# [Various papers presented at the institutional management options study workshop, 1 - 4 June 1997]

Movenpick Hotel,
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Contents

# GOVERNMENT OF THE REPUBLIC OF ZAMBIA

## PROGRAMME CO-ORDINATION UNIT

PAPER PRESENTED AT THE INSTITUTIONAL MANAGEMENT OPTIONS STUDY WORKSHOP; 2-4TH JUNE, 1997

WATER SECTOR DEVELOPMENT GROUP

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## 1.0 BACKGROUND

For a long time the water supply and sanitation sector in Zambia has been increasingly failing to deliver an acceptable level of service to the urban, peri-urban, and rural communities. The performance of the sector has been constrained by interrelated problems including lack of comprehensive sector policy; shortage of financial resources to cover the cost investments and for proper operation and maintenance; and shortage of qualified and experienced manpower. Critical analysis of the problems revealed that these were not necessarily technical, but more the result of weaknesses in the institutional, legislative, and organisational framework of the sector. To solve these problems required reorganisation of the sector.

Recognising the need for institutional reform, the Government of Zambia launched the water sector reform in March 1993, and established the Programme Co-ordination Unit (PCU), an inter-ministerial committee, with the responsibility to steer the implementation of the sector reforms. Since early 1994 the Government has received technical and financial assistance from the German Government (through GTZ) and the Government of Norway (through NORAD) for the execution of a 10-year sector reform programme. The programme is being implemented in three phases. The present and first phase (1994 - 1997) received further financial assistance from the Government of Ireland (through Irish Aid) in 1996 to assist with the promotion of community-based management approaches of rural water supply and sanitation.

The reform project is a joint project by three donor agencies, GTZ, Irish Aid, and NORAD to assist the Government of Zambia achieve its overall goal for the water supply and sanitation sector. This goal, which is consonant with Zambia's National Water Policy, is to provide universal access to safe, adequate and financially viable water supply and sanitation services.

The reform project aims to reorganise the water supply and sanitation sector so as to create new institutions which would be able to provide cost effective, equitable and sustainable water supply and sanitation services. The implementing agencies for the project, under the overall responsibility of the PCU, are the Water Sector Development Group (WSDG), the Community Management and Monitoring Unit (CMMU) and the National Water Sanitation and Health Education (N-WASHE) Team.

## 2.0 SOCIAL AND ECONOMIC CONTEXT

Zambia is a landlocked country divided into nine provinces and has a population of about eight million as of 1990 census.

The water sector in Zambia has for a long time operated on various ad-hoc sub-sector water user objectives which provided guidelines for development and management purposes. The water sector has for a long time been characterised by a diffuse institutional framework as the most frequent and persistent cause of poor performance resulting in crisis management and development of water resources. This has obscured the formulation and/or implementation of a sustainable national water strategy.

Water plays an important role in augmenting our standards of living in ensuring more bearable conditions of existence. It is also a vital part of the environment and a home for many forms of life on the well being of the people of Zambia ultimately e.g. agriculture, fishing and transport etc.

Therefore any factors contributing to rendering water unfit for use through contamination pauses serious risks to health and economic productivity of the country. It is therefore imperative that measures are taken to ensure that water does not hinder the sustainable national development effort.

However, with rapidly increasing demands for the water arising from development of the country and expanding population it is obvious that assumptions that its cost is negligible are misleading.

The reform project seeks to address the following problems and issues.

### 3.1 Rationale for Water Sector Reform -Main issues

**Sector Problems**

For more than a decade it has been widely recognised by key water and sanitation sector officials, as well as by consumers, that the sector was increasingly failing to deliver acceptable levels of service. A major effort in 1987/1988 to assess the performance of the sector revealed a number of problems, which included:-

i) **Multiplicity of organisations without clear allocation of responsibility**, thus leading to duplicity, gaps, conflict and competition. This in turn constrained the development and implementation of a comprehensive sector policy and strategy.

ii) **Financial resources were inadequate** to meet the costs of extending coverage of water and sanitation to the majority of the population, and to meet the costs of essential operation and maintenance of facilities. Consequently, in spite of very significant capital investments, mostly financed by external support agencies, the new facilities rapidly deteriorated into disuse.

iii) **Shortage of qualified and experienced manpower** - professionals in engineering, accounts, and management - was often exacerbated by high staff turnover from central and local government institutions charged with responsibility for provision of water supply and sanitation services.

iv) **Poor operation and maintenance of facilities** in urban as well as in rural areas. This has been exemplified by high water losses through leakage and wastage and large number of inoperative mechanical and electrical plant in urban areas, and handpumps in the rural areas.

Analysis of the underlying cause of the above problems revealed that there were deep-seated institutional weaknesses. The problems were more with the institutional, legislative, and organisational framework of the sector. The need for reform of the water sector, which was evident to only a few water and sanitation sector officials, began to gain wider support. In August 1991 a national workshop dubbed *the Siavonga Workshop* the need and principles of water sector reforms were given further political support by GRZ, and offers of assistance by external support agencies who have been financing water and sanitation programmes in Zambia.
The on-going sector reform programme is a concrete expression of the concerted effort by GRZ with technical and financial co-operation of several external support agencies, especially GTZ and NORAD, to address the multiple and inter-related problems which constrain the performance of the water and sanitation sector.

From the vantage point of 1997, the problems of the water and sanitation sector have not abated, in some respects they have worsened. This as may be recognised can only change after some time of existence of the proposed institutions.

### 3.2 Investment in the Water Supply and Sanitation Sector

Investments into water and sanitation sector are low and have not matched the population increase especially in the urban and peri-urban areas.

- The budget provisions for the sector have been relatively volatile during 1990 and 1996, but made a significant jump after 1993, the year of the drought. However, actual allocations by GRZ show a declining trend. They fluctuated between a minimum of US$ 0.9 million in 1995 and a maximum of US$ 4.3 million in 1990.
- Over the years, donor funding has more and more replaced in-house funding by GRZ. Donor spending in percent of total budget estimates for water and sanitation amounted to 89% in 1995 (1996: 84%) compared to 31% in 1990.
- Actual fund releases in percent of budget estimates have moved erratically during 1990-96. The highest rate (69%) was reached in 1991, while 1995 saw the lowest percentage rate (14%).
- Actual capital allocations by GRZ for the water and sanitation sector in percent of the total national budget for all sectors have reached negligible levels (0.2% in 1996).

### 3.3 Technical Condition of Water and Sanitation Schemes

As a consequence of the low expenditures for capital investments and operation and maintenance during a period of more than 20 years, most water and sanitation schemes in Zambia are run down. During the recent National Inventory of piped water schemes and sewerage systems, which are operated by the Councils or DWA, most facilities were found in a technically poor shape. In a representative sample of water schemes inspected, only

- 27% always disinfect the treated water;
- 69% produce water with acceptable aesthetics;
- 19% deliver water during 24 hours a day;
- 13% were not operational.

In a sample of sewerage systems checked by the inventory team

- 26% have adequate treatment;
- 23% face operational problems (blockages, flooding from the network, pumping stations or treatment plants), which cause pollution.

The cost of rehabilitating both the water and the sewerage schemes to bring the schemes back to their original condition are substantial. The National Inventory and Rehabilitation Study, whose final report has not yet been released, indicates minimum investments around US$100 million is required for rehabilitation of water and sewerage schemes throughout the country.

The CMMU in its National Water Point Inventory, surveyed almost 25,000 water points in rural areas of Zambia during the period October 1993 to December 1996. About 72% were found in use; however more than 50% of the rural population do not have reasonable access to safe water supply. A database was established by CMMU which indicates the type of water point (such as hand-dug well with bucket and windlass, borehole fitted with handpump, etc.). Currently CMMU is working on a methodology for updating the database.

### 3.4 Operational Issues

Apart from the generally poor condition of piped water supply schemes, operation and maintenance as well as management leaves much to be desired. On one hand, this is related to the staff employed, whose qualifications often does not fulfil the required standards, except for some schemes in bigger towns. On the other hand, many Councils lack equipment and consumables for both operation, management and administration, simply because revenues from water and sanitation services are not adequate, and not exclusively used for covering the costs of water supply and sanitation, but also for funding the Councils' other expenditures.

### 3.5 Consumer Issues

The problems described above are aggravated by low billing and collection efficiencies (less than 50% on average), and due to the low payment morale of public customers (e.g. army, police, ministries, etc.). It appears that there is a wide-spread awareness problem among all customers, especially GRZ institutions. It is not recognised (including translating this awareness into practice), that water is an economic good, which cannot be provided free of charge.

But blaming consumers for the poor financial situation of many providers of water and sanitation services is only one side of the issue. The sociological survey included in the National Inventory and Rehabilitation Study revealed a dramatic loss of confidence of consumers vis-à-vis the current providers of water supply and sanitation services. It was found that

- 72% of consumers express dissatisfaction with their present water supply system
- 48% are not satisfied with their current sewerage system.

### 3.6 The Reform Process

Given the problems described above, which have constrained the water supply and sanitation sector in Zambia for years, the need for reform became imminent. Heavily pushed by the donor community, this reform was launched in March 1993 with the establishment of the **Programme Co-ordination Unit (PCU)** by the Government through a Cabinet Memorandum jointly presented by MEWD and MLGH. The main objective of the PCU, an inter-ministerial committee with members from 10 government institutions, is to make recommendations to GRZ on the reorganisation of the water supply and sanitation sector in Zambia and oversee its implementation. It is chaired by the Permanent Secretary of MEWD and its secretariat is the **Water Sector Development Group (WSDG)**. WSDG started its work on 1 February, 1994.

The reorganisation of the water supply and sanitation sector has been an ongoing process since 1994, with the following policy documents as milestones:

- "Proposed Strategy and Institutional Framework for the Water Supply and Sanitation Sector", submitted by WSDG to PCU in July 1994
- "National Water Policy", announced by MEWD in November 1994.
- November 1994 Cabinet Memorandum to restructure the water sector.

- "The Water Supply and Sanitation Bill, 1995 *(submitted to MLA in December 1995).*

The second document deals with water resources management, while the other two cover water supply and sanitation.

In November 1994, Cabinet decided to restructure the water supply and sanitation sector in the following manner:

i) The PCU should be transformed into a statutory body to be called **National Water and Sanitation Council (NWASCO)** to perform the regulatory functions. NWASCO should report to MEWD.

ii) The executive (operational) functions of water supply and sanitation, which were previously carried out by DWA and the Buildings Department of MWS, should be transferred to the Local Authorities under the supervision of MLGH.

iii) Local Authorities should form **Commercially Viable Water Utilities (CUs).**

iv) MLGH should create a **Department of Infrastructure and Support Services (DISS)** to monitor and co-ordinate investment into the sector.

v) Viability studies followed by pilot programmes should be commissioned in the Copperbelt and North-western Provinces on the establishment of CUs.

The "Strategy Paper" of July 1994 by WSDG provided essential inputs for the "Water and Sanitation Bill", the draft of which was submitted to the Ministry of Legal Affairs (MLA) by the PCU on 1 December , 1995. The main objectives of the Bill include:

- establishing a regulatory regime (NWASCO) and defining its functions and powers,
- setting the framework for establishing CUs and defining their functions, powers, obligations and rights.

## 4.0 THE PRINCIPLES OF THE REFORM PROJECT

The Government of Zambia in a quest for a sustainable development process introduced among others the water sector reform. Policies and strategies were instituted for the improvement of the sector based on seven principles viz.;

1. Separation of water resource management from water supply and sanitation.
2. Separation of regulatory and executive functions.
3. Devolution of authority to Local Authorities and private enterprises.
4. Achievement of full cost recovery for the water supply and sanitation services through user charges in the long run.
5. Human Resource Development leading to more effective institutions.
6. The use of Technologies more appropriate to local conditions.
7. Increased Government priority and budget spending to the sector.

## 4.1 Overall Goal

The objective underlying the above principles is the improvement of the quality of life and productivity of all people.

The successful attainment of the above goal depends on the following major sector objectives adopted by Government in November 1994.

## 4.2 Water Supply and Sanitation Sector Objectives

1. Service delivery levels and coverage appropriate to the requirements of different consumer groups.
2. Sustainability of service delivery in the long term through:
   i) financial viability of the sector, i.e. its organisations' ability to meet the full costs of providing the required levels and coverage of service; and
   ii) clear definition of responsibilities between sector organisations down to and including the community level;
3. Provision of grants and subsidies designed to support investments to needy sections of the community until executive organisations achieve financial viability and, subsequently, the ability of sector organisations to support such investments through internal subsidies.
4. Improvement in efficiency in service delivery and application of funds through:
   i) an appropriate institutional and legislative framework;
   ii) clear definition of responsibilities between sector organisations down to and including the community level;
   iii) co-ordination with other organisations with an interest in the water supply and sanitation sector, such as the Ministry of Health, (MOH) and the Environmental Council of Zambia (ECZ); and
   iv) co-ordination of activities with local and external donors and NGOs.
5. Community consultation and participation in project development, implementation, operation and maintenance, as appropriate to local conditions and customs.
6. Participation and regular consultation in future policy and organisational development, similar to the consultations which took place in the drafting of this document.
7. Use of technology appropriate to local conditions and operating and maintenance capacity and more effective development of both surface and ground water resources, for piped and point water supply; and for sewerage, waste water treatment and sanitation facilities.
8. Increased emphasis on the provision of sanitation services to overcome past neglect.
9. Improved efficiency in the use and re-use of scarce water resources.
10. Development of the human resource capacity and capability of the sector.

### 4.3 Strategies

The sector goal of universal coverage is based on a strategy which provides the greatest numbers of people with benefits in the shortest possible time.
To meet this demand the following had to be undertaken:-

1. Approval of Cabinet Memorandum for water sector reform principles and a medium term investment programme.
2. Specific agreement on investment priorities, i.e., emergency assistance and rehabilitation and maintenance of existing water and sanitation facilities so as to maintain existing coverage.
3. Elaboration of policies and standards needed for the implementation of the sector strategy.
4. Implementation of institutional reforms.
5. Detailing of medium term investment programme and its implementation.
6. Management of the water and sanitation sector in accordance with designed policies.

### 4.4 Water Supply and Sanitation Reforms vis-à-vis National Water Policy

The Zambian National Water Policy aims at promoting a sustainable water resource development with a view to facilitate an equitable provision of adequate quantity and quality of water for all competing user groups at acceptable costs and ensuring security of supply under varying conditions.

This entails establishing a well defined institutional structure that will achieve the intended policy objectives. To this effect a non-political regulatory body, to be known as NWASCO, is soon to be established upon the enactment of the water supply and sanitation bill. This is intended to give all stakeholders an opportunity to participate in the decision making process, and to foster financial and technical efficiency and equity in line with the intended policy.

In principle the water supply and sanitation sector strategy, with its emphasis of sustainable and equitable service, cost recovery, and conservation of water supplies, is in conformity with the National Water Policy.

### 4.5 Legal Framework

In keeping with the National Water Policy and sector strategy, an appropriate legal framework to address all components of this policy and water and sanitation sector strategy is mandatory. The principal legal instruments are the Water Supply and Sanitation Bill 1995, the Water Act Cap 312, and the Local Government Act of 1991.

The **Water Supply and Sanitation Bill, 1995** is at an advanced stage although it's promulgation has been delayed considerably. According to the original work programme the bill should have been enacted by Parliament over 18 months ago, with commercial utilities on the Copperbelt and Northern provinces being formed by the

beginning of 1996. The absence of legislation for the formation of NWASCO and CUs has therefore adversely affected the pace of implementation of the sector reform.

There is in Zambia The **Water Act Cap 312 which** deals mainly with the development and management of water resources, allocation and monitoring surface water rights. There is a proposal to amend the Act to enable it to meet the challenges of the National Water Policy. The proposed amendments include:-

i) incorporation of ground water and control of it's abstraction and use;

ii) control of ground and surface water quality; and

iii) prescription of mandatory measures to be effected during emergencies.

These functions will be performed by the Water Board existing in the MEWD which should limit it's operation to only matters of water resources management and leave all matters relating to water supply and sanitation to NWASCO, CUs, and the MLGH, to where NWASCO shall report.

Under the present **Local Government Act No. 22 of 1991**, Second Schedule, local authorities have a responsibility to provide and maintain water supply and sanitation. Under the same act, Government **may** make specific grants to local authorities for water supply and sanitation. However the administration of water supply and sanitation by local authorities may be subject to regulations that the Minister responsible for local government may make under Section 84 of the same act. In case of conflict the Minister's regulations supersede those regulations made by local authorities.

## 5.0 PROGRAMME OBJECTIVES AND ACHIEVEMENTS

The major objectives, the expected outputs or results of the present phase of the reform project are summarised in Table 1.

**Table 1: Programme Objectives and Results**

| **Objectives** | The WSS sector has been reorganised in the towns and informal suburban estates as well as in the rural areas | development of strategies for community management of RWSS facilities | Establishment of the WASHE programme |
|---|---|---|---|
| **Results** | 1) Development plan for the institutional restructuring of the whole water supply and sanitation sector has been formulated and implemented.<br><br>2) National investment plan for the rehabilitation of the infrastructure has been laid down and implemented.<br>3) Concept for development and self-help based operation of rural water supply and sanitation formulated and implemented.<br>4) System for human resource development (HRD) for the whole sector has been established. | i) Water Point Inventory.<br><br>ii) WASHE manuals and Supplementary Modules.<br><br>iii) Support to the N-WASHE program. | 1. D-WASHE established in 5 districts in Northern Province<br><br>2. Development of D-WASHE<br><br>3. Monitoring existing D-WASHEs in respective districts |

### 5.1 Progress

A lot of preparatory work has been carried out , and intermediate targets achieved toward the main objective of the reform programme. However progress has been slow with respect to achievements of the main project outputs. The intermediate outputs achieved include the following:

(a) **Legal and Institutional Framework**

- Draft Water and Sanitation Bill has been prepared and submitted to MLA in December 1995 for final clearance and preparation for submission to Parliament. Model by-laws have also been drafted.
- Water Supply and Sanitation policy and strategy have been elaborated and endorsed by Cabinet.
- A number of working papers and guidelines on institutional, financial, technical, HRD, and publicity have been prepared and some have been approved by PCU.
- Three commercial viability studies for establishing the CUs, in North-western Province, Copperbelt and Southern Provinces, have been completed. One other study for the Western part of the country is about to commence. The studies are conducted by Consultants appointed for the purpose.

(b) **Investment Planning**

- The National Inventory and Rehabilitation Study was completed in October 1996, and could provide indications of WSS sector investment needs. A National investment plan for the Water Sector will be drawn. Based on this it is hoped that donor agencies as well as the Private Sector will participate in the rehabilitation exercise.

(c) **Plan for Community-based Management of Rural Water Supply and Sanitation**

- CMMU has completed the National Rural Water Point Inventory covering about 25,000 water points throughout the country.
- Core Training Manuals and Modules for RWSS have been prepared, some have been field tested, and have been disseminated.
- N-WASHE programme has been launched, and D-WASHEs have been established in 15 districts.

## 6.0 PROBLEMS ENCOUNTERED

1. Delay in enacting legislation because of extensive consultations
2. Comprehensive public campaign education
3. Dilapidated infrastructure
4. Inappropriate institutional arrangements (the existing institutional arrangements allow for political interference.
5. Inadequate funding for capital investment
6. Tax implications which hinder private sector participation
7. Donors fund certain specific areas/parts of the country
8. Heavy capital investment requirement to uplift the service delivery standards

# 7.0 INSTITUTIONAL CHANGES

## 7.1 REGULATORY REGIME

The Water Sector in Zambia has suffered from lack of proper regulation. Consumers are at the mercy of the Water undertakers in that the only redress to the problems they face is to the Chief Executive of the Water undertaker or the Local Politician sometimes if it is a national problem the Minister responsible for the Water undertaker. Usually some of the tariff adjustments are without any justifications. It has however worked to the advantage of the consumers in Zambia that most water undertakers do not charge economic tariffs. The need for an independent regulator can not be underplayed.

The Government of Zambia in outlining the Water Sector Principles recognised the need to have a regulator in the Sector. It would be inappropriate to make the regulator as part of the Central Government system. The regulator should be an independent and autonomous institution. It should reflect an insulation from political pressure especially if it is going to provide guidelines for tariff setting and adjustment. The regulator should be able to foster requisite technical expertise in which case Government recognised that the regulator should be exempt from civil service salary rules and instead have access to ear-marked funding.

The Water Industry is made up of local monopolies. Natural competition can not therefore be achieved in the water sector (at least not in the short term). First any attempt to duplicate the distribution system would result in a prohibitive increase in costs. Second, at least at the moment, there is no "independent production" of water to match the independent production of electricity and so it is not possible to combine the competitive production of water with a commonly owned distribution system. As a monopoly the CUs will be under pressure from the Local Authorities (in general shareholders) to control costs and make the most effective use of their assets. Already potential shareholders ask the WSDG as to whether the existing Water Companies have declared any dividends before or not. One response to these difficulties is to use regulation to stimulate benefits of competition.

The regulator will ensure that the water utilities will carry out and finance their responsibilities, without overcharging customers, and that the standards of services customers receive are safeguarded.

During the water sector review undertaken in the month of January, the review team agreed with the principle of establishing a regulator in the Water Sector in Zambia. However caution was made that the regulator must have access to the necessary resources. This will ensure a strong regulatory body. Examples do exist in the country where statutory institutions were established but because they did not have the necessary resources, they have today been labelled as weak institutions.

Various institutional options were considered for the framework of the regulatory functions. A Statutory Body was chosen for the following reasons:

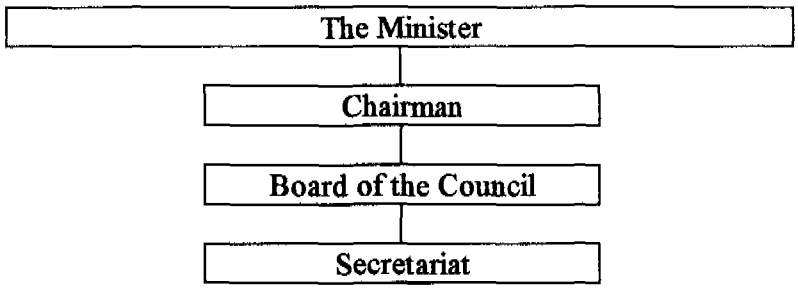
1. The water supply and sanitation sector has functions across several Government ministries and organisations. Its regulatory function should therefore give all stakeholders an opportunity to participate in the decision making process.

2. Potable water is a basic need with both economic and social implications and its administration should be apolitical.

3. Regulations should foster financial and technical efficiency in the sector, thus independent and professional decision making is essential.

The National Water and Sanitation Council (NWASCO) would be constituted with an independent Board and a secretariat. NWASCO would be responsible for the regulatory functions of the water supply and sanitation sector. All water supply and sanitation activities, public or private, including ministries with executive water supply and sanitation functions, would be governed by NWASCO regulations.

The proposed organisational arrangement of NWASCO are summarised as follows:




## 7.2 DECENTRALISATION

The reform project and indeed the GRZ recognise that ultimately local authorities need to be able to provide local services, and that delivery effectiveness depends on cost recovery and financial viability. Because this conclusion applies not only to water supply and sanitation, GRZ is implementing a general policy of decentralisation and devolution of responsibility to local authorities.

Government has adopted the principle of being a facilitator rather than a provider. In this respect the decentralisation policy aims at empowering the Local Authorities to undertake the provision of the necessary resources. The principle of Decentralisation is one of the Seven Sector Principles which are the basis for the Water Sector Reforms.

This principle will help to achieve the GRZ policy of decentralisation through the devolution of authority and responsibility for providing water supply and sanitation services to local authorities. This will create a sense of ownership and responsibility by communities and local authorities for the provision of services. It is generally accepted that decentralisation offers the best chance to improve the living and economic conditions of Zambians as the local authorities are more knowledgeable about the needs and priorities of the population they serve.

The Government is devolving authority for the provision of, *inter alia*, infrastructure services to local authorities in an effort to:

- increase their participation in the nation's development;
- bring decision making power closer to the local community;
- increase their participation in the service delivery process and thus to make it more responsive and efficient; and
- wean the sector from central government financial support.

This policy will specifically establish the local water and sanitation service provider's power to operate and provide services in the manner of an autonomous commercial enterprise, and to delegate such tasks to the private sector, if such delegation could improve service delivery efficiency and cost effectiveness.

Devolution to the local authorities of powers specified in the water supply and sanitation policy will include provisions for actions at both national and local level. The policy provides not only the devolution of power and responsibility to enable local authorities to perform the functions described under the local level but specifically:

## 7.3 EXECUTIVE FUNCTIONS

*(actual provision of water supply and sanitation)*

The executive functions consist of:

a) the financing, planning, design, implementation and operation and maintenance of water supply facilities, including cost recovery through tariffs and fees;
b) consultation with and participation of the user, particularly in peri-urban and rural areas;
c) compliance with all pertinent rules, standards and regulations promulgated by regulatory agencies;
d) Human Resource Development; and the provision of technical assistance where such help is needed.

The type and intensity of these activities depends on whether the Organisation has regional or local responsibilities. The proposed devolution of the responsibilities is described below.

### 7.3.1 NATIONAL LEVEL

At the national level, MLGH would be responsible for the programming of investments in accordance with priorities established by the Ministry responsible for economic development and criteria and standards established by NWASCO, the channelling of external and GRZ funds to the sector, and the monitoring of the performance of regional and local organisations in the utilisation of investment funds, including procurement of goods and services.

As a result of the above the MLGH has establish a Department of Infrastructure and Support Services which is not only for water supply and sanitation but also for similar functions for other municipal engineering services, such as solid waste collection and disposal (and recycling), storm water drainage, markets and roads.

### 7.3.2 REGIONAL AND LOCAL LEVELS

After considering several alternative organisational scenarios, the PCU concluded that Commercially Viable Water Supply and Sanitation Utilities (CUs) *(what could be as water companies*) would be the most effective means to overcome present institutional and service delivery deficiencies. The main principle of the CUs is that they may comprise a number of Local Authorities or a single Local Authority may form the CU. One case in point is North Western Province where the Local Authorities have decided to establish only one CU for the whole Province.

## 7.3.4 WATER COMPANIES

Government realised that the only way to address the problems identified above is through establishing institutions which would be autonomous and independent from the day to day management of the Local Authorities. This will ensure that tariffs are set based on economic considerations rather than anything else. Affairs of the Company would be managed by a lean Board of Directors. Influence of the Local Authorities will only be through the annual meetings of the share holders.

### 7.3.5 SERVICE AREA BOUNDARIES

The service area boundaries will be determined by a commercial viability study commissioned for the purpose of determining the most economically viable arrangement of the Local Authorities. It could be that the most appropriate arrangement would be for the utility to comprise two Local Authorities or more or even one.

### 7.3.6 OWNERSHIP STRUCTURES

The CUs will be owned by the public. Government policy in the reforms is not to privatise the water sector but commercialise it. In this respect assets will still belong to the public institution. Local Authorities will have majority share holding. They may however sell shares of up to 49% to the private sector.

The Board of the CUs would be composed of representatives of participating Local Authorities (the owners), and of other stakeholders, including those representing interests in agriculture, environment, health, business men, etc.

### 7.3.7 ARRANGEMENTS

**As mentioned above Local Authorities would own the CUs with shares reflecting the being on equal basis. Sharing of dividends however would be proportionate to the percentage contribution to the overall collections**

**Each Local Authority would be represented on the Board and therefore would be fully involved in the decisions affecting the company's management and their areas.** For example, as members of the Board, the councils would participate in deciding company policies on investment priorities. This arrangement would therefore maintain the current government approach towards decentralisation.

**The CU would operate on the principle of a commercial enterprise but with council determined policies ensuring social equity in service delivery, subject to national policies and standards.** The company would receive government financial

support to assist in capital investment for peri-urban and rural areas (only), but be expected to generate sufficient revenues to at least operate and maintain facilities in those areas, through tariffs and internal cross-subsidies. In the long term, the CUs will be expected to become financially viable.

Commercialisation will help achieve efficiencies expected from private enterprises. The company would be free to hire and compensate personnel as it sees fit, and to enter into contracts, all governed by its constitution. The Board will be chaired by a Board member elected to hold this office.

**The company would be managed and operated by a professional staff called management under the supervision of the board of directors.** The company would be responsible for planning, design and implementation of facilities, and central management functions, such as billing, accounting of income, expenditures and assets, (accounts will have to be maintained separately for each council), personnel policies and administration, tariff design, policies and standards, training and technical assistance, and commercial functions. The company would also administer the provincial rural water supply revolving fund and provide technical assistance and management support to councils and other local authorities and committees responsible for rural water supply and sanitation.

**One great advantage of the CUs is that they can achieve private enterprise efficiency while the public's interests are safeguarded without the complex legal and administrative system required to control private ownership of monopolistic enterprises.** The company would be expected to achieve financial viability within five to ten years from its creation, depending on local conditions (with some financial GRZ support for socially oriented programs, as necessary), through the raising of revenues from tariffs and other fees levied for the provision of water supply and sanitation services. The tariff may be based on a regional tariff structure, or on separate tariff structures for each council.

**In cases where a regional utility is the preferred option then the current Local Authority departments responsible for water supply and sanitation services would become local units of the regional company.** They would be responsible for operation and maintenance of urban and construction of small extensions, meter reading, collection of bills, and the development and implementation of community participation based projects.

**The CU would provide training and technical assistance and would also provide central purchasing of materials, meter repairs and other functions more efficiently handled by the company.**

**In addition to responsibilities for urban and rural township piped water supply, the regional company would provide co-ordination and facilitate planning of village point water supplies and sanitation.**

**Health and hygiene education will remain a responsibility of the primary health care system at community level.**

### 7.3.8 ROLE OF PRIVATE SECTOR IN THE WATER SUPPLY AND SANITATION SECTOR

Government currently recognises that 100% privatisation of the water sector may not be the entire solution for Zambia. It has in this respect made a deliberate policy of not privatising the water sector. However in order to achieve financial and managerial autonomy the utilities will be expected to run on a commercial basis (as mentioned above). While majority shareholding will be in the Public Sector the water sector reforms in Zambia encourage partnerships with the Private sector. The private sector can therefore buy minority shares in the water utility.

Another way of private sector participation is the contracting out of services. The legislation provides for such an arrangement. As a matter of fact one big programme using the Build Own Operate and Transfer (BOOT) approach is being considered for the Capital of Zambia (Lusaka).

### 7.3.9 ESTABLISHMENT OF THE UTILITIES *(Process of)*

Establishment of the CUs can not take place just yet because the necessary legislative framework has not yet been put in place. A bill known as the Water Supply and Sanitation bill has been drafted and is currently receiving a lot of attention.
The objects of the Bill are to-

(a) to provide for better water and sanitation services and at an economic level appropriate to the communities being served;
(b) to establish the National Water Supply and Sanitation Council and define its functions and powers;
(c) to provide for the establishment of water supply and sanitation utilities and define their functions and powers; and
(d) to provide for matters connected with or incidental to the foregoing.

As soon as the legislation is passed then necessary arrangements can be made to establish the utilities. Support is available to help establish the utilities and especially to address the transitional matters. These transitional matters are important because at a time of change, uncertainties will exist and these must be managed. It is therefore important to give employees and the public sufficient information.

### 7.3.10 CORPORATE PLANNING

CUs will have to prepare business development plans (corporate plans) with projections of future investments, revenues and expenditures, based on the obligation to provide services to all consumers, regardless of income. The plan will include consideration of the standard and level of service to be provided, the financial ability of the consumer to pay for these services, the amount of internal cross-subsidies likely to be generated under specified tariff structures, and the grants needed for specific coverages.

This plan should be for five years, annually updated, with the first two years in sufficient detail for national authorities to judge the justification and priority of grant funding. The plan would be approved at the annual Board meeting and thereafter implemented by management.

### 7.3.11 RURAL AND PERI-URBAN SERVICE

For rural, peri-urban and low income communities, special efforts will be required by the service provider to encourage community participation in the:

- development, implementation and operation of facilities;
- selection of service delivery standards and technology;
- design of cost recovery mechanisms;
- delegation of operating and maintenance responsibilities to communities, community groups or NGOs; and
- technical assistance requirements.

Peri-Urban water supply will be handled by the CUs while rural water supply will be responsibility of Local Authorities.

### 7.3.12 COMMUNITY INVOLVEMENT

Community management of rural water supplies in Zambia assumes that communities have a greater responsibility for operation and maintenance. Rural water supply programmes are community based through

i) formation of water committees for effective co-ordination, management and mobilisation of resources.

ii) integration of community education, motivation, health and hygiene and water awareness programmes in development, operation and maintenance of rural water supply and sanitation programmes.

iii) Development of standardised educational material and training of trainers.

iv) Developing a cost recovery approach as a n integral part of rural water supply and sanitation (RWSS) to ensure sustainability by encouraging user communities to contribute part of the investment cost of RWSS in form of labour and locally available resources.

## 8.0 FINANCIAL MANAGEMENT

One principal on which the reforms are based is cost recovery. Cost recovery will be achieved with a proper system of recording and analysis for CUs. A proper planning and control system will help monitor cost recovery for the CUs.

## 9.0 PROCESS OF STAKEHOLDER PARTICIPATION

The Government of the republic of Zambia is developing a legislative framework which will create an environment for private sector participation. However, government policy is not to privatise the water sector 100% but encourage partnerships of local authorities with the private sector through the available options.

## 10.0 POLITICAL CLIMATE

Zambia has undergone various changes in the political arena. It became a multiparty country in 1991. The government of the day emphasises on an open market system and move away from susbsidies as a way to improve the economy..

## 11.0 CONCLUSION

The Government has realised that in order for the reforms in the water sector to succeed, there is need to move with the communities. The Public at large has therefore been consulted in the development of the strategies and development of the required legislation. The public is enthusiastic towards the involvement of the private sector in the provision of water services if it leads to an improved water supply and sanitation delivery system which to date has been lacking.

ANNEXURE

# URBAN WATER SUPPLY AND SANITATION IN INDIA by B.S. MINHAS

## INSTITUTIONAL AND MANAGEMENT ISSUES.

### INSTITUTIONAL ARRANGEMENT FOR THE SECTOR

Water Supply & Sanitation is a State subject as per the Constitution. As such, provision of water supply and sanitation facilities to the public in urban areas is the responsibility of the concerned municipalities/local bodies. On their behalf, the State PHE Departments and Water Boards, Metro Water Boards, Municipal Corporations plan, design and execute requisite water supply and sewerage schemes for the town/city. Generally, the schemes after completion are handed over to the local bodies for operation and maintenance. In some States, the PHE Departments/Water Boards also operate and maintain the system facilities.

At the National level, the M/o U.A.& E. is the nodal Ministry for Policy Formulation and guidance for the Urban Water Supply & Sanitation Sector. The CPHEEO, created in 1953, is the technical wing of the Ministry. It coordinates with State Agencies in matters related to the National Urban Water Supply and Sanitation projects.

### FINANCING THE SECTOR ACTIVITIES

Fund needed for taking up the water supply and sewerage projects is provided under the State Plan. Beneficiary contribution for these schemes is negligible, only about 10% in a few cases. Otherwise funds are provided as grant and loan to these municipalities. In case of major cities, the concerned local body seeks financial assistance from World Bank/bilateral agen-

cies through the State Govts. and GOI to implement the water supply and sewerage projects. Besides, loan assistance is available through the institutions like LIC, HUDCO etc. Some major cities like Bombay mobilise funds through open market borrowing also to supplement its resources.

However, the towns, whose financial base is not sound, find it difficult to mobilise adequate resources to take up water supply and sanitation schemes. Even if some of them take loan from LIC, they are not able to provide their yearly loan repayment contribution because they do not have enough resource. This situation is very much prevalent in case of smaller municipalities.

## ACCELERATED URBAN WATER SUPPLY PROGRAMME

As such, the Govt. of India, M/o U.A.& E has launched the Accelerated Urban Water Supply Programme(AUWSP) in 1993-94 to implement water supply schemes in the towns with population below 20,000 as per 1991 census. Under this programme, 50% estimated cost of the water supply schemes of such towns will be provided by the Ministry as grant based on Detailed Project Report (DPR) and the remaining 50% will have to be provided by the concerned State Govt. including 5% beneficiary/town contribution. In case of UTs, 100% finance is available as central share. While selecting the towns, priority will be given to those towns having special problems like, very low per capita supply, distant/deep water source, drought prone area, excess salinity, fluoride etc. The AUWSP is being administered through the CPHEEO at the Centre.

## MANAGEMENT OF SECTOR ACTIVITIES

At the local body level, the weakest link is the O & M and other managerial functions. The States/local bodies do not have separate budget under the Plan for maintenance of water supply and sewerage schemes in the towns and cities. On their own they are not able to generate adequate revenue through water tariff /water charges, since the existing bye-laws are inadequate in most of the municipalities to formulate and implement a reasonable tariff structure. Based on the tariff study conducted, it has been found that the users are willing to pay for the water they consume, if the tariff is reasonable and affordable. But the legislative and executive authorities of the local bodies have not yet geared up the management and administrative systems to such level. In most cases, only a flat rate for water is being levied to the domestic consumers. Of the total water produced and distributed, about 80% is consumed by domestic consumers while the revenue realised from them is only about 20% of the total revenue through the tariff. The balance 80% comes from industrial and commercial tariff who consume about 20% water supply. In some municipalities the tariff has not been revised for a long time for want of approval from the elected body of the Municipal Council.

It has been found that installation of water meters in the houses and other connections will reduce water consumption considerably. But, only in a few big cities and towns meters have been installed in the distribution network. There also, about 30-40% of the meters are not functioning for want of meter repair facili-

ties and workshops.

Besides, wherever water tariff is introduced, the billing and collection mechanism is not effective. In some cases, the expenditure involved in billing and collection exceeds the revenue realised through tariff. As such, the local bodies have to levy flat rate as water charges from their consumers.

As regards management of the system facilities, except those schemes which are being maintained by PHE Depts., Water Boards, Metro Boards, etc. other water supply schemes are not maintained properly for want of funds and qualified trained manpower. Therefore, the assets created are under disuse. Also, for want of qualified manpower, these municipalities are unable to plan and prepare new/augmentation water supply schemes required for these towns. In the meantime the population of the town increases resulting in more pressure on the existing system.

Inadequate attention given by the State agencies and local bodies on the important aspect of O&M often leads to deterioration of the useful life of the systems by 50-65%, premature replacement of many system components. Realising the importance of O&M, the M/o UA&E organised a National level Workshop in September 1996 to identify the constraints and key issues affecting the performance of the water supply and sanitation sector, prepare an action plan for O&M, etc. As per the recommendations of the Workshop, the Ministry has entrusted preparation of a Manual on Operation and Maintenance, which will be a guiding document for the engineers and technicians working in the sector.

## WATER CONSERVATION

In many of the cities and towns, lot of treated water is wasted due to leakages in the distribution pipe network and consumer connections. This situation warrants optimum utilisation of the existing facilities i.e. leak detection and prevention, conservation of water, effective operation of the system facilities etc. One step in this direction is leak detection and prevention of wastage of water. But, except a few major cities, other water supply organisations and municipalities do not have leak detection cells. Leak detection and prevention is a "preventive maintenance" concept and a continuous process. But then, most of the agencies do not assign much importance to this important aspect. Leak Detection Study conducted by NEERI on behalf of CPHEEO in 13 cities in the country has revealed that about 17-44% of the treated water is being wasted through leakages, mainly at the consumer end. Therefore, the concerned authorities should create leak detection cells in their organisations and carry out this task earnestly to conserve precious treated water. If leakages in the pipes are arrested, then it will prevent entry of contaminated underground water into these pipes and reduce water borne diseases and improve public health.

The Ministry of Water Resources, GOI has brought out the National Water Policy, in 1987, according to which drinking water has been given first priority in the planning and operation of water supply systems and water allocation. The irrigation and multipurpose projects should invariably include a drinking water component, wherever there is no alternative source of drinking

water. Drinking water needs of human beings and animals should be the first charge on any available water.

Resource planning in the case of water has to be done for a hydrological unit, such as a drainage basin as a whole, or for a sub basin. The resources should be conserved and the availability augmented by measures for maximising retention and minimising losses.

## TRADITIONAL ORGANISATIONS

The water supply sector in the past has been characterised by erosion of authority of traditional local institutions arising out of their inability to raise local revenues and increasing dependence on the State Govt. Creation of single purpose organisation at State level with predominant engineering outlook to execute the water supply and sewerage projects has not perhaps fully helped the sector. This is because, the State agencies were handing over the completed projects to already incapacitated local bodies. For instance, under the Ganga Action Plan, a number of sewerage projects have been completed but their operation and maintenance have not been taken up effectively. Even in case of World Bank assisted projects, increase in tariff has been an issue addressed only during project implementation, after which it is not emphasised much. Therefore, there is a need for truly autonomous institutions. Traditional municipal institutions have to be strengthened and should be more accountable. While granting autonomy to the institutions, the managerial capability should also be improved.

The Ministry of Urban Affairs & Employment has completed a study on "Institutional Framework for Urban Water Supply and Sanitation Sector", which has identified the status of the existing sector agencies, their organisational structures, their inadequacies and measures needed for a suitable and effective institutional arrangement for the urban water supply and sanitation sector.

**AUTONOMY**

The State Govts. should encourage and provide autonomy to water supply and sanitation institutions, particularly in selection of projects, administrative approval, construction of capital works, personnel policies, determination of tariff and methodology for effective recovery of dues. The State Govts' role should be limited to approval of annual action plans and provision of budgetary support. The M/o U.A.& E may prepare guidelines on the annual action plan. At municipal level, there should be separate budgeting and accounting in respect of water supply and sanitation. State level agencies should associate the local bodies from the stage of planning of water supply and sewerage schemes to instill a sense of participation right from the beginning and to secure commitment for future sustainable operation and maintenance of the system.

Public Health and Sanitation is a State subject as per the 7th Schedule, Article 246 List (ii)-6 of the Indian Constitution. The 74th Amendment Act, 1992 of the Constitution provides for

involvement of municipalities/Nagar Palikas in all developmental programmes in urban areas. Paras 5, 6, 10, 14 and 18 of the 12th Schedule (Article 243 W) covers (i) Water Supply for domestic, industrial and commercial purpose (ii) Public Health, Sanitation, Conservancy and Solid Waste Management (iii) Slum improvement and upgradation etc. Article 243 W also covers powers, authorities and responsibilities of municipal authorities and powers to impose taxes and funds of the municipalities.

Thus, as per the 74th Amendment Act 1992, the municipalities and nagarpalikas are empowered to take a leading role in the developmental activities including water supply and sanitation.

**COMMUNITY PARTICIPATION AND PRIVATISATION**

Efforts may be made to promote privatisation, especially in the field of operation and maintenance so as to reduce the cost and increase efficiency. NGOs should be involved in water supply and sanitation related issues at the local level, especially to create public awareness on matters like water conservation and proper use of water by the people to enhance health benefits. Water Supply & Sanitation should be treated as utility services to enable the sector to become self-sustaining. State level agencies such as PHE Depts., Water Supply & Sewerage Boards have served a useful purpose and should continue to plan and implement capital works. The local bodies should be responsible for distribution of water within a policy frame work to be laid down by the State Govt. In case of a larger local bodies, which have managerial and technical capability, they may be permitted to undertake

planning and execution of projects also.

Privatisation of water supply and sanitation sector is a felt need and as such can be introduced in phases, either on Build, Operate and Own(BOO) basis or Build, Operate, Own and Transfer(BOOT) basis. To start with, new townships, housing colonies, business and commercial complexes may be taken up. NGOs having the requisite experiences in the sector activities may be identified and entrusted with the job. The Central and State governments may assume the role of a facilitator.

There are some difficulties in introducing privatisation in water supply and sewerage systems. Because, most of the PHE Depts. and local bodies, which are in charge of the O&M of these systems, are unable to recover enough revenue even to meet the O&M cost from the consumers. The tariff levied from the consumers are very low and there is general reluctance to enhance it. As such, without aiming full cost recovery, privatisation cannot be successful for which realistic tariff has to be imposed on the beneficiaries. At the same time, subsidies have to be given for the urban poor considering their low paying capacity. Another reason is that the sizable number of employees working in these organisations have a fear that privatisation will cause lot of retrenchment.

In order to provide incentive to the private sector, the M/o UA&E, GOI is making efforts to get 100% tax exemption under the Income Tax Act, Excise and Customs concessions and increased depreciation allowances on capital investment made on water supply, sewerage and solid waste management schemes by the pri-

vate sector similar to those available in power sector.

## CONCLUSIONS

i) The present organisations at the State/UT and local body level are not able to adequately discharge their functions in delivering the water supply and sanitation services to the community for want of sufficient autonomy. As such, suitable institutional and organisational improvement/restructuring is necessary at the State and local body level, since water supply and sanitation is a State subject as per Constitution.

ii) To make the water supply and sanitation systems of the cities and towns self sustaining, suitable tariff structure is to be framed and implemented by the concerned local bodies and the billing and collection system should be strengthened to generate adequate revenue for meeting the O&M expenditure and to recover suitable revenue for future capital investments.

iii) Water being a scarce resource, must be judiciously used minimising the leakages and wastage for which a suitable leak detection cell has to be created at the local body level and periodically the distribution system should be surveyed for identifying the leakages and prevention of unaccounted for water.

iv) As per National Water Policy, 1987, all the irrigation and multipurpose projects should invariably include a drinking water component, wherever there is no alternative source of drinking water. Drinking water needs of human beings & animals should be

the first charge on any available water.

v) Operation and maintenance of water supply and sanitation systems being the weakest link in the delivery of the services to the community, the State agencies and local bodies should provide adequate funds in their Annual Plan and employ qualified manpower for effective O&M of the system facilities.

vi) Privatisation of water supply and sanitation sector is a felt need and as such can be introduced in phases, either on Build, Operate and Own(BOO) basis or Build, Operate, Own and Transfer(BOOT) basis. To start with new townships, housing colonies, business and commercial complexes may be taken up. NGOs having the requisite experience in the sector activities may be identified and entrusted with the job. The Central and State governments may assume the role of a facilitator.

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# LA REFORME INSTITUTIONNELLE ET DE LA GESTION DE L'APPROVISIONNEMENT EN EAU ET ASSAINISSEMENT POUR LA VILLE DE BISSAU

## 1. SITUATION ACTUELLE DU SECTEUR

### 1.1 Approvisionnement en eau potable

En 1996, la population ayant accès à un système d'approvisionnement en eau en quantité et en qualité suffisantes, est estimée à 25% pour Bissau. Le reste de la population obtient l'eau de consommation domestique à partir des puits traditionnels, qui dans le cadre de la ville de Bissau, n'offrent qu'un minimum de garanties sanitaires dû à la densité des quartiers et au manque d'installations d'assainissement.

La Ville de Bissau possède un réseau public d'approvisionnement en eau de 56 km qui alimente 5300 branchements domiciliaires et 40 bornes-fontaines. A peine 13% de la population de la ville (200 000 habitants), est branchée au réseau et 5% utilise les bornes-fontaines.

Le réseau est alimenté par 10 forages profonds d'une capacité de production de 8.1 $Mm^3$/an et une exploitation annuelle de 5 à 6 millions de $m^3$ d'eau de bonne qualité. Les pertes du réseau sont évaluées à environ 70% de la production. La capacité de stockage est nettement insuffisante. L'eau est fournie sans chloration.

Dans la zone de Bissau, le débit des forages d'approvisionnement en eau de la ville est suffisant pour satisfaire les besoins des prochaines années. Toutefois le risque de salinisation qui pourrait être occasionné par la proximité des eaux salées de l'estuaire de Géba, exige une analyse de l'impact causé par une exploitation prolongée de la nappe maestrichienne et l'implantation d'un réseau piézométrique de suivi de l'avancée du niveau d'eau salée.

L'alimentation en eau de la ville de Bissau est gérée par la Société publique "Electricité et Eau de Guinée-Bissau" (EAGB) qui fournit un service discontinu, insuffisant et non rentable. Malgré le contrat de gestion actuellement en vigueur, les performances du secteur ne se sont pas améliorées. Les programmes d'investissements enregistrent un retard important par rapport à l'évolution de la demande. Les tarifs en vigueur sont nettement inférieurs au prix de revient de l'eau. Au vu de ces contraintes, le redressement et la relance du secteur requièrent la mise en oeuvre simultanée de trois mesures complémentaires: (i) la réforme du cadre institutionnel de gestion de l'hydraulique urbaine, (ii) l'adoption d'une nouvelle politique tarifaire basée sur le recouvrement des coûts et (iii), la réalisation de programmes de réhabilitation, de renouvellement et d'extension des réseaux de distribution d'eau.

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## 2.3 Assainissement

Comparé à l'approvisionnement en eau potable, l'assainissement a bénéficié de peu d'investissements depuis l'indépendance du pays. Dans le centre-ville de Bissau, un vétuste système d'égout et un vieux réseau de collecte des eaux pluviales sont hérités de l'époque coloniale. Dans sept quartiers populaires, des caniveaux à ciel-ouvert pour l'écoulement des eaux pluviales ont été construits récemment. Les habitations du centre de la ville sont dotées de fosses septiques, tantôt liées aux collecteurs d'eaux pluviales tantôt à l'égout. La grande majorité des habitations des quartiers populaires sont équipées de fosses simples qui sont disloquées dès qu'elles sont remplies.

La population de Bissau disposant d'installations d'assainissement adéquat est de l'ordre de 20%.

La densité de la population des quartiers et le manque d'installations d'assainissement entraînent la pollution du sol et des eaux souterraines de la nappe phréatique avec d'importants risques sanitaires, ce qui explique en partie les récentes épidémies de choléra.

Malgré le fait que la Guinée-Bissau a un des taux de mortalité infantile les plus élevés du monde, avec une forte incidence de maladies d'origine hydrique, l'amélioration des conditions d'hygiène et de salubrité est difficile à cause de la diversité socio-culturelle de la population. Un projet pilote est en cours pour identifier les méthodes d'éducation sanitaire qui contribueraient à améliorer l'hygiène familiale et environnementale.

Un objectif important des campagnes de sensibilisation est l'accroissement du rôle de la femme dans la prise de décisions concernant l'eau et l'assainissement dû à sa place dans l'hygiène familiale, particulièrement au niveau de l'enfant.

Le développement de l'assainissement passe par un effort concerté entre les institutions (Ministère de la Santé Publique (MINSAP); de l'Énergie, de l'Industrie et des Ressources Naturelles (MEIRN); des Travaux Publics, de la Construction et de l'Urbanisme (MOPCU); autorités locales) et les communautés concernés, à partir de la demande exprimée par les populations et les problèmes sanitaires réels.

## 2. OBJECTIFS ET STRATEGIES

Le Gouvernement de Guinée-Bissau, est en train d'impulser une politique sectorielle de l'eau et de l'assainissement et dont les objectifs principaux sont:

- promouvoir un approvisionnement en eau et des services d'assainissement acceptables, afin d'améliorer le niveau de vie et de la santé des populations;

  créer des conditions pour un développement durable du secteur de l'eau et de l'assainissement; atteindre à moyen terme l'autonomie financière du secteur de l'hydraulique urbaine et garantir la réalisation à bonne date des programmes d'investissements sans subvention de l'Etat;

- mettre en oeuvre une stratégie de gestion cohérente des ressources en eau, garantissant la satisfaction des besoins en eau de tous les usagers, la conservation des ressources et la préservation de l'environnement;

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- redéfinir le rôle de l'État, mobiliser le potentiel du secteur privé et de la société civile pour l'exécution de la politique du secteur, et rationaliser le cadre législatif et réglementaire,

La réussite de ces objectifs est garantie par l'exécution de deux instruments fondamentaux de la politique, approuvés par le Conseil d'État en 1992: le Code de l'Eau et le Schéma Directeur de l'Eau et de l'Assainissement.

Le Code de l'Eau est un instrument légal qui fixe les priorités et réglemente les interventions des différents acteurs dans le secteur.

Le Schéma Directeur crée un cadre cohérent de planification à long terme pour l'exécution des actions et les investissements prévus pour le développement du secteur.

## 2.1 Promotion de l'approvisionnement en eau et de l'assainissement

* **Objectif**: consolider l'approvisionnement en eau potable, promouvoir l'extension des services et faciliter l'accès à l'assainissement de la population de Bissau et des centres semi-urbains à travers les actions stratégiques suivantes:

a) réhabilitation, renouvellement et extension des infrastructures pour l'amélioration quantitative et qualitative de l'approvisionnement en eau, s'appuyant sur les recommandations de l'Étude de l'Amélioration de l'Approvisionnement en Eau Potable et de l'Assainissement de la Ville de Bissau et des 3 Centres Secondaires (PROMAS), et des études récentes relatives à 14 autres centres semi-urbains;

b) réhabilitation et mise en oeuvre des infrastructures pour l'écoulement des eaux pluviales et l'évacuation des eaux usées dans les points critiques de Bissau et des centres semi-urbains (PROMAS);

c) organisation et sensibilisation des populations de Bissau et des centres semi-urbains afin de promouvoir: (i) la construction d'installations appropriées d'assainissement individuel; (ii) l'organisation et l'exécution de systèmes auto-gérés de collecte et d'évacuation d'ordures ménagères et (iii), l'organisation des campagnes d'éducation sanitaire liée à l'hygiène de l'eau et à l'assainissement.

Ces actions ont été prises en compte dans le cadre de l'actualisation du Schéma Directeur du Secteur Eau et Assainissement.

## 2.2 Développement durable

* **Objectif**: (i) impliquer les populations dans la planification, la réalisation et la gestion des infrastructures, (ii) assurer le développement du secteur de l'eau et de l'assainissement par la fourniture progressive de services en fonction de l'évolution de la demande, (iii) assurer à moyen terme, l'autonomie financière du sous-secteur de l'eau, tenant compte du pouvoir d'achat et de la capacité de payer des usagers, à travers des actions suivantes:

PARTICIPATION COMMUNAUTAIRE

a) l'organisation des communautés et leur participation dans la conception et le fonctionnement des services comme facteur fondamental de la durabilité;

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PLANIFICATION

b) l'adoption d'une base unique et cohérente de planification des investissements, fondée sur le plan directeur de l'eau actualisé. Pour les villes de Bissau, Gabú, Bafatá et Bolama, les études du PROMAS ont permis de réactualiser le plan directeur d'eau et d'assainissement, de fixer les priorités et d'établir la séquence optimale d'investissement jusqu'à l'horizon 2016 avec une phase d'urgence en 1996 et une phase intermédiaire en 2006. Les conclusions de ces études qui intègrent l'ensemble des projets en cours d'exécution ou en préparation, constituent désormais la base unique de planification pour le renforcement de l'alimentation en eau potable et l'assainissement de Bissau et des 3 centres secondaires.

c) l'analyse de la demande et de la volonté et la capacité de payer des populations pour les installations d'approvisionnement en eau potable et d'assainissement (étude préliminaire faite pour Bissau).

d) L'identification des technologies à faible coût mieux adaptées à chaque niveau de service, et l'attribution à chaque groupe d'usagers du niveau de service acceptable aux plans technique et financier.

POLITIQUE TARIFAIRE ET AMELIORATION DES CONDITIONS TECHNIQUES D'EXPLOITATION

e) Adoption d'une nouvelle politique tarifaire fondée sur le recouvrement des coûts auprès des usagers de l'eau. Lutter contre les pertes et gaspillages d'eau par: (i) la réhabilitation des réseaux de distribution, (ii) la mise en place de compteurs pour les branchements domiciliaires et, (iii) la privatisation des bornes-fontaines publiques.

GESTION

f) La gestion du service de l'eau à Bissau est actuellement assurée par l'entreprise publique EAGB. Après la mise en oeuvre de la réforme institutionnelle envisagée (voir paragraphe 4.4), la gestion de l'hydraulique urbaine sera confiée à un opérateur privé par le biais d'un contrat d'affermage. La gestion du patrimoine sera assurée une Société Nationale autonome "Société Nationale de Patrimoine" (SNP).

g) Le CIMA et les Ministères concernés exerceront la tutelle du processus d'organisation des centres semi-urbains concernant l'approvisionnement en eau et l'assainissement et ils contrôleront le fonctionnement.

h) La DGRN/MEIRN mettra en place une série d'indicateurs de type opérationnel, financier et de gestion qui permettront de mesurer le fonctionnement adéquat des services d'approvisionnement en eau et d'assainissement urbains et semi-urbains.

RENFORCEMENT DE CAPACITÉS

i) Le Gouvernement donnera le maximum de priorité au renforcement des capacités dans le secteur de l'approvisionnement en eau et de l'assainissement de sorte à promouvoir l'introduction de la composante formation dans tous les projets d'investissement. A la lumière de l'expérience du projet PROMAS, les cadres nationaux seront pleinement associés aux études de planification et de conception des futurs programmes d'investissements.

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Ces capacités se réfèrent autant au renforcement institutionnel qu'aux besoins techniques. Dans le domaine institutionnel on créera des capacités de gestion adaptées à la nouvelle forme de fonctionnement du secteur, autant pour les organisations publiques que pour les entreprises privées.

Dans le domaine technique on renforcera les capacités pour la planification, la conception, la construction, l'entretien et la gestion des infrastructures, ainsi que pour la communication sociale nécessaire pour la participation pleine et entière de la communauté.

Le Gouvernement est intéressé à la consolidation de l'entreprise privée et des ONG en tant que partenaires indispensables au développement du secteur, et par conséquent il créera des opportunités pour leur renforcement.

## 2.3 Gestion des ressources en eau

* **Objectif**: Garantir la mise en valeur et l'exploitation durable des ressources en eau destinées à l'approvisionnement en eau à travers (i) une meilleure connaissance hydrologique et des nappes aquifères et de leur fonctionnement, (ii) une protection efficace de ces ressources et des aménagements hydrauliques, et (iii) une gestion efficace et intégrée des différents utilisations de l'eau. Les actions stratégiques sont les suivantes:

a) dans le cadre du Schéma-Directeur, la préparation d'un plan national de gestion intégrée des ressources en eau;

b) évaluation du potentiel d'exploitation durable des eaux souterraines des nappes aquifères de la zone de Grand-Bissau, à travers un modèle de simulation de leurs caractéristiques hydrogéologiques et de leur fonctionnement, et l'observation périodique de l'évolution piézométrique et de la qualité des eaux souterraines;

c) gestion informatisée des ressources et des demandes en eau au niveau des bassins par des banques de données,

d) adoption des décrets d'application du Code de l'Eau relatifs aux droits d'usage des ressources en eau et au contrôle des travaux hydrauliques,

e) établissement d'un cadre légal spécifique pour l'exploitation et le développement des eaux souterraines dans la zone de Grand-Bissau,

## 2.4 Restructuration institutionnelle et assainissement financier

* **Objectif**: Réorganiser le cadre institutionnel de gestion de l'approvisionnement en eau en milieu urbain, de sorte à améliorer la qualité des services et assurer le développement durable du secteur, en utilisant le principe de recouvrement intégral des coûts.

ORGANISATION INSTITUTIONNELLE

S'agissant de l'approvisionnement en eau potable en milieu urbain (principalement à Bissau) Le service d'eau potable sera géré par EAGB sous la formule actuelle de contrat de régie, jusqu'à l'expiration de ce contrat en juin 1997.

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Après cette date, le Gouvernement a pris la décision de réformer le cadre institutionnel de gestion de l'hydraulique urbaine, avec la création d'une société privée d'exploitation qui aura l'entière responsabilité de l'exploitation du service public d'eau et d'électricité à Bissau, par le biais d'un contrat d'affermage avec l'Etat. Cette société d'exploitation (SdE) sera majoritairement détenue par un partenaire privé professionnel choisi à l'issue d'une procédure d'appel d'offres international.

La gestion du patrimoine qui comprend la planification et la maîtrise d'ouvrage des investissements de croissance, le service de la dette ainsi que le suivi et le contrôle de l'exploitation, sera assurée par une Société Nationale de Patrimoine (SNP), placée sous la tutelle du MEIRN. Cette société devrait être légère mais suffisamment compétente pour assurer le rôle qui lui est assigné.

Etant donné la taille réduite des marchés d'eau et d'électricité à Bissau, ces deux activités seront gérés conjointement. Toutefois une comptabilité analytique au niveau de ces deux structures devrait permettre de séparer les comptes et les résultats de chacune de ces deux activités..

Dans un souci d'efficacité et d'amélioration rapide des performances du secteur, le futur fermier sera responsabilisé dans la réalisation de programmes de réhabilitation et de renouvellement de réseaux et dans la maîtrise d'oeuvre d'opérations de petites extensions à définir avec la Société de Patrimoine; ceci, pour garantir la réalisation à bonne date des investissements.

Le rôle des différents acteurs impliqués ainsi que les relations fonctionnelles entres ceux-ci, seront précisés dans les détails, lors des phases ultérieures de préparation de la réforme. Dors et déjà, les grandes lignes de la répartition des fonctions entre l'Etat, la Société de Patrimoine (SNP) et la société d'exploitation (SdE) arrêtées lors de l'atelier de février 1997, figurent en annexe de la présente lettre.

Puisque la mise en place de la nouvelle société d'exploitation (SdE) est prévue en février 1998, il sera nécessaire d'aménager des dispositions transitoires pour la prolongation du contrat actuel de régie dans la période allant de juin 97 à la date de mise en place effective du fermier.

**ASSAINISSEMENT FINANCIER**

La réforme institutionnelle envisagée devrait améliorer sensiblement les performances du secteur (réduction des charges d'exploitation et amélioration des rendements techniques). Toutefois, l'adoption d'une politique tarifaire appropriée est indispensable pour assurer le recouvrement des coûts et garantir à moyen terme l'équilibre financier du secteur.

Des simulations financières seront faites pour déterminer les conditions nécessaires pour atteindre l'équilibre financier du secteur à un horizon réaliste à déterminer. Les hausses tarifaires requises seront appliquées de manière progressive sur la période de redressement financier du secteur, tenant compte de l'amélioration de la qualité du service et du pouvoir d'achat des usagers.

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Après l'installation des compteurs (prévue dans les projets à court terme), la facturation de l'eau sera effectuée sur la base des consommations réelles des usagers (contrairement à la pratique actuelle des forfaits). Les tarifs actuels seront revus à la hausse et les quotas alloués pour les différentes tranches de consommation de la grille tarifaire seront également révisés. Les réajustements tarifaires devraient coïncider avec un début d'exécution des travaux d'investissements (projet BAD et IDA notamment) et l'amélioration de la qualité du service par la mise en place de la réforme du secteur.

Le principe d'une grille tarifaire modulée en fonction des volumes de consommation d'eau, sera maintenu pour faciliter l'accès à l'eau potable aux couches de populations les plus démunies. Les bornes-fontaines bénéficieront d'un tarif préférentiel, mais elles seront privatisées et exploitées par gérants liés par contrat direct avec la société d'exploitation (SdE).

S'agissant du paiement à bonne date des factures d'eau des Administrations publiques, les budgets y afférents seront réajustés pour refléter le niveau des dépenses prévisibles. Une formule de règlement direct des factures des clients cautionnés à la société d'eau par le trésor public, dans un délai maximum de deux mois, sera adoptée. Le stock actuel des arriérés de paiement de l'Etat, sera entièrement apuré avant la fin du premier trimestre de l'année 1997.

Un plan de réduction des consommations d'eau des administrations publiques sera élaboré et mis en oeuvre. Ce plan comprendra les mesures suivantes: (i) l'actualisation du fichier des administrations publiques pour en soustraire les consommateurs illicites, (ii) l'étude diagnostique des installations intérieures et la réalisation d'un programme de réhabilitation de ces installations, afin de réduire les pertes d'eau.

## 2.5 Assainissement

L'objectif primordial de la politique d'assainissement est de doter principalement les centres urbains d'équipements et d'infrastructure permettant une évacuation rapide des eaux de pluies et des eaux usées tout en protégeants les populations et les biens contre les érosions et les inondations. Ainsi compte tenu du développement rapide et incontrôlé de la ville de Bissau d'une part et de la détérioration progressive des infrastructures d'assainissement urbain, une priorité est accorder à l'aménagement de nouveaux éxutoires pouvant garantir un écoulement rapide des eaux et la réhabilitations des anciennes installations. Les nouveaux quartiers et les quartiers non-équipés seront progressivement raccordés au nouveau réseau.

Des stations de traitement des eaux usées seront aménagés à la sortie des réseau d'eaux usées.

Le MOPCU est le Ministère de tutelle pour l'assainissement. La maîtrise d'ouvrage est faite en régie ou confiée aux autorités municipales ou à des associations représentant les utilisateurs. La maîtrise d'oeuvre est confiée aux autorités municipales, ou à la Direction Générale d'Urbanisme (DGHU).

Les travaux sont exécutés par des entreprises privées. La gestion des installations est réalisée par les autorités municipales, par les propres utilisateurs ou par des privés. La supervision du fonctionnement correspond aux autorités municipales, et au MINSAP en ce qui concerne le contrôle et éducation sanitaires. Le MATA assure le contrôle environnemental des installations sanitaires.

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## 2.6 Coordination

Au niveau Inter-ministériel la coordination est assurée par le Comité Interministériel de l'Eau (CIMA), qui s'appuie techniquement sur les décisions du Comité Technique de l'Eau (CTA).

## 2.7 Législation

Dans le cadre de l'application du Code de l'Eau, le Gouvernement prévoit l'établissement de normes pour l'approvisionnement en eau potable qui garantissent la qualité des produits et services, le bon fonctionnement des nouvelles institutions et la définition de nouvelles règles régissant les procédures techniques et administratives.

# 3. MISE EN OEUVRE DE LA REFORME INSTITUTIONNELLE

La décision du Gouvernement de progresser avec la réforme institutionnelle qui englobe EAGB trouve son origine au milieu des années 1994/1995 quant à la restructuration du Projet Energie (Crédit 2237/GUB). Une première étape de consultation de la société civile est faite en Février 1996, à travers un atelier workshop qui identifia en son temps les grands problèmes auxquels sont confrontés les secteurs de l'eau et de l'électricité à Bissau, aussi bien les éventuelles solutions pour faire face aux dits problèmes.

Les principaux problèmes identifiés proviennent de l'insuffisance de la distribution de l'électricité et de l'eau, de la mauvaise qualité de prestation d'EAGB, des tarifs élevés et inadaptés, et aussi de l'inefficacité de gestion (règie intéressée) signée avec une Société étrangère.

Il est prévu dans ladite réforme, séparer les fonctions de législation et de contrôle du secteur, domaine de compétence de l'Etat, avec celles de gestion du patrimoine (à confier à une structure autonome) et de l'exploitation des milieux de production et de distribution d'eau et d'électricité - à confier à un opérateur privé.

Le retard remarqué dans la mise en oeuvre de la réforme est dû à quelques conditionnements et obligations du Gouvernement pris dans le cadre du projet en cours, tel que le processus de liquidation de la Société de distribution de combustible (DICOL), paiements d'arriérées de l'Etat concernant l'approvisionnement en eau et en électricité, la récapitalisation d'EAGB, entre autres.

Grâce au fonds de préparation (PPF) du nouveau projet, diverses études à caractère technico-institutionnel seront mises en oeuvre après le 27 Juillet 1997, date à laquelle se terminera l'actuel contrat de gestion avec le groupe EDF/LISA.

En tenant compte desdits retards ci-dessus énoncés, le nouveau cadre de gestion sera à ses débuts aux environs du mois de mars 1998.

Donc, il y aura nécessairement une phase transitoire pour la gestion de l'Entreprise à travers une équipe mixte composée de techniciens nationaux et de quelques expatriés.

Une première consultation de pré-qualification sera lancée le 30 Mai 1997 et elle sera fermée le 1er septembre avec un rapport respectif. Entretemps, pendant ladite période, il sera créée

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une Société Nationale de Patrimoine (SNP) et la désignation des organes respectifs prévus par les statuts.

Suite à cette première phase, il sera lancé le DAO le 1er Octobre 1997, pour une période de deux mois et demi et qui se terminera le 15 Décembre 1997. Il est prévu la passation totale de services au nouvel Opérateur au plus tard le 1er Mars 1998.

Afin de soutenir techniquement le Gouvernement dans la validation des propositions et documents relatifs à la réforme, il a été proposé la création d'un Comité de Pilotage qui sera composé de techniciens et spécialistes des diverses institutions impliquées.

La structure proposée sera le pôle principal d'organisation des activités de la réforme institutionnelle qui donnera des instructions techniques au Secrétariat Permanent et approuvera les documents. C'est une strucuture temporaire dont les activités devront commencer avec l'élaboration du dossier de pré-qualification pour continuer avec le lancement du DAO pour les entreprises qualifiées, l'analyse des propositions et les activités se termineront avec la passation de services de gestion pour le nouvel Opérateur. Il est prévu la création d'un comité ayant une certaine autonomie de travail, qui va faire des propositions réalistes de réforme, en tenant compte les aspirations et nécessités de la société civile et les positions des services gouvernementaux ayant juridiction dans ce domaine, facilitant ainsi la prise de décision finale du Gouvernement. Pour des raisons d'ordre administratif il n'a pas été possible à ce jour d'instituer ledit Comité, mais cette difficulté ne tardera pas à être surmontée.

Autrement dit, n'importe quelle réforme institutionnelle prendra un certain temps avant son exécution car il est prévu des campagnes de sensibilisation et d'information des communautés, pour lutter contre la résistance aux changements due au manque d'information.

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**ANNEXE**

## RÉPARTITION DES RESPONSABILITÉS ENTRE LES DIFFÉRENTS INTERVENANTS, APRÈS LA RÉFORME DU SECTEUR

**Etat:**

- élaboration d'un cadre législatif et réglementaire;
- définition de la politique sectorielle en harmonie avec la politique nationale de développement;
- gestion des ressources en eau
- approbation du système de tarification.

**Société Nationale du Patrimoine:**

- gestion du patrimoine: amortissement et service de la dette;
- programmation des investissements et recherche de financements;
- maîtrise d'ouvrage des travaux de renouvellement de l'infrastructure;
- maîtrise d'ouvrage des travaux de réhabilitation des réseaux;
- maîtrise d'ouvrage des travaux d'extension de l'infrastructure;
- contrôle et suivi de la qualité de l'exploitation et du respect du contrat affermage;
- suivi financier du secteur et études d'estimation des tarifs appropriés;
- sensibilisation des consommateurs.

**Société Privée d'Exploitation:**

- exploitation et l'entretien de l'infrastructure et du matériel d'exploitation;
- renouvellement du matériel d'exploitation et des compteurs;
- renouvellement du réseau et des branchements;
- extension des réseaux financés par des tiers;
- étude et justification de la nécessité de renouvellement et d'extension de l'infrastructure;
- maîtrise d'oeuvre de programmes d'investissements;
- recouvrement des factures d'eau;
- communication et relations avec la clientèle.

# L'EVOLUTION DU CADRE INSTITUTIONNEL DE LA GESTION DU SECTEUR DE L'APPROVISIONNEMENT EN EAU POTABLE EN MILIEU RURAL : CAS DU BENIN.

## A - LES ETAPES DU DEVELOPPEMENT DE L'HYDRAULIQUE VILLAGEOISE AU BENIN.

### La DIEPA (1980-1989) de nombreux équipements réalisés avec l'Etat comme acteur omniprésent.

Le développement de l'hydraulique villageoise au Bénin a réellement débuté à la fin des années 70; pour les tous premiers projets, l'Etat intervenait à tous les niveaux (planification, programmation, maîtrise d'ouvrage, maîtrise d'oeuvre et même pour les travaux et l'entretien des pompes dans le projet UNICEF). Pendant cette période, un seul type d'ouvrage a été réalisé : le forage équipé d'une pompe à motricité humaine; cependant assez rapidement (1983), avec le projet Conseil de l'Entente 1ère phase, un certain rôle est reconnu aux communautés, qui doivent prendre en charge l'exploitation et l'entretien de leur pompe; de plus les travaux de forage sont confiés (sauf pour l'UNICEF) à des entreprises privées, le plus souvent internationales; l'Etat garde cependant la maîtrise de l'ensemble du processus.

### Entre 1988 et 1992 : *une période de transition*

Au cours de cette période, le type d'ouvrage réalisé n'est plus exclusivement le forage équipé de pompe à motricité humaine : des puits recommencent à être réalisés et surtout apparaissent des équipements motorisés (poste d'eau autonome et adductions d'eau villageoises).

Parallèlement, les problèmes de gestion des équipements par les communautés (en particulier pour les équipements motorisés) sont de plus en plus pris en compte dans la conception et la mise en oeuvre des projets, accroissant par là même le rôle des communautés.

Enfin, le secteur privé local (études et travaux) commence doucement à émerger.

### A partir de 1993 : la nouvelle stratégie de développement du secteur

Sur la base de l'analyse de la situation de l'hydraulique villageoise, et dans le but de mieux garantir la durabilité des équipements réalisés, une nouvelle stratégie est adoptée, puis progressivement mise en place avec les principes suivants :

- retrait total de l'Etat des tâches d'exécution des travaux

- rôle primordial donné aux communautés.

- promotion du secteur privé

- déconcentration des services de l'Etat

La nouvelle stratégie se met actuellement en place dans 4 des 6 départements du Bénin :

* depuis 1993 dans les départements de l'Atlantique et du Zou (projet PADEAR/BM/DANIDA)

* depuis 1996 dans les départements du Mono et de l'Ouémé (projet PADEAR/GTZ/KFW)

Il est aussi envisagé à partir de 1998 l'application de la nouvelle stratégie dans le département du Borgou sur financement DANIDA.

## B - LA MISE EN OEUVRE DE LA NOUVELLE STRATEGIE : évolution vers un nouveau cadre institutionnel pour la construction des ouvrages .

### 1 - Retrait total de l'Etat des tâches d'exécution des travaux et des études.

La Direction de l'Hydraulique s'est effectivement désengagée de toute activité de réalisation de travaux, que ce soit pour les puits ou pour les forages. De même les prospections géophysiques sont réalisées par des bureaux d'études privés.

### 2 - La déconcentration des services de l'Etat (rôle et pouvoir accrus des services régionaux de l'hydraulique)

Les Services Régionaux de l'Hydraulique, pour faire face à leur nouveau rôle, ont été renforcés tant du point de vue des moyens humains que matériels. Environ une cinquantaine de cadres de l'administration : ingénieurs, administrateurs, sociologues, techniciens ont été formés à la gestion d'un service public au tour des thèmes ci-après :

- la gestion administrative d'un service public

- la gestion des ressources humaines et la gestion des conflits

- la gestion des marchés et des contrats

- la gestion de la trésorerie.

L'objectif principal de cette formation est de faire connaître le nouveau rôle que doit jouer le secteur public compte tenu du nouvel environnement institutionnel.

Il reste cependant à aller plus loin dans l'internalisation des principes de la déconcentration (technique et financière) par un travail plus accru d'information, de formation, d'explication pour dépasser les blocages politiques et administratifs.

Mais déjà, au niveau de la Direction de l'Hydraulique, les prochains appels d'offres d'études et de travaux seront lancés, ouverts et dépouillés au niveau des services Régionaux, ils auront leur compte bancaire et signeront des contrats avec les Petites et Moyennes Entreprises et les artisans locaux.

**3 - Rôle primordial donné aux communautés**

- L'installation de tout équipement doit partir d'une demande exprimée par la communauté
- les communautés ont le choix du type d'ouvrage (dans la limite des contraintes techniques et financières) et montent leur propre dossier de projet communautaire
- les communautés participent de manière significative à l'investissement, proportionnellement au niveau de service fourni.
- les communautés prennent en charge totalement l'exploitation et la maintenance des équipements ainsi que le renouvellement des systèmes de pompage et de distribution d'eau.

Pour l'accomplissement convenable de ces nouvelles responsabilités, les communautés ont été formées par des Organisations Non Gouvernementales locales sélectionnées à cet effet en vue :

- du choix

- de la mise en oeuvre

- de l'exploitation

et de la gestion de leurs équipements d'approvisionnement en eau potable et d'assainissement.

Le travail de préparation de chaque projet communautaire mené par ces Organisations non gouvernementales permet aux communautés de prendre réellement conscience des avantages et des contraintes de chaque type d'ouvrage en vue d'un choix conséquent.

## 4 - Promotion du secteur privé local

Une étude environnementale a permis de constater qu'après plus d'une décennie d'intenses activités d'hydraulique villageoise, il n'y a pratiquement pas d'opérateurs privés locaux exerçant dans le domaine. Les quelques uns rencontrés sont de taille modeste, peu performants, sans assise financière réelle satisfaisante. Or, la réduction des coûts de construction des ouvrages passe par la promotion du secteur privé local. La démarche pour y parvenir est basée sur les éléments fondamentaux suivants :

⊕ **Modification des conditions d'accessibilité aux marchés**

Pour faciliter l'accès aux appels d'offres pour les entreprises et bureaux d'études locaux, les consultations sont lancées par petits lots d'ouvrages de même nature.

⊕ **Mise en place d'un fonds de bonification et d'assistance**

Le fonds de bonification et d'assistance aux petites entreprises (FOBAPE) avalise ces entreprises et bureaux d'études pour les engagements qu'ils prennent (caution) sur la base d'un contrat.

⊕ **Définition d'un programme de formation** pour tous les acteurs du secteur privé intervenant dans le projet.

***a) La formation des bureaux d'études et des petites et moyennes entreprises***

Deux séminaires ateliers ont été réalisés au profit de 13 entreprises de réalisation de puits et 12 de construction de latrines et ont porté sur les thèmes suivants :

- l'organisation interne d'une Petite et Moyenne Entreprise
- les différentes parties d'un dossier d'appel d'offres, leur rôle et importance
- les étapes d'étude d'un dossier d'appel d'offres
- l'étude des prix unitaires

***b) La formation des puisatiers***

Un stage de découverte-formation est organisé pour les puisatiers soit 10 personnes issues des entreprises de puits, 5 Techniciens des services régionaux et 1 du niveau central à Ouagadougou au BURKINA FASO. Ce stage comporte :

- des visites de chantier

. au démarrage

. en cours d'exécution

. en exploitation par les usagers.

- des rencontres avec le personnel des entreprises qui réalisent les chantiers

- la visite d'un chantier de fabrication des buses

- la visite d'une base hydraulique et des entretiens avec le bureau de contrôle.

***c) La formation des artisans-maçons locaux***

Au total 50 artisans-maçons ont été formés pour la construction des citernes, des superstructures des forages et des captages de sources dans le cadre d'un contrat directement passé avec la communauté. Ils sont présents dans toutes les sous-préfectures des zones du projet dans un souci de proximité dans l'exécution des demandes des communautés.

***d) La formation des Organisations Non-Gouvernementales***

Six Organisations Non Gouvernementales (ONG) implantées dans les zones du projet Projet d'Assistance au Développement du secteur de l'alimentation en Eau potable et de l'Assainissement en milieu Rural Banque Mondiale ont été sélectionnées (28 animateurs et 06 coordonnateurs) et formées pour servir d'intermédiaire entre les communautés rurales et la Direction de l'Hydraulique. Les thèmes de leur formation sont :

- les techniques d'animation à l'autopromotion

- l'étude du milieu

- l'élaboration de projets communautaires

- les techniques d'alimentation en eau potable et d'assainissement

- l'éducation sanitaire

- les principes de gestion des ouvrages

Des outils pédagogiques ont été conçus et mis à la disposition des ONG pour faciliter leurs tâches dont les principales sont :

- l'information

- la mobilisation

- la formation des communautés rurales

- la mise en place d'un système permanent d'éducation à l'hygiène et l'assainissement du milieu.

## C - NOUVEAU CADRE INSTITUTIONNEL DE GESTION DES POINTS D'EAU.

La gestion des ouvrages a été jusque là communautaire. Mais il s'est avéré que ce mode de gestion a des limites.

En effet, les structures de gestion communautaire mises en place gèrent le point d'eau de manière de plus en plus indépendante de la communauté (c'est parfois une seule personne qui prend en charge l'ensemble de la gestion à son propre profit) et la gestion financière est rarement transparente. L'absence de statuts et d'une manière générale de règles définies au départ pour le fonctionnement de ces structures de gestion (en particulier lorsque la durée de mandat des membres de la structure n'était pas définie) est une des causes de cette situation.

Aussi, avec le développement important ces dernières années des postes d'eau autonomes et des adductions d'eau villageoises, il est apparu nécessaire de clarifier le statut des ouvrages et des équipements et de définir des principes de gestion de ces équipements. Pour ce faire, différents documents ont été mis au point par la Direction de l'Hydraulique à savoir :

- le cadre juridique et institutionnel des systèmes d'eau et les principes de gestion qui définissent la propriété des ouvrages et des équipements ainsi que les modalités de gestion.

- La convention de cession et d'exploitation qui lie l'Etat et la communauté et qui fixe les conditions dans lesquelles l'Etat cède la propriété d'une partie des équipements à la communauté.

- Le projet de décret qui définit les structures de gestion selon les types d'ouvrages.

La propriété des ouvrages est définie comme suit :

* L'ouvrage de captage reste la propriété de l'Etat. La communauté en a l'usufruit.

* L'équipement d'exhaure est la propriété des usagers.

Pour le service minimum de base (Puits et forages équipés de pompes à motricité humaine), un comité de gestion de 3 à 6 personnes est élu par la communauté pour l'exploitation de l'ouvrage.

Pour les Postes d'Eau Autonomes et Adductions d'Eau Villageoise, compte tenu de leur complexité et des recettes importantes qu'ils génèrent, il a

été envisagé la création d'association des usagers de l'eau avec en tête un comité directeur de 7 membres et plus selon les communautés.

Un projet de décret portant mode de constitution, d'organisation et de fonctionnement des Associations d'usagers de l'eau (AUE) a été adopté.

Des statuts types des Associations des Usagers de l'Eau ont été élaborés et servent de cadre de départ pour la discussion entre la communauté et la Direction de l'Hydraulique lors de la mise en place d'une AUE dans un village.

Deux options sont présentées pour la gestion des ouvrages :

- **La gestion directe** dans laquelle c'est la structure de gestion créée au sein de la communauté qui assure elle-même la responsabilité directe de l'exploitation de la maintenance et du renouvellement (en faisant appel à des prestataires de services extérieurs : artisans-réparateurs, entreprise de maintenance et distributeurs des équipements pour les pièces détachées.

Cette forme de gestion est recommandée pour les puits et les forages équipés de pompes à motricité humaine. Ceci permet de ne pas briser notre philosophie qui consiste à susciter le développement communautaire à partir des équipements hydrauliques.

- **La gestion déléguée ou affermage** dans laquelle la structure de gestion délègue à une entreprise privée l'ensemble de l'exploitation et de la maintenance avec obligation de résultats au niveau du service fourni. La structure de gestion communautaire assure le contrôle du service fourni et garde la responsabilité du renouvellement des équipements. Le fermier se rémunère par la vente de l'eau aux usagers et réserve régulièrement à l'AUE une redevance fixe pour le financement du renouvellement des équipements de pompage.

Cette forme de gestion est recommandée pour les ouvrages complexes : AEV et PEA.

L'association des usagers de l'eau garde la maîtrise générale du système c'est-à-dire qu'elle fixe les objectifs (niveau de service, prix, conditions générales d'accès et d'usage du point d'eau). Mais elle délègue à une entité parfaitement identifiée la mise en oeuvre de ces principes dans le cadre d'un accord précis.

La mise en place des AUE est actuellement en cours dans les projets FAC[1], CFD[2] et PADEAR[3] .

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[1] FAC : Fonds d'Aide et de la Coopération

[2] CFD : Caisse Française de Développement

[3] PADEAR : Projet d'Assistance au Développement du secteur de l'alimentation en Eau potable et de l'Assainissement en milieu Rual

## D - LES LECONS TIREES DE LA MISE EN OEUVRE DE LA NOUVELLE STRATEGIE

Bien que le Projet PADEAR soit encore en cours d'exécution, (sur financement de la Banque Mondiale et de la DANIDA, la réalisation des premiers ouvrages vient juste de démarrer, quelques enseignements peuvent déjà être tirés.

Le rôle actif donné aux communautés et le temps parfois assez long laissé pour définir et mettre au point le projet propre à chaque communauté permet de mieux cerner la demande réelle et donc de réaliser des ouvrages mieux adaptés à cette demande et dont on peut espérer une plus grande durabilité.

Trois défis doivent être relevés dans les prochaines années:

1. **la décentralisation** qui va devenir effective très rapidement; les communes qui seront créées auront dans leur domaine de compétence le service public de distribution d'eau potable sur leur territoire. Cette situation logique, dans l'esprit de la décentralisation, peut cependant constituer un risque important, en particulier pour la gestion des systèmes motorisés.
Face à des besoins importants et des ressources limitées, la tentation sera grande pour la Commune de gérer elle-même les équipements d'alimentation en eau potable, en prélevant les ressources d'exploitation sans pouvoir en réaffecter suffisamment pour les dépenses d'entretien et de renouvellement.

Un équilibre doit être impérativement trouvé dans les rôles respectifs de la commune et des structures de gestion communautaire actuellement en place permettant à la fois d'assurer un minimum de ressources à la commune (taxe sur l'eau vendue par exemple) et de garantir l'équilibre financier de la gestion des équipements en alimentation en eau.

2. **La gestion déléguée** : l'analyse de la gestion actuelle des points d'eau montre la limite de la gestion directe par la communauté, en particulier au niveau de la gestion financière la plupart du temps peu transparente (aussi bien pour les pompes à motricité humaine que pour les systèmes motorisés) dès que le suivi des équipements par les Services Régionaux de l'Hydraulique se fait plus épisodique.

la délégation de la gestion par affermage de l'équipement à une entreprise privée locale constitue une solution aux problèmes rencontrés avec la gestion directe communautaire.

Une expérience-pilote dans ce sens devrait être lancée dans le cadre du projet PADEAR/GTZ/KFW puis généralisée si elle s'avère concluante.

**3. Le renouvellement** des équipements par les communautés.

Même si des actions ont été menées dans ce domaine par certains projets, ce problème, n'a jusqu'à présent pas trouvé de solutions à la fois pratiques et économiquement satisfaisantes.

Dans le cadre du projet PADEAR/BM/DANIDA, il a été proposé de créer des Caisses d'Equipement Villageois (CEV), structure à caractère coopératif formées par les AUE (Associations d'Usagers de l'Eau) d'une entité territoriale définie pour optimiser la gestion des fonds de renouvellement de chaque AUE :

- les AUE apportent les fonds de renouvellement à la Caisse d'Equipement Villageois sous forme de parts sociales;

- la Caisse d'Equipement Villageois place une partie de ces sommes et utilise une autre partie pour prêter à moyen terme aux communautés faisant partie de la Caisse d'Equipement Villageois pour la réalisation d'équipements à usage public :

L'argent destiné au renouvellement est donc en sécurité mais aussi permet la réalisation d'équipements et reste disponible pour l'Association des Usagers de l'Eau au moment du renouvellement.

Une expérience-pilote de Caisse d'Equipement Villageois devrait être lancée dans le cadre du programme PADEAR/BM/DANIDA.

En conclusion, on peut dire que l'Hydraulique Villageoise au Bénin, depuis le début de son développement à la fin des années 70, a constamment évolué face aux problèmes rencontrés et à chaque limite atteinte : l'Etat ne peut et ne doit pas tout faire d'où la nécessité d'accroître le rôle des communautés et du secteur privé. La gestion communautaire a ses limites, alors les secteurs privés et bancaire doivent s'impliquer dans la gestion et le renouvellement des équipements.

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# WATER SECTOR CAPACITY BUILDING: from concept to application

**Frank Hartvelt, Director, Water, Water Management and Aquatic Environment Programme, SEED/BPPS/UNDP**

Five years ago, UNDP and the Institute of Infrastructural,Hydraulic and Environmental Engineering (IHE) organized the symposium "A Strategy for Water Sector Capacity Building", in Delft. Participants from developing countries, external support agencies (ESA) and other institutions articulated the capacity building concept as:

- Creation of enabling environment including appropriate policy, legal and regulatory frameworks
- Institutional development, including community participation (women in particular)
- Human resources development and the strengthening of managerial systems

What have we learned about the application of the concept of capacity building in practice both at international and national levels?.

Capacity building has come to be seen as an integrating concept combining policy, legal, regulatory, institutional and human resources issues in a holistic approach towards sustainable water resources development. For example, an institution can not function without well-trained staff, well-trained staff can not function well in a poorly organized institution, and neither staff nor institution can achieve their full potential in the absence of an enabling policy and legal environment.

Over the past five years the capacity building concept has found its way in a number of international conferences such as the Conference on Water and Environment, the Earth Summit, the Noordwijk Conference on Water and Environmental Sanitation, and the Beijing Conference on Urban Water Supply. Interestingly, this concept is also reflected in conferences which do not focus on water in particular, such as the Beijing Conference on Women, the Social Summit in Copenhagen, and the Istanbul Conference on Human Settlements.

At the national level the capacity building concept is increasingly reflected in policy or strategy statements, both in developing and developed countries. For instance, in a policy statement the minister of Water Resources and Forestry of South Africa remarked, "The enormous backlog of basic water and sanitation services to local communities will not be reduced unless the communities themselves are empowered to undertake their own development. This is not

possible if they do not have the skills acquired which they can only acquire through training and experience. Although training is not cheap, the costs of project failure are far greater."

Another telling example of capacity building in practice is found in the following anecdote. Three women had been chosen by a village to take care of the wells and handpumps. Every month they would collect a small fee from the families in order to maintain the pumps, buy the spare parts and bring in a mechanic when needed. After a year they had collected a considerable sum of money which they wanted to deposit in the local bank. When they talked to the bank manager, he said that he could not accept their money because the three women did not have a status and he could not accept money to maintain water supplies since he managed an agricultural bank, not a water bank. This matter was taken up at the central government level where reason prevailed and the ministers of water resources and agriculture agreed to allow these deposits. So what did we learn? First, that a committee of three women do constitute an institution, however small, and second, that the regulatory environment can be changed in order to accommodate local demand.

In our work with developing countries, we do see that the various elements of capacity building are more and more reflected in their strategies and programs. International organizations too have changed their strategies, e.g. the World Bank's water policy paper, the strategy paper of the Asian Development bank, UNDP's strategic framework paper, as well as strategies of the FAO and other UN agencies. The UNDP/World Bank/FAO guide on water sector policy review and strategy formulation is an example of three agencies working together in providing guidance to both developing countries and ESAs. In UNDP's definition capacity building is undertaken through and with governments and civil society for the management and use of water resources and the aquatic environment in ways that reconcile poverty alleviation and environmental protection.

Bilateral agencies have also issued strategy papers incorporating capacity building as a central concept.

Based on these strategic frameworks a number of field programs have also put capacity building as a central theme of their operations, for instance the UNDP/World Bank Water and Sanitation Program, the International Program for Transfer of Technology and Research in Irrigation and Drainage, the Utility Partnership for Africa, as well as the UNDP Capacity Building Program for Sustainable Water Sector Development co-financed by the Netherlands, the World Bank, and other bilateral agencies.

Over the past year two international support mechanisms have been established: the Global Water Partnership, co-sponsored by UNDP, the World Bank and SIDA which represents a coalition of external support agencies, developing countries and other groups dedicated to achieve greater impact of development cooperation programs at the country level through the harmonization of policies and approaches, the identification of gaps and the creation of partnerships, and the World Water Council which is designed to focus on long term water issues as well

as awareness raising from the general public to the highest political levels. The Water and Sanitation Collaborative Council, which represents a forum for exchange of ideas for water sector professionals, was created several years ago.

At the regional level support mechanisms have been created as well, for example, the Mekong Committee, the Water Office of the Southern Africa Development Community, the Organization for the Management of the Senegal River Basin and the most recently created Nile Basin Cooperative Framework.

It is clear that an impressive array of instruments and mechanisms has been created in recent years in support of sustainable water resources development. Let's focus on how the concept of capacity building and its modus operandi are applied at the field level.

For capacity building to be truly effective all the stakeholders need to be involved in the planning and implementation of programs. Stakeholders include central government ministries ranging from water resources to agriculture to health and others; municipalities; regional and local authorities including river basin commissions; communities; the private sector; professional associations; universities; nongovernmental organizations; and external support agencies.

Experience has shown that capacity building can be initiated or strengthened by undertaking a water sector assessment, a process led by the government and implemented by a team of national specialists complemented as necessary by external expertise. The water sector assessment addresses:

- Social and economic development objectives
- Water resources availability and requirements
- Facilities available for water supply and sanitation and agricultural irrigation as well as other water related activities
- Policy, legal and regulatory tools
- Institutional resources at national, regional and community levels
- Human resources and facilities for their development
- The financial situation with regard to capital and operations and maintenance requirements including the potential for pricing and cost recovery
- Identification of prospective external support agencies interested in providing technical and financial support
- Outline of a short term strategy (three to five years) and long term outlook (fifteen to twenty years)

Transboundary river basins represent a challenge with regard to integrated water resources management. It is felt that river basin management can be greatly facilitated when adjacent countries have first carried out their own water sector assessments.

What are the outputs of a water sector assessment? In the short term they are the initiation of a process of capacity building; a nucleus of committed and

trained officials and specialists, and a water sector assessment report including a short and a long term strategy. In the longer term the outputs are improved inter- and intra-sectoral collaboration; improved coordination among national agencies and ESAs, and development strategies and programmes incorporating capacity building activities.

Let me illustrate what the capacity building process has brought about in a number of countries. In Bolivia the river basin approach has been adopted together with a decentralization process for which special efforts are required to develop the human resources for implementation.

In Mexico, the fiscal framework will be adjusted with regard to water levies, and changes are considered in the organizational structure of the National Water Commission. In Peru the water law will be reformulated including regulations and incentives to allow decentralization and private sector participation, a river basin approach will be adopted, and programmes will be initiated for training and information management, awareness raising and education.

In Ghana, a consortium of the World Bank, UNDP and several bilateral agencies is currently supporting the preparation of a national policy based on a water sector assessment with a special focus on regulatory issues, economics, financing, institutional and human resources development, and information management.

In Mali, the results of the water sector assessment will be reviewed shortly by the government. Main issues include the mandate of a water authority, the harmonization of various acts and laws defining the ownership of the natural resources, i.e., land tenure and water legislation, coordinating mechanism between the major institutions in the water sector and human resources development at all levels to support the decentralization process and information management.

In Yemen, a number of ESAs including UNDP, the World Bank and the Netherlands have joined forces with the government in the establishment of a national water resources authority.

One issue that has emerged in recent years is access to local finance from development or commercial banks. Given the limitation of current flows of official development assistance and private sector funding (which primarily focuses on large scale investments for urban utilities) these banks should offer great potential to increase the flow of resources to rural and periurban communities which are prepared to pay for water services but which do not have the conventional collateral. Instead, these communities have what may be called "social collateral" because of the way they are organized for the collection of fees, and for operations and maintenance. Support from NGOs may be needed to assist the community in administrative and technical matters to enhance their creditworthiness. To make this work credit guarantee mechanisms are being considered to pay local banks in case of a default. Increasingly it is understood that water is not only a social but also an economic good. Indeed, community water supplies are often used both for

household use (e.g. drinking, cooking, bathing) and for income-generation (e.g. small-scale food production and small enterprises).

The lessons learned over the past years may be summarized as follows:

- Capacity building is both a concept and a process leading to specific products.
- Sustainability of investment projects in the sector is a direct function of the capacities of the individuals and the institutions.
- Policies, laws and regulations need to be changed in order to create an environment conducive to water resources management and the provision of water services in a sustainable manner. For this change process to be successful the principal stakeholders need to be consulted, ranging from government ministers, provincial authorities and city mayors to industries, farmer associations, and village well caretakers.
- Institutions need to be reformed in order to deal effectively with decentralization of functions and contracting with private sector entrepreneurs. This process can be described as a transformation of the role of government from "provider" of services to "enabler".
- The river basin is the unit of choice for planning and implementing water management activities involving all the stakeholders who have a direct interest in having sufficient quantities of water of good quality for their social and economic well being. It is at the basin level that hard choices need to be negotiated in order to accommodate competing interests such as between fast growing cities and agriculture. For transboundary river basin management, countries will be in a good position to undertake negotiations provided they have sufficient information as well as a long term strategy for the future. For this purpose, they can undertake water sector assessments which would give them the necessary information and policies which could be used when negotiating with their neighbors. Thus they would level the playing field allowing them to arrive at solutions of mutual interest. It is vital that negotiations are carried out in a participatory and transparent process involving all the stakeholders.
- Collecting and sharing information are fundamental in planning and negotiation processes. Awareness raising among the general public as well as at the highest levels of decision making requires active communication systems.
- Pollution of surface and underground water needs to be tackled through numerous approaches including legislation, fiscal and economic incentives, reduction of pollution at the source (limiting the use of fertilizers, pesticides, industrial chemicals and effuents), reuse of water (circular instead of linear approach) and awareness-raising.

Since capacity building is a long term step-by-step process and constitutes the very basis of sustainable development, governments and ESAs, would be well advised to design and implement programmes with a sufficiently long time horizon. Such approach could be enhanced if lending and budget policies are adapted to this end and, perhaps most importantly, their staffs are mobilized and rewarded accordingly.

The challenges ahead are manifold. Some of the most pressing issues can be summarized as follows:

- *Water resources need to be managed in river basins and in coastal areas.* For instance, it is clear that the negative consequences of land-based pollution need must mitigated not only along river banks but also in coastal areas, for the benefit of human settlements, tourism and fisheries. Capacities need to be built or strengthened for people and institutions to deal with the complex social, economic and environmental issues and interests.

- Human resources development remains a difficult and complex issue. Among the measures to be considered are the inclusion of contemporary notions and experiences in water resources management and capacity building in the curricula of education and training courses; distance learning programmes to reach more students and practitioners as compared with traditional courses; rewards for outstanding performance of staff.

- Leveling the playing field for negotiations on water allocation and pollution control between countries, states or other entities. Techniques for the prevention and resolution of conflicts between stakeholders.

- Financial and decision making autonomy of public sector water and sewerage utilities. Contracting with the private sector.

- Financing of water supply and sanitation. If the vast number of people without access to safe water (1.4 billion) and adequate sanitation (close to 3 billion) is to be reduced additional resources are to be found in national commercial, community or development banks, other sources of credit and private entrepreneurs. Policies, legal and institutional frameworks conducive to such new sources of funding would need to be developed for this purpose. Measures to be considered could include the use of loan guarantees, issuance of bonds, tax write-offs for banks, debt conversion or swaps, creation of water and sanitation banks. As stated above a critical factor is to see water as a social good and a economic commodity if it is to be considered "bankable".

- The creation of a network for capacity builders which would not only allow the sharing of information and expertise but also become proactive in synthesizing experience and lessons learned, identify research areas and encourage "virtual exchange of views".

The past years have witnessed many promising initiatives. Let us analyze and build on them thus allowing us to shift capacity building into a higher gear for the sake of making development truly sustainable.