difficulties with political commitment, uncertainty over the exact responsibilities of the different parties involved, and problems with the sustainability of any

changes made. This was identified as a significant barrier to reform in section 3.2. The problem is illustrated in Box 4.2 in relation to difficulties with investment responsibilities in Côte d'Ivoire.

Box 4.2: Investment responsibilities in Côte d'Ivoire

In Côte d'Ivoire, although the state retains ownership of assets, most of the investment management responsibility was transferred to SODECI. Formally, the government was responsible for managing the Fonds de développement de l'eau and supervising investment, while the planing and execution of investment lay with SODECI. However, despite provisions for this state existing, it was actually the Bureau National d'Etudes Techniques et de Developpement (BENEDT) that performed such duties for the first seven yeras of the lease, with some confusion existing over the invetment process.

Any reform process in the water sector should therefore incorporate, and ideally begin with, a decision as to how the public sector's involvement in the industry should be defined, so as to allow for reforms to be successful and ensure that long-term sustainable policies are put in place.

4.1 THE ROLE OF THE PUBLIC SECTOR

Experiences across Africa indicate that public-sector bodies play a variety of roles in the water sector. The main responsibilities can be categorised as follows:

- policy design;
- development and implementation of reform plans;
- regulation of service providers (both public and private operators); and
- asset owners and service providers.

Each of these issues is discussed below. The discussion focuses on the role of the public sector as a single entity, although it is recognised that the roles may be split, or shared, between national and local institutions. Section 4.2 considers the implications of these roles for the organisation of the public sector involved with the water industry.

4.1.1 Policy-making

The primary role of any government in the water sector should be the establishment of a clear set of principles and objectives on which proposals for reform are based. Examples of items that have been incorporated into policy statements for the water sector include:

- water supply and sanitation services to be made available to all;
- cost recovery to be made a primary objective of the government;
- efficiency and effectiveness required in service delivery and management of the sector;
- consideration of the implications of water reform for resource management and the environment.

However, there appear to be few countries in Africa with clear official policy statements for the water sector-Uganda is one of the few including South Africa, Zambia that have had a clear policy for the water sector. This provides the basis on which decisions relating to the appropriate

organisation of water services, the need for reform in terms of organisation, regulation and legislation and the establishment of long-term plans for the sector can be made. In contrast, in most countries, reform has been based on general government statements relating to improved access to water and sanitation services, without any underlying policy which outlines the principles on which reform should be based. As noted above, in Burundi, a range of laudable goals have been set for water coverage and resource management, with no clear policy developed on how to meet them. An 'unwritten' goal is to increase water provision in rural areas; however, policy development in the water sector is not given high priority.

In Africa, many governments have made public statements about water and sanitation services being a priority, but not all have complemented this with policy decisions and strategies for implementing change. For those countries with formal policy statements, it appears that reform has emerged in a more coherent and consistent fashion than elsewhere.

As the AWG notes, 'the effectiveness of institutions depends on a clear policy framework, which provides them with their mandate as an institution.' If government does not provide a clear policy on service provision and reform in the sector, a wide variety of, often inadequate, approaches are adopted across regions and over time, resulting in the absence of a clear development path for the sector. In contrast, clear policies allow for different objectives to be prioritised, and for development to be undertaken in a planned and coherent manner.

A clearly defined formal policy is also an important means of allowing third parties to judge how the government is performing relative to its policy targets. For example, within the South African government there exists a strong desire for private involvement in the water system. The recent granting of 30-year concessions on Dolphin Coast and in Nelspruit indicate the importance of the private sector to government plans. These PSP experiences are to be used as tests, with further PSP opportunities in Johannesburg and Cape Town potentially becoming available.

Leadership from the government is also needed. This need not be synonymous with the government taking responsibility for the provision of services itself. Indeed, a policy has no value unless there is government willingness to develop and implement the required strategies. This emphasises the point that policy is a necessary, but not sufficient condition for successful sustainable reform.

It is therefore clear that, before the required organisations, PSP arrangements, regulations and legislation can be developed, a central policy is needed so as to give the appropriate direction in which water and sanitation sectors should be heading. Ideally, such policy statements should be incorporated into legislation to ensure commitment to the underlying objectives, and to allow for a long-term reform programme to be developed around the central policy for the sector. In the case of South Africa, the prospective scarcity of water has been recognised, with South Africa potentially entering the water-scarcity category (under 1,000 m³ per person per year by 2025). The National Water Act 1998 defined boundaries for 19 catchment management areas, each of which will devise a management strategy. The Water Services Act 1997 and National Water Act 1998 provide a legislation framework for future policy developments that should help to improve the management of resources.

4.1.2 Designing and implementing plans for reform

Having established a clear policy statement for water sector reform, the government should also take lead responsibility in designing and implementing the specific plans for reform. These plans will essentially introduce changes that are expected to deliver the objectives outlined in the policy statement. Where financial assistance is provided by third parties (e.g, World Bank, the African Development Bank, the International Monetary Fund e.t.c) it is expected that they will be involved with the development of the details of the reform process. However, to ensure a sustainable reform process to which the government is committed, the national and local public-sector bodies must be directly involved with the decision-making process.

- Key practical questions to be addressed in these plans include the following.
- How should the provision of water and sanitation services be organised? (see section 5)
- What role should the private sector play in the provision of water and sanitation services? (see section 6)
- How can progress with reform in the sector be monitored, and how should the conduct and performance of all parties involved be regulated? In particular, how can the service provider be given appropriate incentives to ensure that it internalises the objectives of reform in its planning process? (see section 7)
- Should reforms be introduced via changes in public law (constitution, legislation, executive order, ministerial decree), or are bilateral contracts sufficient?

On the issue of legislative requirements, the government needs to trade off the clarity and certainty provided by the legal establishment of reform against the need for flexibility in an evolving regime. Decisions about the design of reform plans should also consider the trade-off between the need for a consistent approach to be taken over time (which could be backed up by legislation), and the need for each individual element of the plan to reflect area-specific issues (which could be covered in bilateral contracts).

In those African countries that have instigated widespread reform projects, there has been a tendency to introduce legislative changes to establish organisational changes relating to the role of the government and the private sector, and the establishment of regulatory regimes. Some countries have also included clear statements about general sectoral objectives in legislation. Bilateral contracts, largely between the government and private operators, have been used to introduce more case-specific objectives relating to performance targets, cost-recovery objectives and efficiency expectations. It is these matters which would be expected to vary over time, and across different organisations, and which might therefore benefit from not being formally specified in legislation.

4.1.3 Regulating the water sector

The government also plays a central role in the water sector as regulator of the performance and conduct of the service providers. This arises with both public and private service providers, and regulation relates, in the main, to the monitoring of performance and consideration of the appropriate charging schemes for the sector.

In most African countries, regulation remains the responsibility of the government Department(s) involved with decision-making in the sector, and very few countries have considered the possibility of introducing independent regulatory agencies. Even countries such as Guinea and Côte d'Ivoire, where PSP arrangements have entered a 'second round', independent regulators are not used. Further, in the case of Côte d'Ivoire, the continuation of the government acting in a regulatory capacity has provided mixed incentives for SEEG and SODECI over issues such as disconnection and investments. Section 7 considers the role of the regulator in more detail and the form of regulation which might be appropriate for the water sector.

4.1.4 Asset owner and service provider

Finally, the public sector continues to play a central role in the provision of water and sanitation services. In particular, in all African countries, the government remains the owner of all assets in the sector. In most countries, the public sector is also responsible for service provision in rural areas and in some urban areas, although PSP is emerging in major urban areas of many African countries (see section 6 below). In those areas where a private operator is involved with the provision of services, the government also continues to be responsible for the majority (in most cases, all) of the investment for maintaining the water supply and sanitation infrastructure. As noted in the section on barriers to reform, there can be budgetary constraints here that prevent the government from independently financing investment projects.

4.2 ORGANISATION OF THE PUBLIC SECTOR

This sub-section analyses the appropriate level of government at which decisions about the provision of water and sanitation services should be taken, and potential reform in the sector. In the majority of countries, decision-making rests with central government, although many different departments can be involved. For those countries with service provision organised on a regional basis, however, there is more of scope for local government involvement. The role of the local public organisation tends to be limited to service provision, however, with the norm being that the national government makes all key decisions about reform, including potential PSP.

4.2.1 Public-sector bodies involved with the water sector

As the details in Appendix 1 show, in most African countries several different central government bodies are involved in the regulation and supply of water and sanitation services. These entities are involved with decision-making about the sector and with service provision. In addition, in some countries, local government organisations are responsible for service provision and, in some cases, an element of decision-making has been devolved to local level

The involvement of the government can therefore be categorised under the following broad headings.

- **Type A** - single central government department is responsible for the organisation of the sector and for decision-making relating to service provision and sectoral reform. Services are provided by a national public operator.

- **Type B** - a single central government department is responsible for the organisation of the sector and for decision-making relating to service provision and sectoral reform. Services are provided by local government bodies.
- **Type C** - multiple government departments are responsible for the organisation of the sector and for decision-making relating to service provision and sectoral reform. Services are provided by a national public operator.
- **Type D** - multiple government departments are responsible for the organisation of the sector and for decision-making relating to service provision and sectoral reform. Services are provided by local government bodies.

Examples of each type of governmental role are provided in Table 4.1 below.

Table 4.1: The role of government

Type	Countries
A	Angola, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Democratic Republic of Congo, Congo, Djibouti, Ethiopia, the Gambia, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Mali, Mauritania, Niger, Nigeria Rwanda, Senegal, Sierra Leone, Togo, Tunisia, Uganda
B	Comoro Islands, Egypt, Malawi, Mozambique, South Africa, Tanzania, Zambia, Zimbabwe
C	Benin, Botswana, Burundi, Chad, Côte d'Ivoire, Ghana, Mauritius, Morocco, Sudan
D	Algeria, Namibia

4.2.2 Allocation of duties and responsibilities

The above categorisation of the public sector's involvement in the water sector indicates that three critical questions need to be addressed in any reform plans. These are:

- at central government level, should a single government department or multiple departments be responsible for decision-making in the water sector?
- what role should local government bodies have in service provision and decision-making?
- where services are provided by a national public operator, should this service provider be established as a separate entity from public decision-makers?

In relation to all questions, the central issue is the extent to which functions and responsibilities of the different bodies involved are clearly defined. For efficient and effective service provision, it is important that each agency understands its priority tasks and is provided with incentives to undertake these in the best manner possible. Where there is significant overlap between agencies, the lines of responsibility become blurred, providing the opportunity for one body to 'free-ride' on the activities of others.

COORDINATION OF CENTRAL GOVERNMENT DEPARTMENTS

The water sector has an impact on several social, political, economic and environmental aspects of a country. It is therefore common for several government ministries (the number will depend on the political organisation of each country) to be interested in developments in the sector and, in particular, to be involved with decisions about potential reforms. Box 4.3 provides some examples.

Box 4.3: Multiple public-sector organisations

- In Cameroon, a number of separate departments play a role in the water sector. The Ministry of Mining, Water and Energy is the parent of the water sector, with two departments: The Water and Urban Sanitation Department and the Rural Water Department. The Ministries of Economy and Finance, Public Health, Industrial and Commercial Development and the city councils also play a role, while a National Committee of Water coordinates the actions of the several departments.
- In Namibia, water and sanitation services are dealt with by separate agencies. The responsibility for water lies with the Minister for Agriculture, Water and Rural Development, while sanitation services for rural areas are the responsibility of the Ministry of Health.
- In Burundi REGIDESO, a state-owned company is responsible for urban water supply, supervised by the Ministry of Energy and Mines. Sanitation is dealt with by SETEMU, a Department of the Municipality of Bunjumbura, while the Ministry of Rural Development is responsible for rural water and sanitation supply.

It is important that those government departments with responsibilities for areas (notably the environment) that are affected by water sector reform are involved with plans for reform. In particular, the legal and institutional framework should facilitate efficient interaction between the agencies (including the operators) involved with water service provision and those responsible for resource and environmental considerations. This is particularly the case where roles across agencies are unclear and accountability is difficult to establish. Box 4.4 outlines how multiple objectives have been tackled by a range of public-sector organisations in Morocco.

Box 4.4: The multi-agency problem in Morocco

In Morocco, the Water Resources Management Project attempts to develop institutional change alongside proposals for integrated water resource management. The 1995 Water Law is an important step in the attempt to develop integrated water resource management. The law provides the regulatory, legal and institutional framework for sustainable water management. Included are reforms dedicated to creating river basin agencies for decentralised management; devising a long-term national and river basin management scheme; the introduction of water charges and pollution taxes; and the establishment of quality monitoring. The project aims to support the implementation of a strategy combining supply, demand and quality management alongside efficiency and equity considerations.

A single lead department must be ultimately responsible for the water sector, to secure consistency in the sector; to guarantee accountability of central government; and to ensure that responsibilities are clearly defined within the national body. This suggests that, at central government level, it may be optimal to have a single department responsible for the sector, particularly for reform, but that a consultative committee be established that combines interests of all departments affected by developments in the sector in order to discuss any proposals for change. This an approach adopted in the Water Sector Reform Programme in Zambia.

DECENTRALISATION

The second question above relates to the case for decentralisation in the water sector. Here, a clear distinction needs to be made between decentralisation of decision-making in the sector and the decentralisation of service provision. The local provision of services is considered in section 5.1.

On the issue of decision-making, there are clear benefits to having local government bodies involved with decisions about how to implement water sector policy in different regions. In particular, local government agencies will be better able to adapt general reform plans to the needs and constraints of the local community. An increased role for local government will also allow for regional concerns to be brought to the attention of central government when policies are being developed. One of the developments seen in South Africa following the National Water Act 1998 has been the development of catchment management agencies. These have been specifically designed to manage water resource development and protection at a local level. In Benin, although decision-making currently occurs at the national level, plans to devolve this responsibility have been reported.

At the same time, however, full responsibility for decision-making in the sector should not be devolved to local government bodies. The benefits of central government decision-making are that it:

- ensures consistency in terms of objectives and general reform plans across the country;
- allows for prioritisation of reform programmes across different areas;
- alleviates any concerns about jurisdictional responsibilities across the different areas; and
- provides a central point for inter-regional and international issues to be discussed.

The primary responsibility for addressing policy decisions should therefore continue to rest with the central government, taking account of local concerns where feasible. This suggests a framework whereby decisions relating to water sector policy and general plans for reform are made by central government, but some flexibility exists in terms of decisions relating to the actual implementation of these plans in each region being left with local government bodies.

Nigeria and Ethiopia may provide useful case studies on the impact of decentralised decision-making. The water sector in both countries has involved a degree of autonomy at regional level for some time. In these cases, and others, decision-making powers tend to be concurrent with those of the national bodies, allowing for consistent policies and principles to be developed for the sector across the country, but also for the implementation of these to adopt different forms depending on the circumstances of each area.

Where decentralisation of decision-making does emerge, there needs to be assurances that local bodies are following general policy to ensure that reform follows the intended path. Consideration of the ability to raise finances at local level, and the possible need for central government support is also needed. Finally, the emphasis should be on minimising complexity and scope for failures in the regimes by clearly identifying the duties, responsibilities and objectives of each organisation involved (at central, regional and local level), and monitoring performance relative to plans at regular intervals. Where sectors are evolving, there will inevitably be a need to review the organisation of the public sector, and to have flexibility in the regime to allow for changes where these are considered necessary for improvement.

Finally, implications for regulation of decentralised decision-making must also be considered. In particular, it is necessary to ensure that the task of a sector regulator is not made overly complicated or onerous because of the number of local bodies involved or the complexity of relationships between different organisations. At the same time, however, the benefits of comparative competition in regulation, facilitated by the development of a number of comparable local service providers, can be substantial. Local government organisations could then play an important role in assisting the regulatory authority by collecting required information in each area and undertaking specific monitoring duties.

PUBLIC COMPANIES

A further issue to be addressed is whether a separate public company should be established to represent the government's direct involvement in service provision. In particular, a case can be made for introducing an independent asset-holding company. Where the government is also involved with service provision, reform proposals will need to determine whether such an asset-holding company should incorporate the operations and maintenance activities, or whether a separate service company should be established. Separation of service-provision activities from decision-making responsibilities is generally preferable, as it ensures the independence of the decision-making body. This is particularly important when decisions relating to PSP developments, the allocation of investment finances, and the regulation of both assets-holders and service providers are under consideration.

One example of separation of decision-makers from service providers occurred during the reform of the water sector in Senegal. In 1993, SONES was created as the public asset-holding body, with investments primarily its responsibility. The private sector was introduced through SDE, the operating company.

4.2.3 Improving public-sector performance

Across Africa there is concern that the public sector has not undertaken decision-making in an efficient or effective manner and, as is the case across the globe, there are significant concerns about the efficient provision of services by public operators. In Côte d'Ivoire, for example, SODECI was given responsibility for the management of investment because it was felt that the Direction de l'Eau had inappropriately over-invested in large production facilities at the expense of the distribution network. Thus, the private sector was seen as offering benefits in the investment process, improving its focus and distribution.

In many countries, water sector reform has therefore attempted to improve the performance of public service providers; in others, there has been an increased focus on improving the capability of public-sector organisations to develop and implement reform plans. In addition, some countries have considered options for improving the extent of regulation in the water sector.

PERFORMANCE OF PUBLIC SERVICE PROVIDERS

In the case of improved service provisions, reforms have been focused on two areas: introducing PSP into the provision of services, and/or introducing measures directly to improve the performance of public service providers. The issues relating to PSP are discussed in detail in section 6.

In some of those countries where the public sector continues to play a central role in the provision of water supply and sanitation services, reforms have been put in place to improve the efficiency and effectiveness of the public bodies involved. These steps have been taken in recognition of existing problems with state ownership, and are generally perceived as a first step towards corporatisation (which has been formally introduced in some countries) and potential PSP in the future. Box 4.5 provides example of performance improvement schemes that have been introduced.

Box 4.5: Performance Improvements

- Public ownership and provision of the water and sanitation services is likely to remain in Ethiopia in the future. Reform of the public-sector organisations involved has been introduced, however, with greater pressure being placed on the public agencies to improve performance and efficiency levels. In particular targets are being set for the public utilities ; a competent and accountable management is being assigned to run the organisation; and incentive structures are being introduced to improve efficiency. These measures are expected to reduce the costs associated with public provision of utility services.
- The Gambian government introduced similar measures in 1987 for the Gambia Utilities Corporation (now the Utilities Holding Corporation). The performance contract was intended to improve management efficiency by measuring performance against set targets. The contract lasted for three years and was not extended because the Corporation was divested through a management contract to SOGEA.
- A performance contract was also established between the government of Burkina Faso and the public urban water utility, ONEA, in December 1993. The company became a state company in 1994, giving it more autonomy, although its performance continues to be monitored. The performance criteria of the contract have largely been met, with tariff increases of between 30% and 156% over three years, while staff numbers have been reduced from 670 to 580. This has resulted in a situation whereby operating and maintenance costs have been covered since 1996. There is some private involvement: a performance-based service for commercial and financial management is being procured through international competitive bidding and is expected to be signed by the end of 2000. This contract is designed as a hybrid between traditional service and performance-based incentive contracts.
- A World Bank-supported water sector development programme in Angola includes an aim of inducing 'greater public-sector efficiency', as well as capacity increases.

Where performance and cost regimes are being developed for public-sector providers, it is important that the responsibilities for monitoring progress in these areas, and implementing penalty and reward schemes where appropriate, rests with a separate government body. This is discussed above in the context of the duties of public service providers. Consideration also needs to be given to the different incentives which may need to be provided to asset-holding companies (perhaps focusing on the maintenance of the infrastructure and the sustainment of existing service levels), and public service providers (perhaps focusing on the need for enhancement of service provision).

PERFORMANCE OF DECISION-MAKERS

As noted above, improvements in the decision-making process require a clear policy statement for the sector, the development of realistic objectives and strategy plans for reaching these (including PSP arrangements, institutional reform and regulatory changes); and evidence of political commitment to any reform process.

Perhaps more importantly, successful implementation of the decisions requires a high-calibre and motivated workforce, at national and local level as appropriate. The required skills for determining policy, devising implementation plans, monitoring progress with these plans, regulating service providers and, in some cases, providing the services directly must be developed. In most instances, these skills and the demands on staff are very different to those which would have been present in situations where the public body operated only as the service provider and/or only as a policy-maker.

The AWG found that officials in government organisations were committed to improving these sectors, but that the resources allocated were inadequate. There was also clear evidence of under-resourcing. This relates not only to the number of employees, but also to the absence of required skills in some cases.

Improved training is important in the successful management and provision of water services. Côte d'Ivoire provides an important example of this. As previously noted, labour productivity, as measured by workers per 1,000 connections, was high, and has improved continually since the mid-1970s; at the same time, the reliance on expatriate workers has actually declined. In the early 1980s, there were less than 20 such workers in SODECI, compared with 43 in 1978 and less than 10 in 1999. Part of this is undoubtedly due to the creation in 1974 of a training facility that trained many of the company's employees, as well as a significant number of workers who moved to government ministries responsible for regulation. In this area, NGOs and international consultants can play an important role in improving capabilities. Skill transfer is also often a major role played by the foreign private operators in the sector (such as SAUR, Biwater and Suez Lyonnaise des Eaux).

Improved human resources can be obtained in several ways. Training of existing and new staff is an obvious priority. In addition, government organisations can benefit from obtaining new staff members from international organisations, or, perhaps, from other utility sectors within the country, who are familiar with regulation and sectoral reform. The transfer of skills from international private operators to local and national providers is also an important element of PSP, and should be encouraged in a defined way.

PERFORMANCE OF THE REGULATOR

With regard to the effectiveness of the regulator, consideration should be given to the need for independent regulatory agencies to be established (on a sector-specific or multi-utility basis), and for an appropriate transfer of responsibilities from central government to this independent agency to be planned. In the absence of an independent regulatory agency, the role of the government as the regulator must be clearly defined, perhaps in contracts with the service providers, and conduct in this area should be in line with sectoral policy and national strategies for reform. Section 7 considers the role of regulation and the appropriate form of regulation in more detail.

• v •

the Organisation
of Water and
Sanitation Services

5.1 GEOGRAPHIC LEVEL OF SERVICE PROVISION

When considering the optimal organisation of water and sanitation service provision in a country, a central issue for policy-makers will be whether services should be provided by a national operator or at a local level. The main advantages of national service provision are that:

- central government is able to ensure that its policy objectives and reform plans are implemented in a consistent manner across the country;
- a national operator may be able to benefit from economies of scale in capacity and administration;
- transaction, coordination and regulatory costs can be minimised by being focused on one operator only.

There are, however, several benefits to local service provision that should also be considered. These include the following:

- as was the case in decision-making, local operators are able to adapt to local conditions;
- service providers will be in close contact with users, increasing incentives relating to responsiveness and accountability;
- local service provision allows for the development of 'yardstick competition' in the regulatory regime, with performance, efficiency achievements and price levels being compared across neighbouring regions; and
- local service providers may be more inclined to experiment with alternative organisational frameworks which can be monitored by neighbouring providers and government bodies. For example, decentralisation can allow for increased use of community management of water resources and services.

It should also be noted that the potential benefits of national service provision outlined above may also be obtainable if decentralisation is restricted to the establishment of a limited number of large local areas. This will only be practical in the larger African countries. With such a regional structure, local service provision can provide the benefits of decentralisation identified above, and should also be able to benefit from economies of scale and the coordination of transaction and regulatory costs.

At present, water and sanitation services are provided nationally in 26 (mainly Francophone) countries. Where service provision is organised at a national level, however, there are constraints on the infrastructure available, with urban areas often being the centre-point of any developments.

Countries with local service provision are Algeria, Angola, Botswana, Burundi, Cape Verde (sanitation services), Egypt, Ethiopia, Guinea Bissau, Kenya, Madagascar, Malawi, Morocco, Mozambique, Namibia, Sao Tome and Principe, Sierra Leone, South Africa, Sudan, Tanzania, Togo, Tunisia, Zambia and Zimbabwe. Where decentralisation is in place, services are provided by a variety of organisations. For example, in Angola, water and sanitation services are currently being devolved to local companies. In most cases, however, regional provision is organised on the basis of local municipalities.

Of all African countries examined, Morocco stands out for having experiences with a range of organisational structures. There is a separate local public operator responsible for water services and sanitation services in most parts of the country. However, in some urban areas, the services are provided jointly by private operators. Again, this demonstrates how PSP can alter the traditional organisation of service provision in some countries. Water supply, and sanitation and electricity services are provided jointly by local utilities, with private-operator involvement in some areas

Relationships are emerging across Africa between the geographic organisation of services and:

- country size;
- service coverage;
- the extent of PSP in the sector; and
- the location of decision-making powers.

It is difficult, however, to establish clear lines of causation between these factors.

Key findings for current geographical organisational arrangements in Africa are as follows.

- Of those 22 countries with water services organised at a local level, six have populations less than 5m, three are in the 5-10m population range, five have a population between 10m and 20m, and eight have a population greater than 20m. This form of organisational structure seems therefore to be preferred in larger countries.
- The decision about whether to organise service provision at a national or local level does not appear to have a significant impact on coverage rates. Table 5.1 below shows the number of countries organised on a national and local basis, with coverage rates in each of the identified ranges. For water services, 56% of those countries providing supplies at national level have coverage rates over 50%. The proportion for countries organised on a local basis is very similar, at 57%. These rates are comparable with the average coverage rates of the continent, where 57% of all countries have water coverage rates above 50%. In relation to sanitation services, the majority (72%) of countries have coverage below 50%. This is true for countries organised on both a national and local basis, with only 29% of countries in both regimes having coverage greater than 50%.

Table 5.1: Geographic organisation of service provision and coverage rates

Number of countries 48				
Coverage rate (%)	Water		Sanitation	
	National	Local	National	Local
0-25	1	0	8	10
25-50	10	9	7	5
50-75	11	9	3	5
75-100	3	3	3	1
Unknown	1	1	4	2

- Of those countries that are organised on a national basis, 45% have had experience with PSP. It should also be noted that in three of these countries, PSP is at a national level; in five others, it is focused on the provision of services in all major urban areas; and in two (Gambia and Uganda), it is very limited to date. In this way, the lines between national and local service provision can become blurred. Among those countries that have not undertaken a PSP programme, Chad and Gambia have undertaken other reforms to improve the efficiency and effectiveness of the public-sector operator. Of those countries providing services at a local level, 40% have experience with PSP, and three have undertaken other reforms in the sector. Again, this suggests that the decision about PSP and other reforms is not significantly influenced by the geographic organisation of service provision.

- Where services are provided by a national operator, administrative decision-making takes place, understandably, at the central government level. In the countries where services are provided at local level, decision-making also tends to rest with central government. There is evidence of local government decision-making in only five of the countries listed above, emphasising the fact that local municipalities are primarily focused on the day-to-day task of providing services.

5.2 SEPARATE OR JOINT PROVISION OF WATER AND SANITATION SERVICES

A further issue to consider in the context of water sector reform and the organisation of the provision of water and sanitation services is whether these services should be provided separately or jointly (potentially as part of a multi-utility organisation).

5.2.1 Joint service provision

At present, 19 countries provide water supply and sanitation services jointly (excluding multi-utilities, which are discussed below). The countries where services are provided jointly are Botswana, Burkina Faso, Egypt, Ethiopia, Ghana, Kenya, Lesotho, Liberia, Malawi, Namibia, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, Sudan, Tanzania, Uganda, Zambia and Zimbabwe.

Of those countries with joint provision of water and sanitation services, 62% have sanitation coverage below 50%, and only one country has sanitation coverage above 75%. With regard to water services, the relationship is as follows: 47% of countries providing services jointly have water coverage below 50%; 44% of countries have coverage in the 50-75% range; and one country has coverage between 75% and 100%.

In general, the joint provision of services is by the public sector, with only six of these countries thus far allowing PSP in the provision of joint services. PSP has generally only been in urban areas, however, and, indeed, in the case of Uganda, is limited to the building of infrastructure only.

5.2.2 service provision

In 16 countries, responsibility for water supply and sanitation services is held by separate bodies (excluding cases of multi-utility arrangements, which are discussed below). For example, in Algeria, municipalities are responsible for sanitation services, while the responsibility for the

water sector is held within Le Holding de L'Eau. In Cameroon, water and sanitation services are also provided separately. In Cape Verde, the municipalities supply sanitation services, while water supply is the responsibility of Electra. In Ghana, where services have been run jointly in the past, a proposal has been made to separate management of water from sanitation services.

Of those countries with separate provision of water and sanitation services, 79% have sanitation coverage below 50%, and only one country has sanitation coverage above 75%. With regard to water services, the relationship is as follows: 47% of countries providing services separately have water coverage below 50%; 27% of countries have coverage in the 50-75% range, and 26% have coverage between 75% and 100%.

The separation of water supply and sanitation services has had an impact on reform in the sectors, with a predominant emphasis on water supply. Furthermore, in many countries, sanitation services have remained significantly underdeveloped. In particular, of the 16 countries, seven have experience with PSP and, in all but one of these, the private operator has been responsible for water services only. In Côte d'Ivoire, SODECI provides water and waste-water services in Abidjan while for the rest of the country sanitation is provided by the Public sector, hence the public-sector involvement in sanitation services remains significantly more prominent than in water services. In Cameroon (water services only) and Côte d'Ivoire, the private operator is responsible for the provision of services at national level (urban areas). In the other five countries with separate provision of water and sanitation services, PSP is focused on major urban areas.

5.2.3 Multi-utility provision

Multi-utility organisations exist in 12 countries. In Guinea Bissau and the Seychelles (as well as the Casablanca contract in Morocco), both water and sanitation services are included in the multi-utility. In all other cases, only water services are included. In the majority of cases, multi-utility refers to the joint provision of water and electricity services. In two countries, however, gas services are also included.

Four of the multi-utilities involve PSP (with strong plans for three others), although it is only in Gabon that the private operator is responsible for all national services. In other countries, the private operator plays a role in multi-utility service provision in urban areas only.

Of those countries with multi-utility provision of services, only 18% have sanitation coverage above 50%. This compares with a continent-average rate of 28%. This may suggest that the focus of service providers and reform is on the multi-utility sectors only, and further analysis of the needs of the sanitation sector would be encouraged. The relationship between multi-utility provision and water service coverage is as follows: none of the countries is in the below 25% bracket; five countries are in the 25-50% bracket; six countries are in the 50-75% bracket, and one has coverage between 75% and 100%.

The proportion of countries in the water coverage range above 50% is slightly higher for multi-utility provision than for joint provision of water and sanitation services only. This suggests that there may be some benefit in multi-utility organisations. However, the implications for sanitation services, when only water supply is included in the multi-utility, are a matter of concern.

In those countries where the water service provider is also responsible for energy supply, it is important that reforms in one sector are not delayed or revised to reflect developments in the other

sector. At the same time, however, it should be recognised that in some countries (such as Gabon), developments in the energy sector have provided the impetus for reforms in the water sector. Synergies in the extent of reform across the sectors may therefore be exploited through the introduction of multi-utility service providers. The scope for improving service provision in this way should be analysed further.

5.2.4 Assessment

The above discussion highlights the fact that each of the service provision options have been explored by a number of African countries. Future reform plans should examine experiences under the different regimes, and compare the relative benefits of joint provision (including as part of a multi-utility) and separate provision.

The main benefits of joint provision that might be expected are:

- economies of scale across the infrastructure industries can be exploited;
- joint billing and customer-service activities can be developed;
- reforms and regulation can be consistently managed and balanced across the services;
- joint operations may be more attractive to private operators if the expected returns are higher than from water supply or sanitation service provision alone.

In all these cases, the benefits can be maximised through multi-utility provision; although these need to be traded off against the need to ensure adequate provision in each individual service, to simplify regulation of the performance in each sector, and to prevent the development of cross-subsidisation.

There are, however, costs to joint provision that also need to be considered. These include the following:

- cross-subsidisation is synonymous with joint service provision. Although this may allow for essential services in one area to be funded by returns from another, cross-subsidisation is generally considered to be undesirable as it prevents economic pricing and investment decisions from emerging in either sector;
- there is also a risk that joint service provision will result in the operator, and indeed policy-makers, focusing attention on one service only, perhaps because of political or social pressures at the time, resulting in a dereliction of the other service. If different operators were responsible for each service, this problem would be less likely to emerge.

• VI •

Private - Sector

Participation

As noted above, a key consideration for water sector reform is how the efficiency of service provision can be improved. This can be done by directly tackling the efficiency of a public operator (see section 4.2.3), or by allowing private companies to undertake responsibilities for service provision in the sector. In many African countries the option of PSP has been pursued in recent years, on the assumption that experienced private operators will be able to provide a better quality of services, at lower cost, to a larger number of customers. Other countries (such as Angola, Chad, Djibouti, Ghana, Guinea Bissau, Mali and Uganda) are currently considering proposals for PSP and, in particular, are examining alternative forms of PSP that could be introduced.

Section 6.1 outlines the extent of PSP in the African water sector and considers the role which private operators play in the sector. Section 6.2 considers how the benefits from PSP can be maximised. Section 6.3 examines the role of private companies in more detail by examining the types of PSP arrangements that have been used. Finally, section 6.4 considers the potential impact of PSP on competitive pressures in this sector. It is assumed that those countries that are beginning to design and implement plans for PSP will examine experiences in other countries. It is hoped that this section provides some insight into the rationale for incorporating private-sector companies into the sector, and allows for a comparison to be made across different PSP arrangements.

6.1 THE ROLE OF THE PRIVATE SECTOR

The role of the public and private sectors in providing water and sanitation services varies significantly across the continent. Table 6.1 outlines the role of the public and private sector in each of the countries considered. Where PSP is evident, it tends to be in select urban areas only, and rural areas remain in public-sector control. As noted in section 5.2, it is also more likely for PSP to be evident in the water supply sector than in sanitation services.

The public sector remains the owner of all assets and acts as the regulator of the private operator. The form of regulation is discussed in more detail in section 7. The precise roles assigned to private operators also vary by country. These directly relate to the precise PSP arrangement that is in place, as discussed in section 6.3.

Management of the distribution network appears to be the most common task for private operators, while involvement in resource management and treatment are more limited. Private operators also tend to play a significant role in the provision of connections to customers, and are generally responsible for billing and collection of charges.

In general, the private operators do not undertake investment in infrastructure. In some cases, however, they have worked with the government in financing large-scale projects. For example, in Guinea, PSP has resulted in increases in investment, which has helped lead to improvements in the availability of services, as well as in service quality. The movement towards private investment may also have helped Guinea in receiving funds from international donors including the World Bank for the Second Water Supply Project. This included funds of US\$58m to expand the Conakry Water system, US\$4m to rehabilitate existing facilities, and a further US\$4m to support SONEG. There have also been reports of a project being undertaken in The Democratic Republic of Congo to build two pipelines from the River Congo:

Table 6.1: The current role of the public and private sectors

CONTRIES	WATER SUPPLY		SANITATION	
	Public	Private	Public	Private
Algeria	Water enterprises corporatised in 1996-provide water supply services at the provincial level	Management of water distribution system in two cities since 1997 Proposed rehabilitation and management of the water supply systems in Algiers and Constantine	All sanitation services	None
Angola	All water supply services	Under study	All sanitation services	None
Benin	All water supply services	Local capacity-building projects	All sanitation services	None
Botswana	All water supply services (para-statal company)	A system is being constructed to transfer water from the north-east to Gaborone	All sanitation services	None
Burkina Faso	All water supply services	A law being prepared to allow PSP	All sanitation services	A law being prepared to allow PSP
Burundi	All water supply services	None	All sanitation services	None
Cameroon	National limited company provides water supply services	Tender for PSP of national water supply company issued September 1999 Concession contract currently exists	All sanitation services	None
Cape Verde	Asset owner	Water supply under concession contract	Asset owner All sanitation services in rural areas	Sanitation services under concession contract (proposed) in urban areas
Central African Rep.	Asset-holding company All water supply services in rural areas	Water supply services managed in all urban areas	All sanitation services	None
Chad	All water supply services	STEE earmarked for PSP in 2000	All sanitation services	None
Comoro Islands	All water supply services	Water authority in the process of PSP	All sanitation services	None
Democratic Rep. of Congo	All water supply services	None	All sanitation services	None

Table 6.1: The current role of the public and private sectors (cont.)

COUNTRIES	WATER SUPPLY		SANITATION	
	Public	Private	Public	Private
Congo	All water supply services	Elf Congo is funding a project to ease water shortages	All sanitation services	None
Côte d'Ivoire	Asset owner	Management of water services	Asset owner	Management of sanitation services
Djibouti	All water supply services	PSP planned	All sanitation services	None
Egypt	Water supply services provided by Local regional authorities	Management and operation of water facilities in some urban centres Build, operate, own and transfer (BOOT) contract in Suez under negotiation	Sanitation services provided by local regional authorities	Management and operation of waste-water and solid-waste facilities in some urban centres
Ethiopia	All water supply services provided by local authorities	None	All sanitation services provided by provided by local authorities	None
Gabon	Asset owner	Concession granted in 1997 for water and electricity provider	All sanitation services	None
Gambia	All water supply services	Management contract for some services	All sanitation services	None
Ghana	All water supply services	Plans to introduce lease arrangements in two urban business unit areas	All sanitation services	None
Guinea	Asset-holding company All water supply services in rural areas	Operation of water services in major urban areas	All sanitation services	None
Guinea Bissau	All water supply services	Delay in setting up concession contract	All sanitation services	None
Kenya	All water supply services provided at local level	Management of water supply services in Nairobi (proposed) Option being considered for Malindi Management of sanitation services in Nairobi (proposed)	All sanitation services All sanitation service	None None Option being considered for Malindi
Lesotho	All water supply services	Under consideration	All sanitation services	None

Table 6.1: The current role of the public and private sectors (cont.)

COUNTRIES	WATER SUPPLY		SANITATION	
	Public	Private	Public	Private
Liberia	All water supply services	None	All sanitation services	None
Madagascar	All water supply services	None	All sanitation services	None
Malawi	All water supply services	None	All sanitation services	None
	Plans to decentralise rural water supply services Services provided by 5 public regional water utilities	Plans for community-based management of rural water supply, which may involve increased role for private operators		
Mali	All water supply services in rural areas Asset owner	Management contract terminated in 1995 Lease contract under consideration Plans to privatise EDM are under way	All sanitation services	None
Mauritania	All water supply services	Under consideration	All sanitation services	Under consideration
Mauritius	All water supply services State- holding company currently being created	Under consideration	All sanitation services	Under consideration
Morocco	All water supply services in rural and some urban areas Asset owner	Supplier of water services in Casablanca and Rabat Concession planned for Tangiers and Tetouan Construction, operation and maintenance of infrastructure in Marrakech	All sanitation services in rural and some urban areas Asset owner	Supplier of water services in Casablanca and Rabat Concession planned for Tangiers and Tetouan Construction, operation and maintenance of infrastructure in Marrakech
Mozambique	All water supply services at local level in most rural and urban areas Asset owner	Lease contract for Maputo and management of water supply services in Beira, Quelimane, Nanpula, Pemba	All sanitation services	None

Table 6.1: The current role of the public and private sectors (cont.)

COUNTRIES	WATER SUPPLY		SANITATION	
	Public	Private	Public	Private
Namibia	All water supply services provided by municipalities National (Public) water company provides bulkwater	Under consideration	Majority of sanitation services provided by municipalities	Management of sewage waste disposal in the municipality of Swakopmund
Niger	All water supply services Remain as asset owner after reform	Plans to introduce private management of the water utility	All sanitation services	None
Nigeria	All water supply services at local level by state Governments	None. Concession or lease contract under consideration in Lagos	All sanitation services	None
Rwanda	All water supply services	Under consideration, particularly for urban water supply	All sanitation services	None
Sao Tome and Principe	All water supply services in rural areas and most urban areas	Management contract for some urban areas All sanitation services		None
Senegal	All water supply services in rural areas and some urban areas Asset-holding company	Management of water services for all cities by a 10 year lease contract Renewal of the distribution network	All sanitation services by a public company -ONAS.	Under consideration
Seychelles	All water supply services	None	All sanitation services	None
Sierra Leone	All water supply services at local level	None	All sanitation services	None
South Africa	All water supply services in rural and most urban areas Bulk water supplies by public water companies i.e. Rand Water, Umgeni Water e.t.c. Asset owner	Concessions for water supply services at Dolphin Coast and Nelspruit Operation and management of water plants in Kwazulu, Natal Plans for stand-alone utility to manage water services in Johannesburg	All sanitation services at local level	Operation and management of waste-water plants in Kwazulu, Natal
Sudan	All water supply services	None	All sanitation services	None

Table 6.1: The current role of the public and private sectors (cont.)

COUNTRIES	WATER SUPPLY		SANITATION	
	Public	Private	Public	Private
Tanzania	All water supply services DAWASA is being transformed into an asset-holding company	Plans to sub-contract technical and commercial operations to private operator for Dar Es Salaam	All sanitation services DAWASA is being transformed to private operator into an asset-holding company	Plans to sub-contract technical and commercial operations
Togo	All water supply services	Small role played by local private operators	All sanitation services	None
Tunisia	All water supply services	Under consideration	All sanitation services	Build, operate and transfer (BOT) contract for some waste-water and treatment plants Management of pilot sanitation
Uganda	All water supply services	project Able to put up infrastructure for water supply Plans for concessions	All sanitation services	None
Zambia	All water supply services at local level Public companies (Commercial utilities being established)	Consideration of PSP (Management contract) for the Copperbelt area	All sanitation services at local level	None
Zimbabwe	All water supply services at local level	Plans for private operator to build a drinking supply network and a water treatment plant for Harare Private operator providing some financing for scheme to pipe water from the Zambezi river to the Matabeleland region	All sanitation services	None

Source: OXERA, various sources.

6.2 MAXIMISING THE BENEFITS FROM PSP

Where PSP is introduced as part of a coherent package of reform, incorporating changes to the provision of water and sanitation services and to the public bodies involved with the sector, the potential benefits are significant-specific examples are outlined below.

- Private operators provide immediate technical and managerial expertise to the sector. Skill transfer is likely to have occurred with most private-sector involvement, for example in Guinea and South Africa.
- Experiences worldwide demonstrate that private operators have been able to improve operating efficiency in a relatively short period of time. Suez Lyonnaise des Eaux reports that in its Casablanca concession, customer service improved and customer satisfaction rose, while flooding was reduced. In Senegal, SDE aims to reach a network efficiency target of 85% within five years.
- Private operators, particularly if operating at the local level only, have been able to consider and meet the needs of consumers directly.
- In some cases, private operators have been able to provide required financing for capital investment projects, although in Africa this has been limited.
- Improved tariff regimes, notably an emphasis on cost recovery and cost reflectiveness, and more efficient collection processes have allowed for a reduction in subsidies in some countries. The need for subsidisation tends to remain in the early years of PSP, however, as phased increases in charges are introduced. In Senegal, cost-recovery targets for SDE aim to increase the rate from 95% to 97% within three years, while coverage rates have already improved from 75% to 77% in four years.

As discussed elsewhere in this report, the nature and form of reform in the water sector, including PSP, will depend to a large extent on:

- the commitment of the government;
- the organisation of the public bodies involved with the sector; and
- the way in which service provision is organised.

For example, private operators may be more attracted to opportunities involving the joint provision of water and sanitation services, or multi-utility arrangements, where the expected returns and the ability to apply standard expertise and exploit economies of scale are greatest.

Experiences across Africa also suggest that private operators are more willing to participate in the water sector if there is an assurance that the company will be able to earn a return on its activities. This requires commitment from the government, political and social stability, and evidence of support for cost recovery in the regulation of tariffs. The possibility of political unrest is particularly likely to dissuade international operators from becoming involved. There is of course the possibility of a vicious cycle for some countries currently suffering from civil unrest as well as dissuading the international private sector, the existing infrastructure may well be becoming degraded and destroyed, heightening water and sanitation supply problems (Liberia is one such example of this problem).

The organisation of the public sector's involvement in the water sector influences, and is influenced by, the extent of PSP. Private operators have suggested that they favour environments where responsibilities and duties are clearly assigned to a minimal number of public-sector bodies. This is to ensure that the operator can easily identify the public body with which it needs to negotiate PSP arrangements. It is also important that contracts between the private operator and the government department clearly state the responsibilities of each party and include arrangements for renegotiating the details of the contract at an identified fixed date in the future and in the event of unexpected changes in the operating environment. The appropriate organisation of public-sector bodies also depends on the role of private operators in the sector. In particular, if PSP is introduced, the need for an independent public asset-holding company to be established and for an independent regulatory agency to be set up is great.

In many African countries there have been serious concerns about the introduction of PSP however. These have tended to relate to:

- the impact on the employees of the public utility company and the potential for labour unrest (an example of this would be the concerns of South African Municipal Workers Union (SAMWU)). Countries where PSP has been introduced, and proved successful at delivering many of the benefits outlined above, demonstrate that concerns relating to the impact on the public bodies involved are generally outweighed by the improvements which can be made;
- the loss of government control over a politically and publicly sensitive sector. This tends to be overcome through government retention of the assets. Experiences in Gambia also demonstrate how governments can be willing to cancel contracts if gains are not forthcoming; and
- the potential increases in prices and implications for the poor. Many argue that this concern is best dealt with through the social welfare system. A counter-argument may be that, in some countries, the selling on of water at an inflated rate occurs owing to the lack of proper water provision for the majority of the populous. For example, in Côte d'Ivoire, it was found in the early 1980s that some water was being sold on at a charge of 750 CFA/m³, while the domestic rate at that time was 286/CFA m³.

As indicated above, there are arguments for and against PSP. Perhaps the best way to judge is to continue to monitor private involvement and assess how beneficial it has been.

6.3 THE FORM OF PSP

As noted above, the activities undertaken by private operators in the African water sector vary from country to country. A broad range of permutations of arrangements has been introduced, reflecting different decisions about the appropriate responsibilities for government entities and private firms. The role of the private sector is explicitly determined by the type of PSP arrangement that is in put in place, as well as by the specific details of the contract for each individual operator.

Several forms of PSP can be considered. The main options are outlined below. In Africa, the PSP arrangement tends to be focused on particular regional areas (notably large cities), with the public bodies involved retaining complete responsibility for all elements of service provision in other areas.

• **Service contracts**—the public sector remains as the asset owner and is responsible for the provision of water and sanitation services to customers. Private operators are provided with a service contract to undertake specific operation and maintenance tasks, such as installing or reading meters, repairing pipes, monitoring losses, staff training, or collecting payment. These contracts would typically run for short periods, from six months to two years. The private operator would be provided with a specified compensation fee for undertaking this work. Here, the benefits of PSP emerge from the use of expert skills to undertake core tasks, and the potential for these tasks to be carried out in a more efficient manner.

• **Management contracts**—the public sector remains as the asset owner, but provides private operators with a contract for the operation and maintenance of a water and/or sanitation business. These contracts typically last three to five years. The public sector continues to provide connections to customers and may be responsible for billing and collection arrangements. It also retains full responsibility for enhancement capital expenditure, although, in some countries, the private operator has provided additional financing. In return for carrying out these activities, the private operator is paid a fixed fee, which may be linked to performance of the operator. The public sector receives the revenues earned from water and sanitation charges. The PSP benefits that emerge under these arrangements again relate to the use of experienced companies to undertake core operations and maintenance skills, and the ability of these companies to undertake these activities in a more efficient manner.

• **Leases⁽³⁾** - the public sector remains as the asset owner, and the private operator leases the assets from the existing owner, taking on the responsibility for operating and maintaining them. Here, the private operator acquires the right to the revenue stream from the operation of the assets. The private company will collect its revenues directly from customers and will pay a rental fee to the government for use of the assets. The fee is usually a proportion of total revenues and is supposed to cover the administrative and investment costs of the public entity that owns the assets. Again, enhancement expenditure tends to remain the responsibility of the public sector. The efficiency benefits of PSP tend to be greater under this arrangement, as the private operator is able to pass cost savings on to customers, and to benefit from returns earned as a result of greater efficiency. As the private operator has more control over service provision, there is also more scope for the firm to take local conditions and customer preferences into account.

• **Concessions** - the public sector remains as the asset owner, but a private operator is given the right to use the assets for a fixed period of time. The concession therefore provides the private operator with responsibility for enhancement investment as well as for the operation and maintenance of the assets. The performance and conduct of the private operator is then governed by a concession contract that sets out the conditions of service provision, including performance targets, arrangements for capital investment, mechanisms for adjusting tariffs, and arrangements for arbitrating disputes. Concession contracts are typically 15-30 years in length, although they include provisions for more frequent renegotiation of particular elements, notably the tariff formula, to reflect changing operational circumstances.

³ Lease contracts are also known as *contrats d'affermage* or service concessions.

• **BOT contracts** - the public sector retains ownership of all existing assets, and is responsible for the provision of water and sanitation services to customers. A private operator is given responsibility for financing and constructing a specific infrastructure facility (or group of facilities). The private operator operates and maintains the facilities for a specified period of time following construction, and it is then returned to the state for a nominal cost. The private operator is remunerated for its capital and operating expenditure by retaining the whole revenue stream obtained from the operation of the facility during the period of the contract. There are variations on the BOT model, including the build, operate and own (BOO) arrangement, where assets remain indefinitely with the private partner; and design, build and operate (DBO) arrangements, where there is shared responsibility for capital investment.

• **Privatisation** - the sector assets and the right to provide water and/or sanitation services are sold in their entirety to private operators. The privatisation can involve the flotation of the company on a stock exchange, or the sale of the company to one private operator. This extreme form of PSP has not been favoured in Africa, where the retention of assets by the public sector has been a dominant feature of reform. Slight variations on full-scale privatisation have been explored-for example, partial privatisation could involve the sale of the service company while the government retains ownership of an asset-holding company. There are also situations where companies are partially privatised, with a fixed proportion of the company (usually slightly more than 50%) being provided to the private sector and the state retaining ownership of the other share.

From the government's perspective, the preferred option for PSP will be determined by financial concerns, efficiency of service objectives, political ideology (in particular with regard to privatisation) and administrative constraints. The government also has to consider which form is most likely to gain interest from the private firms. This requires an analysis of commercial and regulatory risks, expectations with regard to the extent and timing of cost reductions, improvements in service coverage and quality, and the appropriate level of bidding costs.

In practice, the PSP options outlined above are often used in combination in African water and sanitation service provision. Table 6.2 shows the forms of PSP which are currently in place. Under each heading, the precise arrangements vary by country, however. Details of the specific PSP arrangements in each country can be found in Appendix 1.

Table 6.2: Forms of PSP in Africa

	Service contracts	Management contracts	Lease	Concession	BOOT	Private ownership
Algeria		✓				
Botswana	✓					
Cameroon						✓
Cape Verde				✓		
Central African Rep.		✓				
Comoro Islands			✓			
Congo	✓					
Côte d'Ivoire		✓	✓			
Egypt		✓			✓	
Gabon				✓		
Gambia		✓				
Guinea			✓			
Kenya		✓				
Malawi	✓					
Morocco				✓(municipal)	✓	
Mozambique		✓				
Niger			✓			
Senegal			✓			
South Africa				✓		
Tanzania			✓			
Zambia		✓				
Zimbabwe					✓	

Source: OXERA, various sources.

The most frequent arrangements are lease arrangements and management contracts and, in some cases, a combination of the two is used. In addition, several leases and management contracts have concession-like performance incentives.

It is clear that the range of PSP options is expanding and that, in countries where PSP has already been introduced, alternative forms are being experimented with. In some countries there is a move towards PSP arrangements with increased private involvement. For example, in Senegal the established system operator has now taken on partial responsibility for some investments. Concessions were also awarded outright in Morocco, Gabon and South Africa.

This evolution in the extent of private-sector involvement in the water sector may reflect the fact that, when PSP is being introduced for the first time, reform proposals are cautious, both in terms of regional areas covered and the activities undertaken by the private sector. As evidence of actual benefits of private-sector involvement emerge, however, it is expected that consideration would be given to the option of increasing the role of private operators in the provision of services. If benefits have not emerged from PSP initially, it is not clear that further private-sector involvement will be considered until other potential problems have been dealt with.

The current situation in South Africa indicates to a certain extent the gradual nature of PSP-although water supply is already operating under concession contracts in two regions (towns), thus far no further municipalities have invited bids to be tendered. There is some sense that the initial PSP arrangements will be used as test cases, to ascertain whether benefits arise, and whether further regions of the country would benefit from PSP. In a number of cases thus far, such as Morocco, PSP has only been introduced into certain areas (generally urban). This may suggest that rural supply is not as attractive to private operators, especially as this is generally of a far lower standard and coverage rate than urban supply. In Côte d'Ivoire, despite the relatively good performance of SODECI in urban areas, it was relieved of its responsibility for rural areas owing to poor performance.

6.4 INCREASING COMPETITIVE PRESSURES IN THE SECTOR

The way in which contracts for PSP are issued can have an important impact on the competitive pressures in the sector. The two aspects of PSP which have the most influence on the degree of competition in the sector are the process by which private-operator arrangements are introduced and the length of the established contract.

6.4.1 Contract length

The decision about the appropriate length of a PSP contract depends on three key factors.

- **The provision of incentives to be efficient** — contracts need to be of sufficient length, particularly when leases and concessions are being considered, to ensure that companies will be able to retain the rewards from efficiency savings made. This means that the contract must be long enough for the private operator to make required adjustments to operations to deliver efficiency savings and to allow them to earn a return on those savings for a reasonable period of time. If the prospective net present value of the return to be earned from making efficiency incentives is low, because of the timescale over which they can be earned, private operators will

have little interest in delivering efficiency savings. Indeed, if the prospective returns are too low, many private companies will not be interested in becoming involved in the sector at all.

- **The provision of investment incentives** — for those PSP arrangements where the private operator has some responsibility for investment (maintenance, operational or enhancement), the contract length must be sufficient to ensure that the investment can be completed within the timeframe. The type of investment projects involved will therefore influence the form of contract that is used.

- **The threat of competition** — the contract length must, however, be short enough to ensure that the existing private operator is aware of the potential of losing the contract to a new entrant when the time for renewal arrives. This threat of entry provides pressure on the company to deliver efficiency savings and meet service-performance targets to enhance, and perhaps secure, its chances of being provided with the renewed contract. If the contract length is too long, however, the threat of competition will be low and, for most of the contract period, the private operator may be able to operate as an established monopoly. This increases the requirement for regulation of the private operator.

Experiences with PSP worldwide, and developments in several African water sectors, have resulted in a standardised range of years being established for the appropriate length of contract of each type of PSP arrangement. Service contracts tend to be short, lasting one to three years on average. Management three to five years and Leases are generally issued for 10 years while concessions for 20-50 years. The variation reflects the different trade-offs made in terms of competitive pressures and incentive provision discussed above.

6.4.2 Allocation of PSP contracts

PSP can also improve competitive pressures in the sector if contracts are allocated through a competitive bidding process. Many PSP contracts have been issued in the African water sector following a competitive bidding process (eg, Cameroon, Cape Verde, Gabon, Guinea and South Africa), allowing for private operators to be placed under market pressures to deliver efficiency savings and service improvements.

In some countries, however, direct negotiations have been used to select a single operator. A clear example of this was the establishment of SODECI in Côte d'Ivoire and the reissuing of its concession contract in 1997. In Morocco, the concession for the operation of RAD in Casablanca appears to have been negotiated directly with the consortium of Suez Lyonnaise des Eaux/Endesa and Electricité de France (EDF). Similarly, in Namibia, it is not clear that Berliner Wasserbetriebe's management contract for sewage disposal in Swakopmund was issued as part of a competitive tendering project. Where bidding has not taken place, the private operator is essentially a monopoly enterprise, with no competitive pressures affecting its operation. More detailed monitoring and regulation of the contract are therefore needed to ensure that the objectives of PSP are met.

Competitive bidding generally involves:

- public notification of the intent to franchise out the defined services to the private sector;

- distribution of relevant information;
- a formal process for pre-qualifying potential bidders; and
- a formal public process for presenting proposals, and evaluating and selecting a winner.

Evaluation of different companies' proposals can be arranged in different ways. In most African countries, the format has been to issue criteria for pre-selection of bidders. Once a limited number of bidders have been found who meet these criteria, tender documents are issued, and companies' proposals are analysed on the basis of technical and financial measures. Some examples of the criteria used to choose the preferred bidder are outlined below:

- the level of the proposed customer tariff;
- proposals for increasing coverage (ie, no of connections);
- proposed investment plan;
- technical expertise;
- financial well-being (eg, a turnover threshold is set);
- managerial capability.

The competitive pressures arising from the tendering of contracts are limited, however, by the length of the contract. The amount of competition is also constrained by the fact that few players in the international market participate in such tenders, and local involvement, at best, is minimal. The existence of only a few competitors will weaken the pressures that are present.

The number of potential players in the bidding process is often reduced further by concerns about the water sector in particular countries. Here, again, concerns relating to political commitment and stability, social unrest, and the credibility of reform proposals have a direct impact on the number of potential bidders that are likely to be involved. This problem of a sufficient number of bidders not coming forward may increase in the future, as the number of alternative PSP projects-in some cases in more established economies (eg, Eastern Europe, Scotland, the USA and Latin America)-grows, and the limited number of international operators make decisions about which areas yield the highest and most reliable returns.

Competition can also be limited after the first PSP contract is awarded because of the high probability that, when other PSP contracts emerge in the same country, priority consideration will be given to existing private operators. For example, as PSP was extended in Côte d'Ivoire, many of the new contracts were immediately awarded to SODECI. There have also been cases where the details of the PSP programme change significantly after a bidding process, but the company awarded the original contract is retained. This means that alternative, potentially more efficient, proposals for the revised PSP programme are not considered, and, hence, the potential benefits from PSP are reduced.

• VII •

Regulation

Economic theory suggests that services should ideally be provided through a competitive market. The existence of natural monopoly characteristics and externalities in the provision of water and sanitation sectors suggests, however, that a competitive market is unlikely to emerge in this sector. This has been the conclusion reached worldwide, although, in some countries, attempts are being made to exploit competitive opportunities that do emerge, particularly at the supply end of the service-provision value chain.

In the absence of a competitive market, there are considerable concerns about the ability of monopoly service providers to deliver services of low quality and high prices to customers. In many countries there is a more fundamental concern that no company will be willing to provide the services, given the high fixed costs involved. This has been the main rationale for public-sector involvement in the market. In these circumstances it is generally agreed that a regulatory body is needed to ensure that the companies involved (both private and public) are placed under pressures similar to those that would arise in a competitive market. In this way, regulation can ensure that companies endeavour to provide services:

- at minimum cost (productive efficiency);
- at prices which equal the marginal cost of service provision (allocative efficiency);
- of a high level of quality; and
- to meet demand.

While regulation can only attempt to 'mimic' the competitive market, and is therefore unlikely to attain these ideal outcomes, it is expected to ensure that service provision is closer to the competitive benchmark than to that which emerges from a monopoly operator.

As noted in previous sections, the regulation of water and sanitation service provision is a primary responsibility of the public sector in Africa. When considering the most appropriate regulatory regime, decisions need to be made as to the type of regulatory agency which should be established, the duties which should be assigned to that agency and the form of regulatory regime which should be introduced. Each of these issues is considered below.

7.1 TYPE OF REGULATORY AGENCY

A range of different organisations is responsible for monitoring and regulating the provision of water and sanitation services in Africa. Regulation is required for both public and private operators, although the types of organisation involved tend to vary depending on the extent of PSP in the sector. The main organisational options can be classified as follows:

- a central government department is responsible for regulating the services provided by public and/or private operators;
- the public company (usually the asset owner) responsible for some service provision also regulates the private operator's activities;
- an independent sector-specific public regulator is established, who monitors and regulates the activities of the private operators, and, in some cases, the public asset-holding company;
- an independent multi-utility public regulator is established, who monitors and regulates the activities of the private operators, and, in some cases, the public asset-holding company as well.

Box 7.1 provides examples of each type of regulatory agency.

Box 7.1: Regulatory agencies in African

- It is notable, that in Côte d'Ivoire, where PSP is often considered to be most successful, no independent regulatory authority exists for the water sector. This may reflect the close and long-standing relationship between the government and the private operator, SODECI. It also reconfirms the idea that SODECI operates, in practice, like a monopoly public body. There are several organisations involved with monitoring SODECI's performance, but none of these is independent, and it is not clear that political interests do not influence decisions relating to SODECI and water supply services. Decisions relating to the new concession from 2007 may indicate how much political influence there is over the private participation in water and sanitation services.
- A key example of the second form of regulation is Guinea. Here, the public water authority, SONEG, is the asset-holding company, responsible for capital investment, and is also responsible for monitoring compliance of the private contractors with contract obligations. Experience has shown, however, that, with such a dual role, regulatory duties take secondary place and monitoring has not been pursued successfully for SONEG. This suggests that the regulatory authority needs to be a separate entity, responsible only for regulation, if monitoring is to be effective.
- The Public Utilities Regulatory Commission in Ghana was established in 1998 and regulates the GWCL, the para-statal company responsible for water supply and sanitation. However, a new institutional framework is likely to be introduced. This may downsize GWCL into an asset-holding company, Ghana Water Corporation (GWC), which will assist in the regulation of private operators. Under these proposals, the Ministry of Works and Housing is also likely to see an increased responsibility in regulating sanitation. It therefore appears that the situation in Ghana is moving towards the set-up used in Guinea. Appendix 2 looks at this in greater detail.

There is considerable debate as to which form of regulatory organisation is best. Consideration of the ideal characteristics of a regulatory body (see box 7.2) suggests that the establishment of an independent agency, with clearly defined tasks and responsibilities, is the preferred type of regulatory organisation. When regulation is carried out under the auspices of government, it is susceptible to alterations in policy objectives when government changes, or even when personnel within a ministry changes. Of course, such problems would still exist with an independent regulator, but they may be reduced. A problem in a number of African countries arises when the body responsible for setting price controls is also the client most likely to default. The situation faced by SEEG in Guinea is one example of this. Unwilling to disconnect public buildings, SEEG instead refused to provide SONEG with the rental fee. SONEG in turn threatened SEEG with penalties and, eventually, international donors made the settlement of this dispute a condition for lending for the Third Water Supply and Sanitation Project.

Box 7.2: Ideal characteristics of a regulatory body

- | | |
|---|--|
| • | independence |
| • | accountability |
| • | expertise |
| • | transparency |
| • | autonomy |
| • | consideration of interests of all stakeholders |

The ability to establish such an independent body will depend, however, on the budgetary constraints of the government (the costs of regulation, particularly at the outset, can be high); the availability of individuals with sufficient expertise to run the regulatory body; and the willingness of the government to renege control over the provision of water and sanitation services.

Where an independent agency is to be created, consideration also needs to be given to the question of whether a sector-specific or a multi-utility regulator is preferable. There is little evidence of independent water-only regulators in Africa at present. Zambia has recently established a water-only regulator, while Mozambique has plans to establish an independent water regulator. Multi-utility regulatory bodies (with a responsibility of regulating provision of water) are also being established in some countries (eg, Cape Verde, and Ghana).

The main benefits of sector-specific regulators are that the needs of the sector are the only focus of the body involved, ensuring that trade-offs across sectors are not made. Water-only regulatory agencies would also have the advantage of being resourced with individuals who have an in-depth knowledge of the sector as well as regulatory expertise. A need for personnel with suitable skills and knowledge is great among African nations, with qualified personnel greatly improving the efficiency and effectiveness of regulation. In the case of Côte d'Ivoire, it has previously been noted that a number of workers who attended SODECI's training facility later moved to positions within the government, specifically ministries responsible for regulation.

The advantages of multi-utility regulatory agencies include the following:

- potential for economies of scale and scope, particularly in the use of scarce human resources;
- reduced risk of regulatory capture;
- facilitating learning between sectors;
- reducing the blurring of industry boundaries;
- promotion of regulatory consistency.

Problems may arise, however, if there is not sufficient flexibility to ensure that the specific needs of each sector are taken into account. This might be avoided by ensuring that specialist staff in each sector are involved with key decisions.

As noted in previous sections, a clear problem with water and sanitation provision in Africa is uncertainty over responsibilities and functions across the organisations involved. This has been particularly true for the bodies responsible for regulation. For example, in Algeria, numerous organisations (sector-specific and cross-sectoral) have responsibilities relating to the regulation of water and sanitation services. However, these are poorly defined, resulting in overlaps and grey areas that limit the efficiency and effectiveness of the regulatory framework. There is also a problem with accountability across the organisations, presumably exacerbated by the lack of

delineation of responsibilities. Another example of diverse involvement is Benin; departments with responsibility include the Department of Mines, Energie and Hydraulique, SBEE, the Rural Department and the Health Department. The tendency to separate water services into an asset-holding company and a service provider also presents problems with determining the responsibility of each agent. Again, this weakens the regulatory framework for water and sanitation provision. This example again emphasises the need for the tasks and responsibilities of the regulatory body to be clearly established in the early stages of sectoral reform. In this context, regulation is again expected to be most effective if undertaken by a separate, independent, authority.

7.2 THE ROLE OF THE REGULATOR

While the type of regulatory organisation varies by country, the roles of the regulatory bodies tend to be very similar. The main tasks for the regulatory bodies responsible for monitoring private operators are to:

- monitor the execution of all contracts, ensuring compliance with agreed standards of service and tariff limits;
- monitor tariff revisions, considering both the appropriate level and tariff structures;
- penalise the private operator (and, in some cases, the public operator) where breaches of agreed performance standards are found;
- set revised performance standards at regular intervals.

Regulatory agencies should also be responsible for the promotion and development of competition in the sector where this is feasible and effective.

In carrying out these duties, regulators tend to have regard to a combination of the following objectives:

- protecting the public interest;
- ensuring just and reasonable charges;
- providing incentives for operational efficiency and cost minimisation;
- delivering service quality to customers;
- taking account of environmental and social implications;
- ensuring safety and reliability of service provision;
- protecting the financial viability of service providers, in particular by allowing a fair return on investment.

A key issue for the regulation of the water sector is the amount of discretion the regulatory body has in deciding which of these objectives take priority when undertaking the functions outlined above. While discretion gives regulators the flexibility to achieve more efficient outcomes, by adjusting standards and targets to reflect unforeseen changes in the operating environment, it also involves uncertainty for firms and stakeholders, as well as the potential for misuse. Regulatory systems (rules, organisations and processes) need to be designed in a way that strikes a balance between flexibility and providing certainty for all stakeholders.

While regulation tends to be considered synonymous with PSP, the duties listed above should also be undertaken when services are provided by a public body. In the past, the identified failures of public companies to provide adequate services have related to the failure of government

departments to instigate appropriate regulatory mechanisms to ensure that standards are met. In recent years, however, many countries have attempted to address this problem by setting performance targets for public operators, thereby encouraging them to deliver services of a particular quality to a wider number of customers in a more efficient manner. The government also retains responsibility for setting the tariff limits for public operators.

It is not always clear, however, what arrangements are in place if public operators fail to meet these standards and, in some instances, there is uncertainty about the realism of 'political' targets in the sector. In Malawi, one government aim is to improve rural coverage of water supply and sanitation to 90% by the year 2010. However, as recent estimates place coverage at 45% and 14.5% respectively, the attainability of such goals is highly questionable. There are also concerns that the government is not always committed, in its actions, to public-sector targets. For example, the AWG notes that, although the policy in Namibia on rural water supply is 'well defined on paper, implementation is yet to be seen in the country'.

7.3 THE FORM OF REGULATION

The discussion in section 7.2 emphasises that the regulator tends to be responsible for three key aspects of service provision in the water sector:

- the promotion of competition where feasible and effective;
- the setting and monitoring of tariff levels and structures; and
- the establishment and monitoring of performance standards relating to cost efficiency and quality of service.

The types of regulatory mechanism used in each of these areas in the African water sector are discussed below.

7.3.1 Opportunities for competition

The scope for product market competition for water and sanitation services is limited by the natural monopoly characteristics of distribution and collection networks. However, there is increased interest in exploring opportunities for competition between suppliers. Opening up entry into retail services, in particular, is likely to have important implications for the speed at which low-income areas can be provided with improved services.

Competition is evident in small-scale retail activities in some African countries, particularly in rural or low-income areas. Self-supplies and water reselling is of particular importance here. Studies of water supply services in Ethiopia, Mali, Mauritania, Nigeria and Senegal suggest that private entrepreneurs, responding to local conditions and competing for market niches, provide a range of water and sanitation services, and compete actively with each other for market share in the locality. For example, small-scale operators that own or manage water points, 'kiosks', latrines, pipelines, storage tanks and filters, are thought to provide more than half of the supplies in Nairobi, Kenya, and a third of supplies in Addis Ababa, Ethiopia.

Such third-party supplies are not limited to low-income areas, with an increasing amount of evidence emerging that better-off customers and industrial users are seeking alternative suppliers

because of concerns about the quality of service provided. There have also been examples of secondary selling of water in Côte d'Ivoire, with compound owners selling on to their tenants, and other individuals selling to unconnected neighbours. This did allow for lower-income individuals to have access to potable water without paying an access charge or facing regular bills. However, there has been information which suggests that a high price was charged for such services; thus it was not greatly successful at providing a high level of competition.

Although there is evidence of competition in some aspects of service provision, it is unlikely that this has emerged as a result of regulatory pressure. Indeed, in most cases, competition in the supply of water and sanitation services has emerged from a failure of the government, or regulatory agency, to ensure reliable service provision in rural and low-income areas. In this way, demand in the market is creating opportunities for competition.

Regulatory agencies may wish to consider being more proactive in this area, notably by legalising reselling arrangements in regions where the national or local public/private operators are not yet able to reach. It may also be helpful to consider a case for encouraging such competitive activities in areas where service providers are already operating, as a means of increasing competitive pressures at the supply end of the value chain. An increased number of players in the market will not only improve efficiency and service performance directly, it will also allow for more sophisticated regulatory techniques, based on benchmarking of companies against each other, to be developed.

7.3.2 Price regulation

Despite the prospect of some competition being introduced into the water sector, the need for regulation of prices and service performance remains. The appropriate pricing of services provided has been a key concern for water sector reform, as a trade-off needs to be made between the principle of ensuring cost recovery for the service provider while providing services to as many customers as possible at an affordable rate. The move to cost recovery in Burkina Faso, for example, saw tariff increases of up to 156%.

Price regulation in the African water sector has been based on regulation by contract, with tariff levels set for a fixed number of years in PSP contracts or, in the case of public operators, by a central government department. There is no evidence of formal regulatory mechanisms, such as rate-of-return or price-cap regulation, being used to determine the allowed level of charges. Instead, regulation tends to focus on ensuring that tariffs meet a set of principles, discussed below, and the regulator monitors performance in this area through a contract with the service provider. Incentive provision for cost performance and service delivery are treated separately in the contract, although there will inevitably be some overlap across these areas.

Inexperience with regulation and the focus on increasing service coverage suggests that it may not be necessary to introduce more sophisticated regulatory mechanisms in the African water sector at this stage. Countries with a long experience with PSP may wish to consider developing such regimes, which combine the provision of incentives and the setting of the allowed increase in tariffs into a single mechanism. Further analysis is warranted of what form of structured regulatory mechanism would be preferable.

As noted above, the regulation of tariffs has, to date, been focused on the need for prices to meet a defined set of criteria. The main criteria are as follows:

- cost recovery;
- uniformity; and
- affordability.

Box 7.3 describes the experience in Côte d'Ivoire with these criteria.

Concerns relating to efficiency improvements (cost minimisation and prices being reflective of marginal cost) are dealt with elsewhere in the service provider's contract, and it is not always clear that savings in this area are transferred to customer charges. In this way, again, there may be benefit to considering the introduction of more formal regulatory mechanisms that combine the objectives of cost recovery with allocative and productive efficiency

Box 7.3: Pricing principles in Côte d'Ivoire

Not surprisingly, given the length of time that SODECI has been operating, a clear set of principles for the design of water and waste-water tariffs has been developed in the Côte d'Ivoire. The primary principles are:

- **cost recovery** - the costs of all services and investments related to the sector should be covered through revenue raised by the tariffs;
- **uniformity** - all customers of the same category (similar characteristics) are charged the same tariff, across all regions of the country, thereby increasing the opportunity for full coverage by allowing subsidisation between costly supply areas and other areas;
- **subsidisation and affordability** - a direct subsidy is provided to the poorest members of society connected to the network. Low-income customers can be connected to the local network for free, and pay a lower volumetric charge.

Other African countries may benefit from considering similar principles for tariff setting.

In many countries, these criteria emerge in individual PSP contracts only, while, in others, they are a central element of water sector policy. To ensure consistency across PSP contracts and to allow for regulatory agencies to have a clear focus in their work, it would be preferable if the underlying principles on which price regulation is based are outlined in sector legislation or, at least, policy statements. This also improves the level of government commitment to such principles.

The dominant criterion for tariff setting that has emerged across African water sectors is cost recovery, although here have been problems meeting this criterion for several reasons:

- tariffs have in the past been significantly below cost, and large immediate increases in tariffs are considered undesirable;
- problems with bill collection have meant that revenues collected have been significantly less than the cost of service provision;
- in many areas the costs of service provision are high, and tariffs reflecting these high costs are considered socially, and politically, unacceptable

Reform of pricing in the water sector requires consideration of each of these factors.

In some countries, tariffs have been significantly below cost, preventing the operator from generating sufficient revenues to enhance and maintain the network. For example, in Algeria, consumers were estimated to be paying 3 dinar for each cubic metre of drinking water, while the cost of providing each cubic metre was between 15 and 20 dinar. Governments, and indeed service providers, are reluctant to introduce large step-changes in tariffs, however, and there has been a tendency to favour a gradual increase in charges, with the retention of subsidisation (at national or local level) for a fixed period of time.

For example, a new tariff policy is being introduced for Senegal's water supply services that is expected to ensure cost recovery by the end of 2003, allowing the urban water supply sector to be financially independent from the government. Public-sector support will be required in the interim period, however. Where subsidisation exists, it should be transparent and well targeted. A fixed timetable should also be set for the subsidy, with the aim of achieving full cost recovery by a set date.

Experiences in Côte d'Ivoire demonstrate how subsidisation can be beneficial in some instances. SODECI is able to provide a reliable and affordable service in very small towns, where a private concession would typically have no incentive to operate. This is partly because it can implement economies of scale through operations with large geographical coverage, and transfer revenues from profitable to non-profitable operations. It is not clear, however, that cross-subsidisation would always have a positive impact, especially if it prevented the emergence of competition in the market and enabled the incumbent to retain inefficiencies.

There are also concerns that the benefits of cross-subsidies in water and sanitation services have gone primarily to middle-class and wealthy customers. At the same time, below-cost tariffs have undermined the financial viability of utilities, and thus their capacity (as well as their incentives) to expand services to the poor. Countries considering further reforms in tariff policy may therefore wish to consider the option of introducing targeted subsidies (such as exist in Chile), rather than risking a situation where those who are worse-off benefit least from pricing decisions. These have the benefit of targeting those most in need, but they may distort consumption decisions, and may also be costly to administer. An alternative is the use of targeted connection subsidies, covering all or part of the connection costs, or simply providing concessional financing for connections. These are potentially less distortionary than consumption subsidies, but may still be costly to implement. The best approach to making services affordable for an increased number of customers is to seek lower-cost ways of delivering services, both technologically and institutionally (for example, through increased emphasis on retail competition and providing rewards for cost efficiency to public and private service providers).

Cost recovery is not only problematic because of the level of the charges set, however. Problems with bill collection result in the revenues earned from service provision being significantly lower than the costs. This problem has been particularly acute among public-sector customers, presumably reflecting historical arrangements where the service provider and the public customer were considered to be the same entity. Future reforms should consider methods of improving this barrier to cost recovery, as well as considering the necessary level of charges. The experience of Senegal reveals that it is possible to price at a level that recovers costs and maintain a high level of bill collection. SDE has been able to raise tariffs to a point where they are cost-reflective, while achieving 100% recovery from the public sector and 95-97% from the private sector.

In addition to setting the appropriate level of tariffs, regulators may also influence the appropriate structure of individual tariffs. Here, decisions relate to environmental and social objectives. In

particular, tariff structures are developed which allow for low-income customers to pay proportionately less than better-off customers. Tariff structure can also be used as a means of ensuring that customers use water in an efficient manner. This is done by increasing the cost per unit of water above a specific threshold. Examples of different tariffs structures are provided in Box 7.4.

Box 7.4: Tariff structure examples

- In Botswana the structure of water tariffs in urban areas achieves the equity and affordability objectives by setting a concessionary or lifeline tariff rate for low consumption. Efficiency is obtained by charging a higher tariff to those with high consumption of water. Under the Water Utilities Corporation Act 1970, the Water Utilities Corporation in Botswana is required to be economically viable. This suggests that tariffs must be related to the long-run marginal cost of water supply. Despite these principles and objectives, tariffs in urban areas of Botswana continue not to achieve full cost recovery.
- In Egypt, tariffs are fixed by considering economic, financial, social and administrative objectives. Experience has shown that social and administrative objectives have tended to dominate, with cost recovery not being considered in general.

7.3.3 Performance standards

As with tariffs, the regulation of service quality and efficiency performance is undertaken through contracts in the African water sector. As discussed in section 4, many countries with public-sector service providers have introduced service-performance contracts in order to ensure that targets relating to coverage and efficiency savings are met. Similar targets are set in PSP contracts. There is, however, little focus in these contracts on the quality of the service provided, with indicators such as drinking water quality, security of supply or leakage rarely being incorporated into performance regimes. Given concerns about these aspects of service provision, future reform should consider how best to include targets on these variables in the performance regime.

There are several other problems with the regulation of service quality and cost efficiency in the African water sector which undermine the level of incentives for service providers. In particular:

- it is not always clear how, if at all, existing performance regimes reward, or penalise, service providers if they outperform or underperform their targets in these areas. A 1986 survey by the Bureau National d'Etudes Technique et de Développement found that, of 13,500 rural water points in Côte d'Ivoire, 50% were not functioning, and SODECI was seen as not sufficiently serving rural areas. However, rather than face punitive fines, the government simply removed SODECI's responsibility for those areas. At the time, SODECI estimated its losses for maintaining and operating rural water points in 1982-87 to be CFAF 2.2 billion (just under 10% of 1987 revenues). Therefore, this change in responsibility could be considered financially beneficial for the company. In some PSP contracts, there are provisions for such penalty-reward mechanisms, but the details are not always transparent;
- an absence of transparency and accountability in the contract arrangements may allow for service providers to avoid penalties, and may provide the regulator (government) with the opportunity to adjust targets and standards at irregular intervals;

- responsibility for monitoring is not always assigned to a single organisation, and the costs of monitoring may, in some countries, mean that it is not undertaken at regular intervals;
- the power of any form of incentive-based regulatory regime, in terms of costs and performance, is highly dependent on the operators' perception that the government or regulator will commit to the agreed terms of a contract and, in the case of penalties, that the government has the ability to enforce such a regime. The absence of stability and commitment in a number of African countries is therefore a primary obstacle to the development of successful incentive mechanism for service and cost performance.

Again, future reform should consider how to improve contract details to ensure that the intended incentives are provided.

• VIII •

**Lessons for
Future Reform**

This report considers the key aspects of reform: the role of the public sector; the organisation of service provision; the role for PSP; and the need for regulation. It examines how decisions on each of these matters might allow a country to overcome obstacles to reform. The main conclusions from the report are outlined below. It is hoped that these conclusions, combined with an analysis of country-specific factors, will assist countries currently undertaking reform, or considering the introduction of reform in the water sector, in optimising the benefits which can be extracted from developments in this area.

PUBLIC-SECTOR INVOLVEMENT IN THE WATER SECTOR

A number of the identified barriers to reform relate to the political organisations involved with the sector. These elements therefore need to be tackled alongside the improvements in service provision. In particular, a decision needs to be made as to which roles the public sector should undertake; at what level (ie, national, regional or local); and how public-sector performance in service provision and sector management can be improved.

Failure to assign duties and responsibilities within the public sector has been a primary barrier to reform. The main changes that need to be made are as follows.

- **Policy-making** - the first step in the reform process should be the establishment, preferably in legislation, of a clear policy statement on the water sector, outlining the principles on which reform will be based, and clearly stating objectives and timescales within which they are to be achieved. This will allow for reform to be based on a coherent and consistent set of objectives and will, importantly, provide a basis on which the government's performance in the water sector can be assessed.
- **Designing and implementing reform plans** - the policy statement must be accompanied by government commitment to strive to reach the objectives outlined. This requires the establishment of a set of reform plans, over a range of timescales (ie, short-, medium- and long-term), which clearly set out how the government intends to meet the objectives for the sector. The key issues to be covered in such plans include changes to the way in which the public sector manages the water sector, increased focus on PSP and regulation, and, potentially, changes in the way in which service provision is organised in the country. Details of how reform will be financed should also be included in the plans. Implementation of reform plans should be monitored, and revisions made to future plans at regular intervals to reflect lessons learnt and changing operating conditions. Organisational changes (of service provision and sector management by the public sector) should be implemented through legislation. Other changes, for example relating to the type of PSP to be introduced, might be best considered in individual contracts, to ensure flexibility in the regime in order to reflect ongoing changes in the sector over time and across regions.
- **Regulating service providers** - the public sector should be responsible for establishing a regulatory framework for monitoring and incentivising the performance and conduct of the service providers. Ideally, regulation should be undertaken by an independent regulatory agency, and should focus on the level of charges, the efficiency of service provision, and the quality of services provided.

• **Service provision** - in all African countries, the public sector continues to play a central role in service provision. The public bodies involved with the supply of water and sanitation services should be established as a separate entity from the decision-making bodies and regulatory agency. It would also be beneficial for an asset-holding company to be established separate from the service provider, allowing for duties and responsibilities to be clearly assigned to each separate public body involved, and ensuring the appropriate incentives are provided to asset-holders and service providers through the regulatory regime.

Reform proposals also need to include an analysis of whether decision-making about the water sector should rest with central government, or whether some element of decentralisation is beneficial. There is an increasing trend towards decentralisation in the African water sector, and, if carefully designed, it is clear that this can improve the management of the water sector. Improvements can be made to the organisation of the many government bodies involved with the water sector in the following ways.

- A lead department should be identified at central government level that is ultimately responsible for decision-making and the implementation of reform plans in the sector. Other departments will, however, have an interest in the sector, and a system is also required to ensure that they are included in decision-making (for example, through a consultative committee).
- Where feasible, local government should be involved with decision-making. In particular, local government bodies can adapt reform plans made at central government level to local needs, and can provide central decision-makers with important insights into what customers require at local level. Where decentralisation of decision-making and water sector management occurs, there needs to be an assurance that policy objectives and principles, as outlined in the sector policy statement, are followed by local government bodies.
- Local government can also play a role in regulation by monitoring service provision at local level and collecting information on local service providers, which can be used to undertake comparative analysis of efficiency and service-delivery performance.

The efficiency and effectiveness of public-sector organisation in the water sector also need to be improved. Reforms in the sector should therefore incorporate plans for improving the performance of public-sector providers, decision-makers and regulators.

- Efficiency in **service provision** can be improved by increasing the role of PSP and by introducing performance targets for the public bodies involved with service provision. Such targets should be introduced for both asset-holders and other public bodies involved with service provision. Incentives will only be provided to the organisations involved, however, if performance targets are accompanied by rules which outline how the service provider will be rewarded (penalised) for outperforming (underperforming) the set target. More work on designing such penalty-reward schemes is needed. Clear monitoring responsibilities also need to be established within the public-sector framework. These should lie with the body responsible for regulation.

- Efficiency in **decision-making** and the **management** of the water sector by the government requires, as outlined above, a clear policy statement for the sector, accompanied by detailed plans for reform. More fundamentally, the effectiveness of the public-sector bodies involved requires an increased number of personnel and improvements in the skills they have to undertake reforms.
- Improvements in the efficiency of **regulation** require the establishment of an independent regulatory agency and the clear definition of its responsibilities in the sector. As with other public-sector bodies, human resource development will be essential to the effectiveness of these regulatory agencies.

ORGANISATION OF SERVICE PROVISION

The key issues to be addressed with regard to service provision are:

- should services be provided at a local or national level?
- should water and sanitation services be provided separately, jointly, or as part of a multi-utility organisation?
- Analysis of alternative geographical organisational structures in the African water sector suggests that the benefits from reform are not significantly affected by the decision to provide service at national or local level. In particular, coverage rates do not vary across the alternative regimes. There are, however, potential benefits from local service provision which countries may wish to consider when determining how best to provide services. In particular:
 - local operators are able to adapt to local conditions;
 - service providers will be in close contact with users, increasing incentives relating to responsiveness and accountability;
 - local service provision allows for the development of 'yardstick competition' in the regulatory regime, with performance, efficiency achievements and price levels being compared across neighbouring regions; and
 - local service providers may be more inclined to experiment with alternative organisational frameworks which can be monitored by neighbouring providers and government bodies. For example, decentralisation can allow for increased use of community management of water resources and services.

The gains from national service provision, largely relating to the ability to benefit from economies of scale and scope, could be reaped alongside these benefits of local provision if services were organised on a regional scale (ie, a small number of 'local' providers are established) rather than at a very localised level.

The main advantage of joint provision is the potential to reduce costs because of the existence of economies of scale and scope. This gain should be offset against the fact that the existence of cross-subsidisation, and the potential for one sector to be favoured over another in the joint company, may make joint provision uneconomic. The ability of reduce cross-subsidies and to ensure adequate service provision in each sector, both roles for a regulatory agency, will therefore determine whether joint provision is preferred over separate service provision.

Experiences in several African countries suggest that multi-utility provision can be beneficial for water service provision. A problem with such regimes to date have been the exclusion of sanitary services from the multi-utility companies, and the apparent neglect of the sanitation sector in those countries with multi-utility providers. As with joint service provision, therefore, the extraction of benefits from multi-utility provision requires regulatory rules to be established, which ensure that each individual service is given equal weighting by the service provider and to minimise the need for cross-subsidisation.

PRIVATE-SECTOR PARTICIPATION

Reform in the African water sector-indeed worldwide-is largely associated with a drive towards increasing private-sector involvement in service provision. For the benefits of PSP to be maximised, the organisational changes outlined above, particularly with regard to the public sector's involvement in the sector, are required. In particular, if PSP is introduced as part of a coherent reform package, it is expected that it will have a sustainable impact on the country's water sector.

Issues which future reform in the African water sector may wish to address include the following.

- To date PSP has been focused, in the main, on urban areas and on water service provision. Analysis of the potential for extending PSP to non-urban areas, and to sanitation-service provision, should be undertaken as a priority, particularly in countries with significant PSP experience.
- The ability to increase the role of private operators by allowing them involvement in a broader range of service-provision areas, notably investment and possibly asset ownership, should be examined.
- Regulation of private operators, through legislation and bilateral contracts, should be considered in detail. In particular, the need to have a consistent regulatory framework across operators, and to ensure that adequate incentives are provided to the companies involved, suggests that a formal regulatory regime is required. This should allow for companies to earn an adequate rate of return on their investment, while requiring improvements in cost efficiency and the quality and quantity of service delivered. Provisions for regular monitoring of performance should also be included in the regulatory regime.
- Decisions on the introduction of PSP should include an analysis of how the competitive pressures from PSP can be maximised. In particular, the PSP contract should be cover a sufficiently long period, given the tasks to be undertaken, to ensure that the threat of competition is real. Contracts should also be issued through a competitive bidding process. This should occur both for new contracts and when contracts come up for renegotiation.

REGULATION

The analysis in this report indicated a clear need for improved regulation of service providers, both public and private. The main issues raised, which need to be addressed in future reform plans in the African water sector, are as follows.

- Regulation should be undertaken by an independent regulatory agency. If duties for individual sectors are clearly defined, and staff has appropriate skills to cover the needs of all sectors, it may be beneficial for multi-utility regulatory agencies to be established.
- Human capital development will be required if those in the public sector are to have the capability to undertake regulation effectively and efficiently.
- The regulator should have clearly defined responsibilities and powers in the water sector. These should be outlined in legislation, although some flexibility and discretion in interpreting legislative rules may be required. The main regulatory duties will relate to ensuring that the services are provided to as many customers as possible and that they are of an adequate quality and are priced appropriately. Regulators should also have a duty to increase competition in the market, particularly in supply, where feasible.
- An increase in competition in the supply of water and sanitation services in some countries may only require the legalisation of existing operators. In others, consideration needs to be given to how local private operators can be encouraged to provide services. Where new operators, even small-scale companies, are introduced into the sector, it is necessary that they are regulated to ensure that services provided are of adequate quality and that prices being charged are appropriate.
- When considering the appropriate charges for water and sanitation services, regulators may wish to consider the possibility of using formal regulatory mechanisms, such as price-cap regimes, to undertake the multiple tasks of ensuring cost-reflectivity, allowing an adequate rate of return, and providing incentives for efficient service delivery. Where the use of such mechanisms is considered infeasible or unnecessary at this stage, pricing should be determined on the basis of a set of established principles.
- The focus on cost recovery should be offset against the need to ensure that services are available to a wide range of customers. This suggests, as has occurred in many African countries, a phased approach to attaining cost recovery, with the gradual reduction in subsidies over time. It should also be recognised that the attainment of cost-recovery targets will also require, in many countries, improvements in the bill-collection rate, particularly from the public sector.
- Effective performance regulation requires the establishment of detailed monitoring regimes and the development of penalty-reward schemes to ensure that the power of the incentives provided is maximised. The absence of detailed information and human resource capability problems have prevented such regimes being developed, and these issues need to be addressed in the future.
- Regulation may benefit from the existence of a number of service providers in a country's water sector. In particular, comparative analysis of costs and service performance provides a useful means of increasing the incentives provided to companies. Consideration of the development of pan-African comparative analysis may also be a useful regulatory tool.

Appendix

APPENDIX 1: COUNTRY-BY-COUNTRY INFORMATION

Algeria

Service provision	<p>Municipalities are responsible for sanitation.</p> <p>The Agence Nationale de l'Eau Potable et Industrielle et de l'Assainissement (AGEP) is responsible for all main water supply projects.</p> <p>Services are organised on a regional basis by city or province. Occasionally, water and sanitation are jointly run.</p>
Role of the public sector	<p>Local councils are to allow the private sector to manage water resources and related services. A 1996 law made corporatisation and PSP possible.</p> <p>There are nine regional and 20 local public companies. Regional companies (economic and industrial public corporations) are supervised by the Department of Equipment. Le Holding de l'Eau was established in 1998. Its holding has not been determined yet.</p>
PSP	<p>Economic and industrial public corporations supply water to a set of two or more wilayas in the framework of concessions, and are responsible for the management of those facilities according to a</p>
concession	<p>contract.</p>
Other reforms	<p>No information.</p>
Regulation	<p>The government is in charge of regulating quality.</p>
Competition	<p>Tenders were invited to build a water supply project in Sidi Bel Abbas.</p>
Pricing policy	<p>The government is aiming for cost recovery. At present, prices are significantly below cost.</p>
Implications of reform	<p>Envisaged benefits are improvements in quality and level of water supply.</p>
Barriers to reform	<p>Political instability and violent clashes.</p> <p>Severe drought in 1997.</p>
Future plans	<p>The World Bank has proposed a development programme for the water and sewerage sector.</p> <p>Six pre-qualified international operators have submitted proposals for two four-year contracts for the rehabilitation and management of the water supply systems in Algiers and Constantine.</p>

Angola

Service provision	Services are provided jointly by the public sector at local level.
Role of the public sector	The Ministry of Energy and Water and the National Directorate of Water are the responsible line ministries.
authority regarding tariff	The provincial governments have been given a great deal of setting, and they already have the authority to enter into management contracts. The government has also created a special national council to be responsible for water-resources management. Efforts are under way to convert the current provincial water supply departments into local public companies with responsibility for water supply and sanitation. Extension of sanitation services to those urban areas not currently being served is being achieved through funds accumulated from water-sales revenue by the Water Supply Agency.
PSP	Service contracts are in use. Reforms are ongoing, with lease and management contracts under study. No final decisions have been made regarding the form of PSP, however.
Other reforms	The main changes have been decentralisation of responsibility to local companies (not completed yet), an increased emphasis on cost recovery and consideration of the use of PSP. The decentralisation process has taken place in Cabinda, Lubango and Namibe.
Regulation	No information.
Competition	No information.
Pricing policy	A tariff policy was introduced in 1995, but implementation has been poor. In 1998, authority to implement existing tariff policy was transferred to provincial governments. Tariff studies have been completed for six major cities, and efforts are under way to adjust current policy for the country's high inflation environment.
Implications of reform	Reform proposals are aimed at the full rehabilitation of infrastructure destroyed by the war.
Barriers to reform	Political conflict throughout the 1990s.
Future plans	PSP is under discussion. Further decentralisation of responsibilities is expected.

Benin

Service provision	Central government and donors are responsible for the provision of water services.
Role of the public sector	The Department of Mines, Energie and Hydraulique is responsible for water-resources management and rural water supply. SBEE (a government department) is responsible for urban water supply. The main water policies are carried out nationally, with the rest carried out regionally. The new strategy stresses decentralisation and gives more responsibility to the regional hydraulic structures.
PSP	PSP has not been considered at present. International consultants have undertaken local-capacity projects.
Other reforms	Decision-making currently takes place at the national level, although this is to be devolved. The government has adopted a strategy to improve rural water supply and sanitation. In two provinces, these are being implemented with the assistance of the World Bank. The Government aims to cover the rest of the provinces in the sector.
Regulation	No information.
Competition	No information.
Pricing policy on a cost-recovery	The current policy is aimed at providing water supply and sanitation basis.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Angola

Service provision	Services are provided jointly by the public sector at local level.
Role of the public sector	The Ministry of Energy and Water and the National Directorate of Water are the responsible line ministries.
authority regarding tariff	The provincial governments have been given a great deal of setting, and they already have the authority to enter into management contracts. The government has also created a special national council to be responsible for water-resources management. Efforts are under way to convert the current provincial water supply departments into local public companies with responsibility for water supply and sanitation. Extension of sanitation services to those urban areas not currently being served is being achieved through funds accumulated from water-sales revenue by the Water Supply Agency.
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Other reforms	The main changes have been decentralisation of responsibility to local companies (not completed yet), an increased emphasis on cost recovery and consideration of the use of PSP. The decentralisation process has taken place in Cabinda, Lubango and Namibe.
Regulation	No information.
Competition	No information.
Pricing policy	A tariff policy was introduced in 1995, but implementation has been poor. In 1998, authority to implement existing tariff policy was transferred to provincial governments. Tariff studies have been completed for six major cities, and efforts are under way to adjust current policy for the country's high inflation environment.
Implications of reform	Reform proposals are aimed at the full rehabilitation of infrastructure destroyed by the war.
Barriers to reform	Political conflict throughout the 1990s.
Future plans	PSP is under discussion. Further decentralisation of responsibilities is expected.

Benin

Service provision	Central government and donors are responsible for the provision of water services.
Role of the public sector	The Department of Mines, Energie and Hydraulique is responsible for water-resources management and rural water supply. SBEE (a government department) is responsible for urban water supply. The main water policies are carried out nationally, with the rest carried out regionally. The new strategy stresses decentralisation and gives more responsibility to the regional hydraulic structures.
PSP	PSP has not been considered at present. International consultants have undertaken local-capacity projects.
Other reforms	Decision-making currently takes place at the national level, although this is to be devolved. The government has adopted a strategy to improve rural water supply and sanitation. In two provinces, these are being implemented with the assistance of the World Bank. The Government aims to cover the rest of the provinces in the sector.
Regulation	No information.
Competition	No information.
Pricing policy on a cost-recovery	The current policy is aimed at providing water supply and sanitation basis.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Botswana

Service provision	<p>A number of departments are responsible for water provision in various regions and cities.</p> <p>Water Utilities Corporation, a para-statal company, is responsible for provision of water supply and sanitation in the urban centres. The Department of Water Affairs is responsible for provision of water supply in the major villages (small towns), while the Ministry for Local Government is responsible for rural provision.</p>
Role of the public sector	<p>Organisations responsible for supply include the Department of Water Affairs Water Utilities Corporation, district councils, land boards and the Department of Geological Surveys.</p> <p>The Department of Water Affairs has responsibility for 17 major urban villages, while district councils are responsible for schemes in small and medium-sized villages. The Water Utilities Corporation is the sole supplier to Gabrone, Francistown, Lobatse, Selibe-Phikwe, Jwaneng and Sowa Town.</p>
PSP	PSP has been considered.
Other reforms	<p>The government is restructuring the water sector into a three-tier system. The Government would be responsible for resource development, protection and management, while para-statal companies and local authorities would be responsible for operation and maintenance.</p>
Regulation	No information.
Competition	No information.
Pricing policy	<p>Pricing is based on the principles of equity, efficiency and affordability. A concessionary or lifeline tariff in urban areas exists for those with low consumption, while users with higher consumption levels pay higher tariffs. This is known as an inverted tariff.</p>
Implications of reform	No information.
Barriers to reform	No information.
Future plans	<p>The international sector has already provided technical assistance and training. Future PSP is under consideration.</p>

Burkina Faso

Service provision	<p>All water and sewerage elements are currently publicly owned and jointly run, and services are organised nationally. 60-70% of the population living in towns receive water and sanitation services.</p> <p>The National Water and Sanitation Authority (ONEA) is the urban water (and sanitation) utility.</p>
Role of the public sector	Central government is responsible for decision-making in the sector.
PSP	<p>A performance-based service contract for commercial and financial management is being procured through international competitive bidding. The contract is expected to be signed by the end of the year 2000. The contract is designed as a hybrid between the traditional service contract and the performance-based management contract, with results being oriented with performance-based incentives. The project will include an operational investment fund, used by the service contract operator (<i>maitrise d'ouvrage déléguée</i>).</p> <p>In addition to the service contract, there is a framework of technical assistance contracts.</p>
Other reforms	<p>A private-sector development strategy is being prepared. The telecommunications and power sectors are more advanced than water in this regard. The water sector is concentrating initially on restructuring and strengthening ONEA. Different approaches are being considered for urban and rural areas. For example, in rural areas a multi-sectoral approach is being considered, as it may be beneficial for economies of scale. An integrated approach to meeting rural demand for utility services is also being explored.</p>
Regulation	The implementation of regulatory capacity is being developed in stages.
Competition	No information.
Pricing policy	Following a contract between ONEA and the government, there has been a programme of substantial tariff increases.
Implications of reform	No information.
Barriers to reform	Despite an apparent commitment illustrated recently by real and positive moves on some sectors, including the power sector, there is still political resistance from some groups to reforms including PSP.
Future plans	No information.

Burundi

Service provision	<p>REGIDESO, a state-owned company, is responsible for water supply in the urban centres.</p> <p>Sanitation is handled by the SETEMU, a department of the Municipality of Bunjumbura.</p> <p>The Ministry of Rural Development is responsible for water supply and sanitation in the rural areas, through its Department of Rural Water Supply and Energy. The beneficiary population is then responsible for operation and maintenance responsibilities, as well as covering costs.</p>
Role of the public sector	<p>REGIDESO is supervised by the Ministry of Energy and Mines. As with service provision, decision-making in the sector rests with a number of public-sector bodies, at national and regional level.</p>
PSP	<p>No plans at present.</p>
Other reforms	<p>No information.</p>
Regulation	<p>No information.</p>
Competition	<p>No information.</p>
Pricing policy	<p>No information.</p>
Implications of reform	<p>No information.</p>
Barriers to reform	<p>In 1993, there was a deep political crisis, with the assassination of the first democratically elected president.</p> <p>A coup d'état in 1996 led to an embargo by neighbouring countries.</p>
Future plans	<p>No information.</p>

Cameroon

Service provision	La Société Nationale des Eaux du Cameroon (SNEC) is responsible for water supply only.
Role of the public sector	The Technical Commission for the Rehabilitation of Public Enterprises is overseeing the privatisation and restructuring of all state-owned companies.
PSP	An international tender was launched in 1999 for the privatisation of SNEC. The government is looking for a buyer for 51% of the company.
Other reforms	No information.
Regulation	No information.
	<p>Competition Four shortlisted companies have been identified: International Water Utilities Ltd, SAUR International, Suez Lyonnaise des Eaux, and Vivendi.</p>
Pricing policy	No information.
Implications of reform	Aims of the reform are to increase competitiveness, reduce production costs, develop a national stakeholder base, and mobilise the private sector.
Barriers to reform	No information.
Future plans	Plans for increased PSP are under way.

Cape Verde

Service provision	At present, water and sewerage services are run separately. Sanitation services are the responsibility of the municipalities and are limited in scope. Electra is the supplier of water and electricity and it supplies water to three of the ten islands. Water coverage is very low in the main and secondary urban centres in which a Portuguese consortium has taken a 51% stake in it.
Role of the public sector	No information.
PSP	A 50-year concession has been granted to Electra for water and waste-water supply in all the major cities.
Other reforms	No information.
Regulation	An independent regulatory entity is to be set up for the water and electricity sectors.
Competition	Three consortia were selected to bid for the concession that was awarded to Electra.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	There are plans to increase the amount of PSP in the sectors.

Central African Republic

Service provision	The urban water sector is managed by a private company, SODECA, which is owned by SAUR. Sewerage services are run separately by the public sector.
Role of the public sector	The Mining and Energy Ministry is in charge of the water sector. SNE is the asset-holding public company.
PSP	SODECA operates under a 15-year management lease contract, which was set up in 1993.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	The African Review 1999 notes that the Central African Republic only began to return to peace during 1997/98.
Future plans	No information.

Chad

Service provision	The state-owned Société Tchadienne d'Eau et d'Electricité (STEE) is responsible for water and electricity provision.
Role of the public sector	No information.
PSP	Plans for involving the private sector in STEE are under consideration.
Other reforms	No information.
Regulation	The government is working to strengthen regulation, and it plans to have new legislation in place by September 2000.
Competition	No information.
Pricing policy	A feasibility study is to be carried out on water tariffs. The regulatory bodies will adjust tariffs annually.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Comoro Islands

Service provision	The water authority is the Comoran National Electric and Water Company Current coverage rates are 30% for Grand Comore, 45% for Anjouan, and 60% for Moheli.
Role of the public sector	No information.
PSP	PSP plans are being implemented.
Other reforms	Parallel efforts are under way to introduce political reform.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	Privatisation is one part of a UNICEF-financed national action plan for water and sanitation.
Barriers to reform	No information.
Future plans	There are plans to increase PSP in the water and sewerage sectors.

Congo

Service provision	SNDE is the national water company. Coverage is low, however, with the company reported to reach only 25,000 of Pointe-Neuve's 800,000 inhabitants.
Role of the public sector	No information.
PSP	A plan to privatise SNDE has been delayed owing to civil unrest. A privatisation committee has been set up to increase the speed of privatisation.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	There is unrest in the country.
Future plans	Some plans exist to privatise SNDE.

Democratic Republic of Congo

Service provision	Water is organised nationally and is carried out by REGIDESO.
Role of the public sector	No information.
PSP	The local informal private sector plays a role in the management of sanitation.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	There is political and military disruption, with the threat of civil war. The country relies on the River Congo, which has been prone to flooding.
Future plans	A project has been announced to build two pipelines with international involvement.

Djibouti

Service provision	ONED is responsible for the supply of water nationally.
Role of the public sector	The Ministry of Agriculture and Hydraulics retains overall responsibility for water-resources management.
PSP	No experience to date. The government is to provide a formal strategy for the privatisation of water and electricity utilities by June 2000.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	A financial crisis followed the 1991-94 civil war.
Future plans	Privatisation plans have been under consideration for over a decade and it is unclear
whether any will be	implemented in the near future.

Egypt

Service provision	Services are organised regionally. In November 1995, regional water and waste-water authorities were established in seven governorates. Three water companies had already been established.
Role of the public sector	The decentralisation of service provision arose following a presidential decree.
PSP	The government's privatisation programme does not include water and waste water.
introduce a	A World Bank pilot project in the El Sharkia Governorate aimed to management contract to operate, expand and rehabilitate the water and waste-water sectors. Six companies pre-qualified for Egypt's first BOOT water project in Suez.
Other reforms	No information.
Regulation	No information.
Competition	There was competition for the BOOT scheme contract.
Pricing policy	The World Bank does not expect tariff income to cover all costs in the El Sharkia project, and has recommended that tariffs be adjusted.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	A further BOOT scheme is being proposed for Port Said.

Ethiopia

Service provision	About 65% of the urban population has access to clean, adequate and safe water while for the rural areas accessibility to water supply is lower at 20%. Of the 135 urban areas, 40 have public water supply systems.
Role of the public sector	Water and sanitation services are administered by the Ethiopian Water Supply and Sewerage Authority (WSSA). The Ministry of Water Resources also operates in this area.
PSP	No information.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	Tariffs are fixed, taking into consideration economic, financial, social and administrative objectives, although these often contradict each other. The policy is for tariff revenue to cover costs fully. In practice, most tariffs are arbitrarily determined. In general, a uniform charge is applied, with a monthly metre rent for customers with private connections.
Implications of reform	No information.
Barriers to reform	The quality of the existing system is low. Distribution is heavily biased in favour of urban areas.
Future plans	Public ownership is expected to continue in the near future.

Gabon

Service provision	SEEG is the national water and electricity supplier.
Role of the public sector	No information.
PSP	In 1997, a 51% stake in SEEG was awarded to Compagnie Générale des Eaux (now Vivendi) and Electricity Supply Board International. A concession contract for 20 years was also granted. Under the terms of the contract, the partners must improve and expand the water and electricity networks.
Other reforms	No information.
Regulation	No information.
Competition process.	SEEG won the concession following a competitive bidding process.
Pricing policy	No information.
Implications of reform	The contract led to an immediate drop in tariffs of 17.5%.
Barriers to reform	No information.
Future plans	No information.

The Gambia

Service provision	The National Water and Electricity Company (NAWEC) is responsible for water and electricity supply.
Role of the public sector	A number of government departments, including electricity, water, and telecommunications, were converted into the Gambia Utilities Corporation. This has now become the Utilities Holding Corporation.
PSP	In 1993, a Franco-Swiss company, MSG, was granted a 10-year franchise for water and electricity distribution. In 1995, the military government cancelled the contract because of poor performance.
Other reforms	No information.
Regulation	A performance contract between the government and the Utilities Holding Corporation was signed in 1987 for three years.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Guinea Bissau

Service provision	The Electricity and Water Company of Guinea Bissau (EAGB) is responsible for water provision in the capital. In the other areas, municipalities and water users committees are responsible for provision of water.
Role of the public sector	The Ministry of Energy, Industry and Natural Resources is responsible for water-resource management.
PSP	No experience to date.
Other reforms	A water code has been developed by the government on the provision of water supply and sanitation.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	Work has been hindered by an outbreak of fighting in the country. Frequent power cuts disrupt water pumping on a regular basis.
Future plans	The government aims to begin setting up a lease/concessions contract for the water and energy utility.

Kenya

Service provision	Water and sanitation services are mainly provided by the public sector.
Role of the public sector	The Para-statal Reform Program Committee (PRPC) is in charge of implementing the privatisation programme.
PSP	In 1998/99, Nairobi City Council took steps to introduce PSP into the management of its water and sewerage department. Vivendi won the ten-year management contract.
Other reforms	No information.
Regulation	No information.
Competition	Nairobi City Council invited tenders.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	The World Bank's third water and sewerage services project in Nairobi and its second project in Mombasa have recently been closed. They were rated unsatisfactory and unsustainable.
Future plans	The minister with responsibility for water has said that the government will withdraw from providing water and sanitation services.

Lesotho

Service provision	The water sector is fragmented. The Water and Sanitation Agency (WASA) is responsible for urban water and sanitation provision.
Role of the public sector	No information
PSP	The government experimented with a management contract for WASA, although did not progress very far. IDA is supporting a study to look again at PSP options for the urban areas.
Other reforms	A new legal and regulatory framework has been drafted for the water and electricity sector, which envisages a multi-sector regulator (covering water, electricity and telecoms). This new legislation has yet to be discussed or adopted by the government.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Liberia

Service provision	Liberia Water and Sewer Corporation is the state-owned national operator.
Role of the public sector	No information.
PSP	No information.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	A civil war destroyed most of the country's infrastructure. In October 1999, there were reports of continued shortages of potable water.
Future plans	There are no plans for PSP.

Madagascar

Service provision	JIRAMA is the state-owned combined water and power utility and is responsible for service provision in urban areas. Rural water supply is carried out by the OAES. Local governments are responsible for the collection and disposal of waste water. Only 12% of the rural population has access to safe water. Approximately 25% of the population in centres served by JIRAMA has direct access to piped water.
Role of the public sector	No information.
PSP	There has been no PSP to date but it is being considered for the future.
Other reforms	Sector policy is being prepared, which will focus on redefining the role of the state. Draft decrees have recently been prepared on the decentralisation of water.
Regulation	No information.
Competition	No information.
Pricing policy	A study of water supply tariffs has recently been completed. The JIRAMA tariff is uniform across the country.
Implications of reform	No information.
Barriers to reform	Current water quality is poor, 60% of households fetch water from sources that are easily pollutable. The connection ratio has stagnated.
Future plans	PSP is one option being considered for reform in the sector.

Malawi

Service provision	For some urban areas, water supply and sanitation is provided by five regional water boards, which were created in accordance with the provisions of the Water Works Act 1995. These boards are parastatal companies, which have to be run on a commercially viable basis. 47% of urban households have access to clean water.
Role of the public sector	The Ministry of Irrigation and Water Development and regional water boards implement the government's plan.
PSP	There are moves to introduce PSP.
Other reforms	The government aims to raise the level of community-based management of the rural water supply.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	Plans have been developed to improve and expand supply facilities.

Mali

Service provision	EDM, the state-operated water supplier and electricity company, currently covers 8% of the population.
Role of the public sector	The Ministry of Mining, Energy and Hydraulics is the relevant government department.
PSP	A five-year management contract for EDM was awarded in 1994, but was terminated in March 1998, after the government decided to sell the company.
Other reforms	A draft bill was approved in 1999 that would end the monopoly of EDM.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	It is hoped that privatisation will expand the coverage of EDM.
Barriers to reform	No information.
Future plans	There are a number of options, including a lease contract and the separation of the water and electricity elements of EDM.

Mauritania

Service provision	Water and sanitation services are provided by a national operator, SONELEC, which is also responsible for electricity.
Role of the public sector	No information.
PSP	No PSP to date.
Other reforms	The government is under pressure to separate SONELEC's water and power operations in order to accelerate the sales of the electricity component.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	The government is in the process of introducing PSP.

Mauritius

Service provision	The Central Water Authority, the Water Resource Unit and the ministries of the environment and agriculture oversee water provision. The Waste Water Authority provides and manages waste-water services.
Role of the public sector	At the national level, the Ministry of Public Utilities is responsible for policy direction for the water supply and sanitation sector.
PSP	There are moves towards encouraging PSP in the waste-water sector.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	Water supply and sanitation is provided on a cost-recovery basis. The tariffs are fixed by the government.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Morocco

Service provision	<p>The Office d'Eau Potable (ONEP) is the national water company. There are also 17 regional bodies, including RADEEC, which operates in the Chaouia region.</p> <p>The responsibility of water supply and sanitation is with the local city councils. Urban water supply is managed by 15 local water utilities: 'Régies autonomes' in large cities, and by ONEP for other centres.</p>
Role of the public sector	<p>The main public-sector organisations involved in the sector are the Direction Générale de l'Hydraulique, and the ministries of public works, agriculture and health.</p>
PSP	<p>In Casablanca, a consortium of Suez Lyonnaise des Eaux/Endesa and Electricité de France (EDF) supplies water and waste-water treatment, as well as electricity, under a 30- year concession. A second concession was awarded in Rabat 1998 (to Electricidade de Portugal and Dragados). City councils are the operators for urban sanitation; a transfer process to the water suppliers is ongoing. 25-year concessions have been put out to tender in Tangiers and Tetouan and winners will be required to make substantial investments for the first five years.</p>
Other reforms	<p>The Water Resources Management Project aims to create a River Basin Agency.</p>
Regulation	<p>No information.</p>
Competition	<p>Tenders have been opened to competitive bidding.</p>
Pricing policy	<p>No information.</p>
Implications of reform	<p>In a survey of customer satisfaction in Casablanca, Suez Lyonnaise des Eaux found that one year after it took control, customer satisfaction had risen from 50% of customers being 'mostly satisfied' to 80%.</p> <p>The company also reported a reduction in flooding and improved customer service.</p>
Barriers to reform	<p>No information.</p>
Future plans	<p>No information.</p>

Mozambique

Service provision	Contracts have been issued at a city level.
Role of the public sector	The National Directorate of Water is the government agency, operating under the Ministry of Public Works and Housing.
PSP	<p>In 1997/98, the Direccao Nacional de Aguas pre-qualified firms for a 15-year affermage contract in Maputu.</p> <p>Firms were also pre-qualified for five-year management contracts in Beria, Quelimane, Nampula and Pemba.</p> <p>A SAUR-led consortium won these contracts, which were signed at the end of September 1999. The operator took over at the end of November 1999.</p> <p>Approximately 70% of all urban water supplies are now operated by the private sector.</p>
Other reforms	The government has undertaken wide legislative reform to enable the private sector to operate extensively in the sector. In particular, a National Water Development I Project was introduced, which aims to increase the capacities of the organisations in the sector.
Regulation	A sector regulator, CRA, was established when the reform was initiated. This is a three-person commission.
Competition	No information.
Pricing policy	Tariffs are approved by the regulator.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Namibia

Service provision	Local authorities are responsible for water supply and sanitation services provision. This is mainly in larger towns and only applies to distribution of water to the consumers. Bulk water supply for the whole country is the responsibility of a new para-statal company, NamWater Ltd.
Role of the public sector	The responsibility for water is vested in the Minister for Agriculture, Water and Rural Development. Rural water supply, which did not exist until 1993, is the responsibility of the Department of Water Affairs. The Department of Water Affairs is responsible for village piped water supply schemes.
PSP	In the first private-sector sewage project to be undertaken, Berliner Wasserbetriebe took over responsibility for sewage water disposal in the municipality of Swakopmund under a five-year management contract. The contract includes responsibility to expand and optimise the sewer network.
Other reforms	The World Bank reports that reform of the water and sanitation sector is under consideration.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Niger

Service provision	The Société Nationale de l'Eau du Niger (SNE) is the national water utility. Local committees are in charge of the management of rural public boreholes.
Role of the public sector	No information.
PSP	A private-sector operator will be appointed to assume management of SNE, under a 15-year lease contract. SNE would be restructured into a holding company (SNPE) and the private operator, with SNPE in charge of investment planning.
Other reforms	No information.
Regulation	No information.
Competition	Bids for PSP are being invited.
Pricing policy	No information.
Implications of reform	It is hoped that PSP will improve operational efficiency and extend the supply network.
Barriers to reform	No information.
Future plans	No information.

Nigeria

Service provision	At state level, the states are responsible for urban and peri-urban water supply provision. Rural water supply and sanitation provision is the responsibility of local governments and communities.
Role of the public sector	Responsibility cuts across federal, state, local governments levels and involves the communities. Institutions include the Federal Ministry of Water Resources and local water-consumer associations.
PSP	There has been PSP in a water-resource management programme.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Rwanda

Service provision	ELECTROGAZ is the national company responsible for the production, transport and distribution of water, electricity and gas.
Role of the public sector	The Direction de l'Eau et de l'Assainissement is a government body, and there are attempts to change its role to that of a regulator.
PSP	There are moves to encourage PSP, especially in relation to rural supply.
Other reforms	Other sectors have been privatised, but not water.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	The 1994 civil war led to ongoing civil unrest.
Future plans	No information.

Sao Tome and Principe

Service provision	Water services are provided nationally by a private multi-utility.
Role of the public sector	A state-owned company, EMAE (water and electricity company), is responsible for the management of water reservoirs. The management of piped water systems to public standpipes is the responsibility of the district-level authority. These are also responsible for waste removal. Water and sanitation services in rural areas and recently privatised land are the responsibility of individual projects supporting these populations.
PSP	The national water supply and electricity company has been managed by Suez Lyonnaise des Eaux under a three-year enhanced-management contract since 1997.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Seychelles

Service provision	Water supply and sanitation services are supplied by the Public Utilities Corporation.
Role of the public sector	No information.
PSP	Not under consideration.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Sierra Leone

Service provision	In larger towns, the responsibility for the provision of water supply and sanitation is in the hands of the Guma Valley Water Company and the Sierra Leone Water Company. These are para-statal companies established with the sole purpose of providing water supply and sanitation services.
Role of the public sector	<p>The Ministry of Energy, Power and Water is responsible for water resources management, including policy guidelines for the water supply and sanitation sub-sector.</p> <p>The Ministry is also responsible for provision of water supply and sanitation in the rest of the country; this is mainly in the rural areas and some small towns.</p>
PSP	No information.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	A civil war is ongoing.
Future plans	No information.

Sudan

Service provision	Services are provided jointly at local level. Role of the public sector The National Water Corporation (NWC) is responsible for planning and coordination of all water supply and sanitation activities. At state (regional) level, each region has a state water corporation operating under the Minister of Engineering Affairs.
PSP	No information.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	A civil war is currently being fought.
Future plans	No information.

Tanzania

Service provision	<p>Services are organised at the local level. From 1997, urban water systems were handed over to decentralised urban water and sewerage authorities.</p> <p>Approximately 70% of the urban population has access to piped water. However, the service is often unreliable and the quality of the water is often too poor to drink. Around 40% of the rural population has access to water.</p> <p>Urban sewerage is less well developed, reaching around 10% of the urban population, while a further 10% of households use septic tanks.</p>
Role of the public sector	<p>The Para-statal Sector Reform Commission was formed in 1992 to oversee privatisation.</p> <p>Overall responsibility for the sector lies with the Ministry of Water.</p>
PSP	<p>The Dar es Salaam Water and Sewerage Authority is being transformed into an asset-holding company. It will then subcontract technical and commercial operations to a private operator under a ten-year lease.</p> <p>The private-sector operator will be responsible for the day-to-day running of the system, and for reducing leakage and increasing revenue collection.</p>
Other reforms	No information.
Regulation	The government is considering the creation of a national regulatory agency.
Competition	Tenders have been invited from a number of companies.
Pricing policy	<p>Local boards that manage urban water and sewerage authorities set consumer tariffs. These are considered to be inadequate, covering, at most, staff, energy and chemical costs; maintenance is rarely funded.</p> <p>In Dar es Salaam, a pricing programme aimed at achieving cost recovery is planned.</p>
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

Togo

Service provision	The urban (and peri-urban) systems are run by the national water utility, Regie Nationale des Eaux du Togo. Small towns are not adequately supplied. The majority of urban and rural populations do not have access to adequate sanitation services.
Role of the public sector	No information.
PSP	There has been some increased private involvement on a small/local scale.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	Water prices are distorted in favour of urban consumers.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	A World Bank project begun in late 1999 aims to increase the sustainability of basic water services in urban and rural areas. The reforms are intended to increase the possibility of future PSP.

Tunisia

Service provision	SONEDE and ONAS are public corporations and are in charge with water supply and sanitation, respectively. The former has a commercial and industrial status. These two distinct agencies are decentralised throughout the country. There is potable water to meet the demands of 72% of rural households and all urban areas.
Role of the public sector	There has been considerable public investment, and a number of water user associations have been set up.
PSP	No information.
Other reforms	No information.
Regulation	No information.
Competition	No information.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	The government aims to improve the ability of the private sector to become involved.

Uganda

Service provision	Water and sewerage services are run jointly. The National Water and Sewerage Corporation (NWSC) has held a monopoly position, but it is now possible for the private sector to construct infrastructure and supply water on a commercial basis. Of the urban population, 40% is believed to have access to piped water, while no more than 10% are connected to a sewerage system.
Role of the public sector	The Directorate of Water Development and local water users associations are the main bodies involved in the sector.
PSP	NWSC has awarded a service contract to an international consulting firm, whereby the firm manages NWSC's commercial operations in Kampala. A World Bank-funded project is supporting a management contract for the formally ZCCM-owned and managed water and sanitation services in the Copperbelt region. The client (an asset-holding company under ZCCM) is in the final bidding stage for a management contract to service about 320,000 people (40,000 connections). The bidding closes on May 31st 2000. PSP will primarily be sought to improve efficiency.
Other reforms	A small towns water supply and sanitation project is currently being implemented.
Regulation	No information.
Competition	No information.
Pricing policy	NWSC sets a very high tariff, and around 35% of customers who have experienced difficulty paying their bills are permanently disconnected. NWSC bills for approximately 50% of the water it produces. There are also high access costs. The pricing of services is being considered in a paper on urban water services and waste water. Tariffs will be approved by NWASCO.
Implications of reform	Medium-term lease and management contracts are most likely to be used.
Barriers to reform	The second World Bank water and sewerage services project was recently closed, and was rated unsatisfactory and unsustainable.
Future plans	The government is preparing the NWSC for concession to the private sector.

Zimbabwe

Service provision	Local authorities are responsible for provision of water supply and sanitation to urban areas. The Ministry of Water is responsible for provision of water supply to the small towns. There is a programme in operation that will transfer the functions from the Department of Water Development to local authorities for the small towns.
Role of the public sector	Water-resources management is the responsibility of the Ministry of Water Resources and Rural Development. Parliament recently passed a bill establishing the Zimbabwe National Water Authority. This new institution will operate on commercial lines, and take over most of the planning research and operational functions from the Department of Water Development.
PSP	A letter of intent was sent to Biwater for the award of a contract to build a barrage at Kunzwi. This is being seen as a possible BOOT scheme.
Other reforms	No information.
Regulation	No information.
Competition	Bids for this project were requested in 1998.
Pricing policy	No information.
Implications of reform	No information.
Barriers to reform	No information.
Future plans	No information.

APPENDIX 2: CASE STUDIES

A2.1 Experiences with reform in Côte d'Ivoire

A2.1.1 The provision of water and sanitation services

Water supply and sanitation services are provided separately in the Côte d'Ivoire. For the most part, the provision of both services is organised on a national basis. However, in the water supply sector, there is a regional split between those areas supplied by private operator, SODECI, and those supplied by the public sector.

Water supply networks only exist in Abidjan and other urban centres. In these areas, there is a high level of coverage. Water is supplied by the public sector in rural areas, where coverage is significantly lower. Similarly, the absence of a sewerage network in most parts of the country means that, outside of Abidjan, the majority of the population do not have access to sanitation services.

A2.1.2 The role of the public and private sectors

The Côte d'Ivoire has a long experience with PSP in the provision of water supply services. A private operator, SODECI, was created in the late 1950s. The company was floated on the Abidjan Stock Exchange in 1978, opening up private access to both national and international interests. Of the company, 45% is now owned by local interests, 5% belongs to SODECI employees, 3% to the state and 47% to SAUR.

SODECI operates under an affermage contract, which it first signed in the late 1950s, and which was renewed in 1987 for a period of 20 years. The contract was not open for competitive tender and SODECI was established as a private monopoly in the water supply sector. Under the contract, the company is not responsible for financing investments, although it is involved in investment planning.

Table A2.1 outlines the roles of the public and private sector in the provision of water supply and sanitation services in Côte d'Ivoire.

Table A2.1: The role of the public and private sector

Water supply

SODECI Monopoly supplier of drinking water services in Abidjan and all other urban centres. This involves production, distribution, service management, facilities and network management and maintenance, renewals and extension of the network, as required by the government, and the collection of tariffs.

Since 1997, it has drawn up investment plans that are submitted to the government.

It carries out construction works with a value of under CFAF 80m.

It also takes part in competitive bids to construct infrastructure.

Public Owner of network and all related assets.
Provider of services to all rural segments of the population (centralised activity).
Provider of financing for investment.
Sets tariffs for end-users.

Sanitation

SODECI Provides a large proportion of waste-water services in Abidjan. The company is responsible for repair, maintenance, network renewals and extensions, as required by the government.

Public Owner of all sewerage assets.
Provider of all sewerage services outside of Abidjan.

Private water vendors also operate in urban and peri-urban areas. These vendors provide connections, some legal and some illegal, to the existing network for customers whom SODECI has not yet been able to reach directly. SODECI has now registered many of these vendors, enabling them to provide connections legally.

In 1974, the President of the Republic declared the provision of water services to be a 'public service', ensuring that:

- all responsibilities in this area were transferred to the national government;
- the state was able to choose the service provider (without the need for a competitive tender); and
- the government had strong rights and controls in relation to the provision of water services. This included rights relating to information, investigations and amending contracts with the private sector.

Several government bodies are involved with the provision and regulation of water supply and sanitation services in Côte d'Ivoire, including the following.

- The Ministry of Infrastructure Economics (previously the Ministry of Public Works and Transport). This is the arm of the government that designed, issued and signed the affermage contracts with SODECI.

- The Water Directorate, part of the Ministry of Infrastructure Economics, is the owner of the supply network, and is responsible for monitoring SODECI's compliance with the affermage contract. The directorate also leads discussions on tariff adjustments and is responsible for granting approval to some construction projects. It is organised into urban and rural sub-directorates, with the urban sub-directorate having immediate responsibility for the contract with SODECI.
- BNETD monitors the costs incurred by SODECI when undertaking network renewal and extension activities.
- Responsibility for the waste-water sector lies with the Ministry of Housing and Social Welfare. The ministry owns the sewerage network in Abidjan and is considering the options for an affermage contract in waste-water services in Abidjan.
- The Ministry of Environment is involved with matters relating to water pollution, drinking water quality and water-resource management. It works closely with other government departments to ensure that objectives of reducing pollution and improving sanitation services are taken into consideration in all economic and political decisions.
- The High Commission for Hydraulics is responsible for water management.

The existence of a single, established, private operator in Côte d'Ivoire may have prevented the water supply and sanitation sectors from developing investment and other problems as a result of complex institutional arrangements. The institutional framework in the country also seems to have been established with clear responsibilities assigned to each of the organisations involved. If more private operators become involved in the sector, and/or if SODECI's role is extended (eg, into sewerage services), the need for a single regulator, covering both sectors, may become more apparent.

A2.1.3 Regulation, competition and pricing

As noted above, there is no independent regulatory body for the water supply and sanitation sectors in Côte d'Ivoire. Regulatory responsibilities lie with the Water Directorate (water supply) and the Ministry of Housing and Social Welfare (sanitation). Regulation involves the monitoring of compliance with the conditions of the affermage contract, tariff regulation, and the monitoring of investment costs.

Given that there was no competitive tendering process when SODECI was provided with the affermage contract, it is clear that there are few competitive pressures on the company's operations. The only pressures that emerge are from the capital market (through the Abidjan stock market), and in some bidding processes for infrastructure investment.

Tariffs for water supply are set by the Water Directorate. End-user tariffs comprise the following:

- SODECI's revenues (including a contractual margin which the operator is allowed);
- a surtax to cover the National Water Fund, which is used to pay the water and waste-water sectors' debts;
- a surtax to cover the development fund, which is used to finance extensions of the network into poorer regions and is managed by SODECI; and
- the government's VAT.

The tariffs charged to customers are therefore not entirely cost-reflective (if the direct cost of the service supplied is considered), although this is one of the three central principles on which tariff setting is based. The element relating to SODECI's operations does ensure cost recovery for the company, however. The other principles that govern tariff setting for water supply and wastewater services are that tariffs should be uniform across all regions, allowing subsidisation between urban and rural areas. Also, subsidies should be provided to low-income customers, enabling them to have free connections and a lower volumetric charge. The tariff is volumetric, and all customers are metered.

A2.1.4 Other reforms

Recent reforms in the water sector have focused on the need to improve resource management in Côte d'Ivoire. To this end, the High Commission for Hydraulics has passed a new water bill, which was developed after consultation with several stakeholders, including SODECI. A central remit of the bill is the establishment of a National Water Authority and three decentralised river basin committees. These institutions will be responsible for dealing with integrated water-resources management and for mobilising finances to ensure that the organisations are self-financing. Other elements of the bill include the introduction of 'polluter-pays' charges, reflecting the user's ability to pay, and the development of action plans for water resource management.

A2.1.5 Assessment of reforms

The privatisation programme in Côte d'Ivoire's water supply sector is considered to be a success for the most part. The main improvements often attributed to the reform include the following:

- the proportion of the population with access to drinking water has risen significantly;
- there has been an increase in the proportion of drinking water treated to World Health Organisation standards;
- efficiency improvements in the delivery of the services are evident;
- the company is able to finance operations and maintenance, service its debts, and provide shareholders with dividends from tariff income;
- foreign and national private operators have financed increased investment. The presence of the Abidjan stock market is believed to have facilitated the flows of capital into the sector;
- the proportion of water billed as a percentage of water produced has increased significantly, indicating improvements in reducing unaccounted-for water and leakage; and
- the rate of bill payment in the private sector is high, and there are few incidents of default and disconnection.

However, some problems have also emerged, which future reform will no doubt seek to address. These include the following.

- The improved coverage of water supply services has been heavily biased towards urban areas (where SODECI operates), and problems remain in rural areas.
- Prior to 1987, the public sector continued to have sole control over investment decisions, and these were often undertaken without consulting SODECI. At the same time, SODECI was able to retain a protected proportion of revenues that could have been used for investment. Both of these flaws in the system meant that there was a mismatch between investment needs, investments undertaken and revenues, which led, presumably, to a reduced and inefficient investment programme. This problem was addressed, to some extent, in 1987, when SODECI's

new contract included a requirement to submit investment plans, to administer the funds, and to carry out the construction for works below a fixed value. The company's revenue guarantee was also abolished. Further analysis of the investment strategy in the country may be required. In addition, consideration of how the optimal investment plans should be implemented, and by whom, would be beneficial.

- An ongoing problem with water supply is the non-payment of bills by the public sector. As a large user of water services, this non-payment increases SODECI's debts significantly, and may result in investments being delayed, or, indeed, cancelled. This problem is intensified as SODECI is unable to cut off public-sector entities for non-payment. The possibility of high debt levels, particularly from the public sector, may be a deterrent to other private operators. This could be an important issue if the government wishes to open SODECI's concession up to competition in 2007. It will also be important if other elements of service provision, notably sanitation, are to be opened up to more PSP.

- A further potential problem with water sector reform in Côte d'Ivoire is the absence of an independent regulator. There is some concern that public authorities may not monitor SODECI sufficiently, perhaps enabling the company to earn above-normal returns. While SODECI remains the only private operator in the sector, the absence of a regulator may not be too significant, particularly if the public sector puts in place more transparent and frequent monitoring regimes. If other private operators enter the water supply and/or sanitation sectors, however, the burden on the public authorities to monitor these will be great. There may also be concern about the long-standing relationship between the government and SODECI, resulting in the company being given preferential treatment (eg, in tenders for private contracts). The case for an independent and autonomous regulator for the sector may therefore become more apparent in the near future.

- Advances in the provision of water supply services can be starkly contrasted with sanitation services, which remain seriously underdeveloped, particularly outside Abidjan. Further reform in sanitation services, potentially in the form of PSP, is likely to be necessary in the near future.

A2.1.6 Plans for future reform

At present, SODECI is providing operational, management and maintenance support to the government in the provision of sanitation services in Abidjan. This is done on an informal basis, with the company responding to requests from the government. There are now plans, however, to privatise the management of the existing waste-water system in Abidjan. This may be through an affermage contract, similar to that which exists for water supply. If it is felt that the private operator should have more investment obligations, a full concession contract may be considered. Past experience in Côte d'Ivoire suggests that SODECI will be automatically awarded this contract, although the government may consider the possibility of an open and competitive international tender for the contract.

The contract for private provision of water supply services in urban areas will expire in 2007, and the government is currently considering the ways in which this contract could be reissued. Options include:

- opening the contract up to competitive tender (it is assumed that SODECI may have some first-mover advantage in this competitive process);

- splitting the area up into a number of smaller contract areas, which might enable more than one private-sector participant to operate in the provision of water supply services;
- extending the contract to include investment responsibilities (ie, to make it a full concession); and
- simply renewing a revised contract with SODECI.

A2.2 Future reform in Ghana

Urban and rural water supply and sanitation services are currently provided by the state-owned Ghana Water and Sewerage Corporation (GWSC). Since 1995, however, the government has been working towards reforming the sector, involving both institutional change and PSP in the water supply sector. Reform was considered necessary by the government to improve the availability of safe and affordable water supply to low-income areas, levels of service and operational efficiency. In this case study, the plans for reform are considered in detail.

A2.2.1 Organisations in the water and sanitation sector

- The main proposals to change the organisations involved with water and sanitation service provision and management are outlined below. These are intended initially to facilitate the introduction of private operators in water supply provision in urban areas. The new framework should, however, facilitate more widespread PSP arrangements in the future.
- The Advisory Committee, which is currently responsible for implementing the PSP project, will continue to provide advice in the transition stage.
- The GWSC will be downsized into an asset-holding company, Ghana Water Corporation (GWC). The GWC will assist the regulator in monitoring the private operators. Performance targets will be set to ensure that the public asset owner operates efficiently and effectively.
- The Public Utilities Regulatory Commission, established in 1998, will regulate the water supply and sanitation sectors.
- The Ministry of Works and Housing will have increased responsibilities for monitoring sanitation services.
- The Water Sector Restructuring Secretariat and the Ministry of Works and Housing will be involved with implementing reforms during the transition phase.
- The Community Water Supply Agency (CWSA) will be responsible for water supply in small communities, and will be devolved from the GWSC.
- Local authorities will be responsible for the provision of all sanitation services.
- Private operators will be contracted to operate urban water supply, from source to end-users, in two identified areas (business units A and B).

A2.2.2 Private-sector participation

The original (1995) proposals for PSP involved the issuing of enhanced lease arrangements for two distinct areas. As discussed below, the exact details of reform have changed since 1995. Under these proposed contracts, the private operators had responsibility for operating and maintaining the water supply system within the defined areas, and were required to undertake some investment directly (producing a contract which lies somewhere between a concession and a standard lease arrangement). The government remained responsible for most of the capital required for renewals, rehabilitation and capacity expansion, indicating that there would also have been a role for third-party donors.

The contracts include performance targets and incentive-based remuneration, reflecting the objectives of improved levels of service and cost efficiencies. It is expected that they will be met by year five or ten of the lease period. The tariff element of the contract includes an expectation that the charges will provide full cost recovery by the end of the lease period. Financial support, presumably through direct subsidies, will be provided in the interim phase to ensure that tariff increases are gradual. A detailed willingness-to-pay study was undertaken in 1999, which concluded that there would be a sharp rise in demand up to 2010, and that an increase in the average tariff would be required.

The pre-bidding phase of the PSP process has already been undertaken, and four international operators emerged at the end of 1998 as qualifiers for participation in the tender process:

- Northumbrian Water/Taylor Woodrow/Suez Lyonnaise des Eaux;
- International Water;
- Vivendi; and
- SAUR International.

Notably, there are no local interests represented among the pre-qualifiers. These companies were chosen on the basis of their experience in both operations and management, on the company's financial well-being (a threshold of \$100m was placed on turnover), and on proposals relating to the number of connections to be undertaken.

Tender documents for both business units were expected to be issued to these four companies in February 2000, with the aim of awarding the contracts in autumn 2000. There have been changes in the original PSP plan, however, which have resulted in delays in the process.

As late as October 1999, when draft contracts and legislative documents for the original plan had already been prepared, the government decided to change the form of the PSP arrangement in business unit A. The plan was to include a BOOT project from Kpong to Accra in this business unit, alongside the enhanced lease arrangement, and to proceed with the enhanced lease arrangement only for business unit B. The current plan is for the BOOT and lease contract in business unit A to be provided jointly to one private operator for 20 years, and to provide the lease contract in business B for ten years. These changes require new documents to be prepared for business unit A, and may require the pre-bidding phase to be re-run for that unit as the terms of the contract have changed significantly. This has resulted in the suspension of PSP plans for business unit A in the short to medium term. The ultimate aim of having a private-sector operator in place in business unit B by summer 2001 remains, however, with the expectation that an operator will be appointed by February 2001. The implementation of the reform has also been delayed by the lobbying of the GWSC. While the company is not opposed to PSP in principle, it did object to the form of contracts under consideration. GWSC wished to pursue more private funding for resource management, but to retain more of a role for the public operator in distribution. This option was opposed by many involved with the reform, as concerns over GWSC's efficiency in distribution had been the primary catalyst for reform in the first place. It is likely that the change in the government's action plan was a form of compromise with GWSC, with different options being chosen for the two regions.

A2.2.3 Future plans for reform

The sector is expected to remain heavily dependent on external financing for investments for some

time, particularly in rural areas. This funding comes mainly from international donors such as the World Bank. Concerns over how the reform is now being implemented, particularly expectations that the revised contract for business unit A will not be reissued for tender separately, may cause some donors to reconsider supporting the Ghanaian government in this sector.

Even if donor funding remains, the country is expected to consider further options for self-financing, with increased PSP being the most obvious choice. PSP may become more widespread in urban water supply, and may, in time, be considered for sanitation services. The extension of current plans will depend, no doubt, on how successful the PSP arrangements in business unit B are. It may therefore be some time before further reform is considered.

A2.3 Experiences with reform in Guinea

In 1989, the water supply sector in Guinea was restructured. The reform involved both institutional change and PSP. This case study outlines the main aspects of the reform. An analysis of the benefits from the reform and an overview of some of the problems are also provided.

A2.3.1 Key aspects of the reform

The decision to restructure the water supply sector arose from concerns about the low levels of urban population receiving water supply services. PSP was considered to be the preferred option for increasing coverage in urban areas. However, to facilitate the introduction of PSP, institutional reform was also required.

The national government created two companies:

- SONEG, a state-owned water authority that owns all water supply assets. It was given the responsibility of monitoring the activities of the private operators and ensuring that the contract requirements were fulfilled. As part of its regulatory duties, SONEG is responsible for tariff setting in water supply. A cost-recovery principle is in place for tariff setting, although subsidies, funded by an International Development Agency credit, were provided in the early years of the lease to ensure a gradual increase in the tariff. The public company was also responsible for the provision of water supply services outside of those areas where the private operators were in place;

- SEEG, a water management company that provides services, under a lease arrangement, in the capital city of Conakry and in 16 towns.

Having established the two companies, the government sought a private partner for SEEG. An international competitive bidding process was held, with the private operator being chosen primarily on the basis of the minimum rate that was to be charged per cubic metre of water collected. Following the bidding process, a consortium of SAUR and Compagnie Générale des Eaux was selected to own 51% of the company, with the state retaining control over the remaining 49%.

The lease between SEEG and the government was signed for ten years. Under the terms of the contract, SEEG is responsible for new connections, for operating and maintaining the system in the lease area, and for billing customers and collecting charges. The private operator is also able to bid for contracts for work on SONEG's pipes and, since 1989, SEEG has also entered into several management contracts with SONEG, requiring it to provide management services. The ten-year lease was renegotiated with the same private partners in 1999.

A2.3.2 Benefits from reform

PSP has allowed for significant increases in investment in the urban water supply sector. This has resulted in major improvements in service availability and in the quality of service provided. Tariffs have also risen to a level that ensures cost recovery. This has been aided by the improvement in the collection rate from private customers. SEEG has a problem with the public sector failing to pay its bills, however. Improvements in technical efficiency of water supply services have also been noted.

A2.3.3 Ongoing problems

The tariff level has increased significantly since 1989 and is high by regional and international standards. While this reflects the principle of cost recovery, and enables SEEG to be self-financing, it does disenfranchise a large proportion of the population from water supply services. The rate of default also increases SEEG's debt levels and corporate risk, thereby increasing the cost of capital. To ensure that low-income customers are able to access safe drinking-water services, the government may be required to retain subsidies in the sector for some time, particularly while large-scale investment projects continue to be required in urban areas. Further incentives could also be provided to SEEG to improve cost efficiency.

A key problem with the institutional framework in Guinea was the assignment of responsibilities between SONEG and SEEG. Both companies have responsibilities to invest in water supply connections, and experience has shown that this has resulted in opportunities for free-riding, with each operator being able to blame the other for the slower than expected rate at which coverage was expanding. The investment and risk-sharing incentives of SEEG are therefore distorted by the institutional framework itself.

A further institutional problem has been the establishment of SONEG as SEEG's regulator. The public operator has focused on obtaining required capital financing for investments, and monitoring responsibilities have been secondary. The asset-holder must undertake the job of financing investment, and it is clear that an independent regulator who could carry out these other tasks would be beneficial.

A2.4 Experiences with reform in Senegal

A2.4.1 The provision of water and sanitation services

Water supply and sanitation services are organised on a national basis in Senegal. Both services are provided by different operators, however, with PSP in urban water supply.

Reform of the water sector began in 1993 with the creation of a public asset-holding company, SONES, and a private operating company, SDE, which is responsible for managing the water services of all cities in the country. The ownership of SDE is: SAUR (51%), former staff of SONES (5%), staff (5%), and national private operators (39%). Rural water supplies are the responsibility of the government administration.

Sanitation services in five urban areas are provided by the Office National d'Assainissement Urbain (ONAS). This autonomous public office was created in 1996 and is responsible for both operations and investment in sanitation services. Sanitation services in all other areas are the responsibility of the government administration.

A2.4.2 The role of the public sector

The Ministry of Hydraulic³ Department of Waterworks and Sanitation is responsible for water

supply and sanitation services. As noted above, public bodies, SONES and ONAS, are responsible for water supply and sanitation services respectively. There is no independent regulatory body in Senegal for water supply or sanitation services.

A2.4.3 Private-sector participation

The international private operator in SDE, SAUR, was chosen following a two-step competitive tender process. In the first round, two of the four companies that applied were chosen on the basis of technical ability. At this stage, Générale des Eaux and Lyonnaise des Eaux were excluded, on the grounds that they required too many conditions to be attached to the lease agreement. In the second round, SAUR was chosen, as it had offered the lowest price.

SDE manages urban water supply services under a ten-year enhanced lease agreement, which is due to expire in April 2006. It also has some investment responsibilities with respect to the renewal of the distribution network. For example, it is required to renew 17 km of main per year and undertake 6,000 connections per year. Investments are, however, primarily the responsibility of SONES.

Incentives to improve service levels and quality are provided to SDE through performance-based financial incentives in the lease agreement. These are also intended to encourage improved cost efficiency. The cost-recovery target aims to increase the rate from 95% to 97% within three years of the lease, and to retain that rate for the lease period. A network efficiency target of 85% is to be reached within five years.

A water-coverage target has also been set, although this is SONES's responsibility, as it depends on the amount of investment undertaken. The aim is to improve water coverage from 75% to 80% after five years. The current coverage rate, after four years, is 77%.

A2.4.4 Regulation, competition and pricing

SONES is responsible for monitoring SDE's activities and ensuring that the private operator meets the terms of the lease agreement. There is no competition in the provision of water supply or sanitation services, although the single private operator was chosen on the basis of a competitive tendering process.

Tariff setting is the government's responsibility. The current tariff rate is higher than that bid for by SDE in 1996. Tariffs are now based on the principle of cost recovery. Before reform, the public administration failed to pay any of its bills and cost recovery was a significant problem. Now, however, there is 100% cost recovery from the public sector and 95-97% from private customers. There is an aim, as part of the lease agreement, for financial equilibrium in the urban water supply sector by the end of 2003. At present, a financial model is run at the beginning of each year to determine the required increase in tariffs to ensure equilibrium. This increase is limited to 3% per annum.

A2.4.5 Other reform

PSP and institutional reform have been implemented simultaneously in Senegal. A key element of the institutional reform has been the development of effective public bodies in the water supply and sanitation sectors. The main reforms in this area have focused on ensuring continuity of management and rational organisation in the institutions, providing training and development to all human resources, and improving commercial management and cost effectiveness.

A2.4.6 Assessment of reforms

Four years after reforms have been implemented, there is evidence of improvements in the urban water supply sector. Examples of benefits that have emerged include the following:

- coverage for urban water supplies has increased from 75% to 77%. The improvements have been most significant in peri-urban areas and among low-income customers;
- efficiency has improved;
- cost recovery has become feasible;
- service management is significantly better than in the past; and
- PSP has made the service more attractive to donors, ensuring that financing for required investments is more readily available.

The benefits have been limited, however, to select urban areas and to water supply services, potentially at the expense of improvements in the sanitation sector and in rural water supply provision.

As with most countries, reform has not been entirely smooth. In particular, problems with monitoring, and attaining efficiency targets and cost recovery were experienced in the early years of the lease agreement. For example, SONES was slow to start monitoring SDE's activities, partially because of a lack of understanding of what the objectives and responsibilities involved were. Also, in the first year of the lease agreement, there was a gap of 4% between the efficiency target and that achieved. It is believed that these initial problems have been resolved, and further improvements are expected to emerge in the future. An ongoing problem remains with the network ratio in the lease agreement, which SDE is continually seeking to have changed. The government continues to work on the basis of the call of tender document, and will not change the ratio. Revisions may take place in a new lease after 2006, however. An additional unresolved problem relates to the payment of VAT. As SONES cannot deduct VAT from investment, it may have problems generating sufficient capital.

A2.4.7 Plans for future reform

As noted above, SDE's lease for urban water supply will expire in 2006. At that stage, the government has the option of making a new call for tender, or of negotiating a new five-year lease with SDE. There is also an option of splitting up the lease area, perhaps into several urban projects, which would enable several private operators to be involved in urban waste-supply services. A key advantage of this latter approach would be the ability to benchmark operators against each other. Current reforms are taking place as part of the government's first water sector project, which is due to be completed in 2001. The next phase of reform will be covered by the long-term water sector project. This project focuses on the need to improve the provision of water supply and sanitation services to low-income urban areas and urban areas that are not currently served. Reform will focus on investment strategies and on the institutional and regulatory framework. SONES will manage the water supply component of the new reform, although private operators will be involved with rehabilitation, extension and connection work, through a competitive bidding process. ONAS will manage the sanitation reform with, again, private-sector involvement in major civil works. The third element of reform relates to water resource management, and will be managed by the Ministry of Hydraulics.

Given the relative success of PSP in the water supply sector, it is likely that more PSP will be considered for sanitation services. This is being considered at present owing to concerns about the

widening gap between the level and quality of urban water supply and sanitation services. The sector is considered unattractive to the private sector, however, and it is thought that significant investment and reform will be needed before private operators will participate in the provision of sanitation services.

A2.5 Experiences with reform in South Africa

A2.5.1 The Current state of Water Resources

At present, South Africa is classified as a water-stressed country, with less than 1,700 m³ of water available per person per year. Some predictions also suggest that by 2025, South Africa will enter the water-scarcity category of less than 1,000 m³ per person per year by 2025. A recent white paper on water policy also noted that, in South Africa, over half the total water available for use is used, while the arid Namibia and Botswana use only 5-10% of their available water. A further problem is that water in South Africa is distributed in a highly unequal manner, largely arising from decisions made during the apartheid era.

There appears to be recognition by the government that water resources in South Africa need to be carefully monitored. The existing infrastructure is poor, however, and service coverage rates are low. Government estimates suggest that between 12m and 14m people do not have access to safe water, while over 20m do not have access to adequate sanitation.

South Africa is also involved in international negotiation and projects to secure water supply. Of these, the Lesotho Highlands Dam Project, which is currently under construction, is the largest. The project aims to redirect 70 m³/s of water per year to Johannesburg and, at the same time, generate up to 270 MW and 870 GWh per year in hydroelectric power for the Kingdom of Lesotho. When complete, the Lesotho Highlands Dam Project will be a complex of six dams, two power stations, two pump stations and 220 km of tunnel. In 1994, the projected costs of the project were approx. \$3.7 billion.

A2.5.2 The organisation of water-resource management and service provision

Reform in the water sector in South Africa is considered as part of the core reconstruction and development programme. Four key objectives have been established within this framework:

- meeting basic needs;
- developing human resources;
- building the economy; and
- democratising the state and society.

The government is seen as being the custodian of the public trust, managing, protecting and determining the proper use of South Africa's scarce water resources. The general idea of the trust is that the government has a duty to regulate water for the benefit of all South Africans. One result of this drive for equality is the setting of a target guaranteed figure of 25 litres per person per day.

A legislative framework for water and sewerage services is provided through documents such as the Water Services Bill, the National Water Bill, the Water Services Act and the National Water Act. The Ministry of Water Affairs and Forestry is the government department in charge of formulating water policy, and it has been provided with a much-increased mandate (and budget) since the 1994 elections.

Responsibility for the future of water-resource management is expected to be devolved into a three-tier system as follows:

- **First tier-central government:** this role would encompass managing the national water resources in the public interest, establishing policy guidelines and a national water and sanitation strategy; and monitoring and regulating service provision.
- **Second tier-provincial and regional governments and other authorities, water boards:** regional government bodies would be responsible for water provision, sanitation and other services through promoting effective government structures. The focus on this group is generally water provision to commercial customers.
- **Third tier-local authorities:** these authorities would be ultimately responsible for the storage of treated water, metering and billing services as well as the responsibility for managing supply schemes. This area is one where further PSP is possible, with the local government unlikely to act effectively for some time. The Department of Water Affairs and Forestry has already given expanded remits to local authority providers, such as Umgeni Water, to enable them to offer services to final consumers.

Nineteen catchment management areas have been set up within South Africa under the 1998 National Water Act. Within each area, a catchment management agency will draw up a management strategy for the catchment. In fulfilling their functions, the agencies are required to promote community participation, with voluntary associations of water users to be formalised as 'water users associations', in an attempt to regulate the relationship between users and agencies.

A2.5.3 Current pricing methods

At present, full cost recovery is not achieved through the pricing system. An estimated 20 billion rands of water infrastructure is in operation, and the government notes that many users do not even pay for the operational management costs incurred. This led to a cabinet decision in February 1996 that the price paid by users should progressively rise to meet the full financial costs of water.

At the current time however, the Water Act only allows for the charging of tariffs for water supplied by government water schemes. Legislation will thus be established to ensure that all water use is covered by the new policy. Another important element of the new water act is that revenues generated through water-use charges are to feed directly into water-service provision and management, rather than to central government finances.

A2.5.4 Experimenting with private-sector participation

The provision of water and sanitation services in South Africa is highly regional in nature, with a mixture of public and private involvement. PSP has been developed on the Dolphin Coast, with a 30-year concession to run water and waste-water services was awarded to Siza Water (a subsidiary of SAUR). The Nelspruit region also saw the introduction of PSP, with a 350m rand deal secured by the British firm, Biwater, and the Nelspruit firm, Sivukile Investments. Management contracts have also been used to facilitate the entrance of the private sector. For example, Northumbrian Water is involved in the running of water and waste-water plants in Kwazulu Natal. However, in other regions, such as Durban and Cape Town, the local government council provides such services.

These initial arrangements have, however, been seen as test cases for the expansion of PSP to other metropolitan areas. The Dolphin Coast contract placed a number of requirements on the firms that were granted the final contract. The ability of the private operator to deliver the requirements (outlined below) will indicate, to other regional and local authorities, whether PSP provides benefits in the sector. The main requirements in the Dolphin Coast contract included:

- the attainment of specific service quality criteria;
- the provision of consumer education on water efficiency and management requirements;
- the requirement that the contractor ensure payment of tariffs; and
- the construction of new assets and the rehabilitation of old ones.

Within the country there has, however, been some discontent at the announcement of the increased focus on PSP and the prospect of future private-sector involvement in the provision of water and sanitation services. The view that water is 'a public right' has, in particular, been a major factor in disagreements over the role of PSP in the sector.

SAMWU has been particularly vocal in its opposition to PSP, arguing that such agreements:

- may not comply with the Water Services Act;
- undermine constitution objectives such as the integration of cities;
- workers' rights were removed in PSP agreements; and
- mean that there is a danger of apartheid service delivery being retained or even reinforced.

However, such views do not appear to have reduced the government's desire to see an increase in the private provision of water and sewerage services. In December 1999, it was announced that the water and sanitation utility of the Johannesburg metropolitan council is in line for PSP. A number of companies have already shown preliminary interest, and these include:

- ConcorThames-a joint venture between South African construction company, Concor, and Thames Water International;
 - Water and Sanitation Services SA-a joint venture between South Africa's Group Five and Northumbrian Lyonnaise; and
 - SAUR SA.
- Under the current proposals, the water and sanitation utility will remain council property, but will be managed by the private entity for a set contract length. The council will also retain ownership of water storage and supply infrastructure, with the management and operational components of these also contracted out.

A2.5.5 The future of water provision

Like many African nations, water and sewerage infrastructure in South Africa is concentrated around the urban centres (although there are also irrigation networks for many farms). Many of the poorer peri-urban areas still suffer from under-developed (and in places non-existent) service provision. PSP is clearly seen as one way in which the infrastructure can be improved and services efficiently managed.

A further issue, which may prove important in the future, is how the government can balance its duty to provide minimum quantities of water to all with (in all likelihood) an increasing scarcity of water resources. PSP will have a role to play, with the current private companies already required to play an educational role in order to increase the efficiency of use.

Although there is a strong recognition of the potential dangers presented by water scarcity, many problems still exist because of a lack of proper infrastructure. A number of local PSP schemes, which were undertaken in rural areas (such as Nelspruit), have been seen as failing in their objectives, with the estimates of the failure ratio ranging from 50% to 90%. This may, however, only increase the government's perception of the desirability of PSP to stimulate successful investment.

PSP is therefore seen as a useful tool for addressing many of the problems that the South African water sector faces. However, the problem remains for the government that many organisations believe that PSP is contrary to the belief that water is essential to life and should be provided as a public good. As experiences with PSP develop, in South Africa and in other countries, it is hoped that examples of private operators delivering real benefits in the sector will help to allay some of these concerns.

A2.6 Reform in Zambia

A2.6.1 The provision of water and sanitation services

Water supply and sanitation services are provided jointly in Zambia. There are areas, however, where the absence of a sanitation network means that, in practice, only water supply services are provided. For example, in small towns, most people have in-house water-borne facilities, and use septic tanks and soakaways for sanitation.

Services are provided on a regional (in some cases sub-regional) basis, with local authorities being responsible for service provision in the main. Service providers operate exclusively within a specified boundary. However, there are major disparities across regions in terms of the geographical location of customers and the average level of income. Operators across regions have therefore begun to emerge, particularly in those areas where one region has no resources to develop services. Such cross-border arrangements can be established by the local authorities or by the regulatory authority.

Under the 1997 Water Supply and Sanitation Act, these authorities were given the right to delegate water and sanitation provision to autonomous local bodies and the private sector. The Act contains three options for service provision:

- a number of local authorities can enter into a joint venture for providing services across several areas;
- a local council can enter into a joint venture with a private company to run water services (this can be for all of the elements of service delivery or for specific aspects); and
- a local authority can independently form a public or private company to provide services.

In all cases, assets remain under the ownership of local authorities. There are a few instances where the government's para-statal or private companies own some part of the service assets. These assets are mainly used for self-supply. For example, the private sectors have been responsible for collecting waste in and emptying septic tanks at cost for individuals or institutions.

Community groups and NGOs are also involved with the implementation of reform plans and, in some areas, with service provision directly. It is recognised that community-based initiatives provide valuable contributions to the sector, particularly by providing services at affordable prices. Therefore, attempts are being made to increase and legitimise the role of community projects in the sector.

Experience with PSP in the water sector has not been very extensive to date. There has been some private involvement in maintenance of pipelines and bill delivery. Proposals for a BOT scheme and for management contracts are currently being considered. The legal provisions for legal authorities to increase the use of PSP in service provision are expected to result in more private participation in the future, however.

A2.6.2 Decision-making

Central and local government bodies are both involved in both the organisation and the management of the water sector. The main ministries involved are the Ministry of Energy and Water Development and the Ministry of Local Government and Housing. The former is responsible for resource management and is the government body to which the regulatory authority reports. The provision of services, and relationships with service providers, are the responsibility of the Ministry of Local Government and Housing, however. In particular, the Ministry for Local Government and Housing facilitates resource mobilisation for infrastructure development.

Local authorities also have some autonomy with regard to decisions relating to the provision of water and sanitation services in their area. In particular, they have the freedom to choose the preferred PSP arrangements for their own sector. The only constraint is that 100% private ownership of the assets is not allowed.

A2.6.3 Framework for reform

Zambia stands out in Africa for having a structured framework within which reform proposals are considered and implemented. A series of objectives has been established for the sector and forms the basis for all reform decisions. The overall goal is to improve

'the quality of life and productivity of all people by ensuring an equitable provision of an adequate quantity and quality of water to all competing user groups and sanitation services to all, at acceptable cost, on a sustainable basis'.

To deliver this goal, a series of specific requirements have been identified. These include:

- service-delivery levels and coverage appropriate to the requirements of different consumer groups;
- long-term sustainability of service delivery through financial viability of the sector and cost-recovery policies that achieve financial viability and social equity (lifeline tariffs and internal cross-subsidies);
- improvement in efficiency in service delivery and application of funds through:
 - an appropriate institutional and legislative framework;

- clear definition of responsibilities between sector organisations, down to, and including, the community level;
 - coordination with other organisations with an interest in the water supply and sanitation sector, such as the Ministry of Health and the Environmental Council of Zambia; and
 - coordination of activities with local and external donors and NGOs;
- community consultation and participation in project development, implementation, operation and maintenance, as appropriate to local conditions and customs;
 - participation and regular consultation in future policy and organisational development;
 - use of technology appropriate to local conditions and operating and maintenance capacity, and more effective development of both surface groundwater resources, for piped and point water supply;
 - increased emphasis on the provision of sanitation services to overcome past neglect;
 - improved efficiency in the use and re-use of scarce water resources;
 - development of the human resource capacity and capability of the sector.

Restructuring proposals in Zambia are also focused on the provision of incentives for investing in, operating and maintaining infrastructure. The incentives and service-provision arrangements are expected to relate to customer needs and willingness to pay, again emphasising the focus on local conditions in the provision of services. The prioritisation of reform is based on views from central and local government and, importantly, from residents themselves. It is hoped that, by focusing on demand-led initiatives, concerns about non-payment will be alleviated.

Short-term reform plans (three to five years) and a medium-term (three to ten years) urban policy framework have been developed to determine how these objectives should be met. At this stage, it is too early to determine whether the approach to reform adopted by Zambia will be successful. The level of detail included in the reform proposal, the focus on local initiatives, and the existence of an independent regulatory authority would be expected to allow for significant benefits to emerge, particularly from PSP.

A2.6.4 Regulation

In addition to increasing the scope for PSP in the sector the 1997 Water Supply and Sanitation Act established a new regulatory body, the National Water Supply and Sanitation Council (NWASCO), which reports to the minister responsible for water-resource management. NWASCO is made up of a decision-making board with representation from 13 key institutions (both public and private), and a secretariat which is responsible for carrying out the day-to-day tasks. Where utilities and water and sanitation service providers are dissatisfied with the decisions of the board, there is an option of appealing to the High Court of Zambia.

NWASCO is expected to focus on improving quality of service and tariffs in the sector. The regulator will also aim to promote competition where feasible and is hoping to use comparative analysis when regulating the quality of service and tariffs.

Service providers are to be licensed, and the licence will carry conditions including performance standards and guidelines for setting the tariff. Each operator is also required to submit a business plan to the regulator. Tariff guidelines include the requirement that, in the long run, cost-reflective charges are introduced. Cost recovery and the use of revenue for water charges for necessary investment in the sector have also been identified as important principles for tariff design. In the

past, proceeds from water charges were diverted to other local authority activities, whereas the PSP arrangements are expected to ensure that revenue from water and sanitation service provision is used for operation, maintenance and replacement costs.

Tariff levels were low in the past, with local politicians being reluctant to agree to large incremental changes in prices. This made it particularly difficult to extend services, with some element of subsidisation, to low-income customers. Alternative tariff structures, such as the progressive block tariff, are now being introduced. The progressive block tariff is favoured as a means of ensuring that low-income customers receive adequate water supplies. These social groups are only required to pay the operation and maintenance costs for an established minimum threshold of water consumption.

APPENDIX 3: PROPOSALS FOR FUTURE REFORM

The following is a list of the main reform proposals that several African countries have been considering recently. Many of these remain at the initial planning stage, and the final proposals that emerge may be very different to those outlined here. There is a trend towards the increased use of PSP in the sector, and more countries are developing enhanced political, legislative and regulatory organisations and policies for the sector. The ability to optimise these reforms so as to extract maximum benefits would be enhanced by an analysis of achievements, and problems, in other African countries, and consideration of the issues outlined in this report in the context of country-specific factors.

- **Algeria** - there are plans to establish PSP in the water supply systems of Algiers and Constantine, and in the sewerage system of Algiers.
- **Angola** - lease contract and management contracts are being studied. There are also plans to decentralise responsibility of water and sewerage service provision to local companies. This has already taken place in Cabinda, Lubango and Namibe.
- **Burkina Faso** - a new law is being prepared to enable PSP in the sector.
- **Cameroon** - in September 1999, the government launched an international tender for private-sector involvement in SNEC, the country's national water supply company. The buyer would take over the production, transportation and distribution of water. PSP arrangements are expected to be completed during 2000.
- **Chad-STEE**, the water and electricity provider, was earmarked for PSP in 2000. The government plans to have new legislation and water and electricity regulatory bodies in place by September 2000.
- **Comoro Islands** - the government is in the process of introducing private-sector involvement into the national water authority, Comoron National Electric and Water Company.
- **Congo** - there are plans to privatise the state-owned water company, SNDE, although these are thought to have been delayed by civil unrest.
- **Côte d'Ivoire** - a key event of interest in the future will be the end of SODECI's 20-year affermage agreement. The way in which the government decides to move ahead with the provision of water services at that point will, no doubt, provide lessons for the rest of Africa. At this point, SODECI is essentially a private monopoly operator, having being issued the affermage agreement in 1987 without any bidding for the contract. The government has suggested that the agreement will be put out for competitive tender in 2007, requiring SODECI to defend its right to retain the contract. It remains to be seen whether this occurs, given that it may be administratively more straightforward, and less disruptive, simply to renew the existing arrangement.
- **Djibouti** - PSP arrangements for the water utility are under consideration.
- **Ghana** - plans are under way to introduce lease arrangement for private operators in one

business unit. The lease is expected to be operational by summer 2001. A further plan for a lease arrangement, and BOOT contract, to be introduced has been delayed, but is expected in the near future.

- **Guinea Bissau** - there are plans to introduce a lease/concession contract for the water and energy utility, but these have been delayed by political unrest and conflict.
- **Lesotho** - PSP is expected to be introduced in the near future.
- **Madagascar** - a new law enabling PSP is under preparation. Plans are also being considered to transfer the responsibility for water and sewerage service provision to local government. A draft decree has also been prepared to establish an independent regulator for water and sewerage services.
- **Malawi** - the government aims to introduce PSP for all rural water supplies.
- **Mali** - a new lease contract is under consideration, as is the separation of water from electricity services. Privatisation of EDM is under consideration, but has been delayed significantly.
- **Mauritania** - reform of the water and sewerage sector is under consideration, with the possibility of a strategic private partner being found for the water and electricity company, SONELEC, by September 2000.
- **Mauritius** - future reform appears to be focused on the waste-water sector, with plans to encourage private-sector involvement.
- **Morocco** - policy reforms are being introduced that focus on long-term water management and planning, and promote the use of economic incentives through tariff structure and cost recovery.
- **Namibia** - reform of the water and sanitation sector is under consideration.
- **Niger** - the government is reforming the urban water sector, with plans for the appointment of a private-sector operator to manage SNE. An asset-holding company, SNPE, will also be established.
- **Nigeria** - a Small Towns Water Supply and Sanitation Program is being implemented to increase the coverage of water and sanitation services in small towns.
- **Rwanda** - plans to introduce PSP, particularly in rural water supply, are under consideration.
- **Senegal** - the Long-term Water Sector project is currently being implemented. This aims to expand and improve the provision of services to low-income areas of the capital and to other cities.
- **South Africa** - the new Water Law is currently being implemented.
- **Tanzania** - plans to convert DAWASA into an asset-holding company and to introduce a private-sector operator for water supply and sanitation provision are under way.

- **Togo** - plans are in place to increase private involvement on a local scale.
- **Tunisia** - the government is developing a strategy to deal with effective water management, economic efficiency of irrigation water use, and institutional restructuring and capacity building in the water sector.
- **Uganda** - preparations are being made for a concession contract for the National Water and Sewerage Corporation.
- **Zambia** - plans for increased PSP are currently being implemented.

Water Utility Partnership

Renforcement des Capacités

A joint programme aimed at Building Partnerships in the water sector established by the Union of African Water Suppliers (UAWS), Abidjan-Côte d'Ivoire, Regional Center for Low Cost Water and Sanitation (CREPA), Ouagadougou-Burkina Faso and Training Research and Networking for Development (TREND), Komsa-Ghana.

And the World Bank, others partners include the DFID, EU, French Government, SIDA, etc.

MISSION STATEMENT

Facilitate the development of the water supply and sanitation sector in Africa in terms of coverage and quality of service, and an increase in investments and an acceleration of reforms through five different projects.

PROJECTS OF THE WATER UTILITY PARTNERSHIP

Reforming the Water and sanitation sector in Africa.

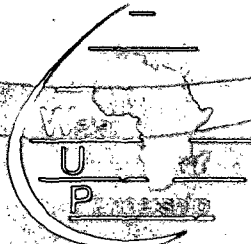
Performance indicators and benchmarking of service providers in Africa

WUP

Utility Management and reduction of Unaccounted for Water.

Utilities to deliver water and sanitation services, environmental health and hygiene Education to Low income Urban Communities.

Dissemination of the WUP products.



Water Utility Partnership - Côte d'Ivoire • Avenue 8 prolongé, à la montée du pont Houphouët-Boigny
05 B.P. 2642 Abidjan 05 Tél. : (225) 21 24 03 28 / 21 75 86 55 / 58 • Fax : (225) 21 75 86 56 / 57
E-mail : wup@africaonline.co.ci / info@wupfrica.org • Web: www.wupfrica.org