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GUIDANCE NOTE

Public Expenditure Review from the Perspective of the Water and Sanitation Sector

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WATER PARTNERSHIP PROGRAM

THE WORLD BANK

Contents

EXHIBITS

BOXES

Acronyms and Abbreviations

AAA	Analytical Advisory Assistance
AFR	Africa
BIA	Benefit Incidence Analysis
CAPEX	Capital Expenditures
CBO	Community Based Organizations
CEM	Country Economic Memorandum
COFOG	United Nations Classicization of the Functions of Government
DFID	Department for International Development (of the United Kingdom)
DP	Development Partners
EAP	East Asia and Pacific
ECA	Europe and Central Asia
ESW	Economic Sector Work
GDP	Gross Domestic Product
IBNET	International Benchmarking Network for Water and Sanitation Utilities
IWA	International Water Association
JMP	Joint Monitoring Program of the WHO and UNICEF
LAC	Latin America and Caribbean
MDG	Millennium Development Goals
MNA	Middle East and North Africa
MWRMD	Ministry for Water Resource Management Development
NGO	Non-Governmental Organization
NRW	Non Revenue Water
NWCPC	National Water Conservation and Pipeline Corporation
ODA	Overseas Development Assistance
OPEX	Operating Expenditure
PCN	Project Concept Note
PEFA	Public Expenditure and Financial Accountability
PER	Public Expenditure Review
PETS	Public Expenditure Tracking Survey
PFM	Performance Measurement Framework
PFM	Public Financial Management
PREM	Poverty Reduction and Economic Management Department
PRSP	Poverty Reduction Strategy Paper
PSIA	Poverty and Social Impact Analysis (of the World Bank)
PSSP	Private Small Service Providers
QSDS	Quantitative Service Delivery Survey
RWSS	Rural Water Supply & Sanitation
SAR	South Asia Region
SSA	Sub Saharan Africa
TMP	Task Management Plan
TOR	Terms of Reference

UN	United Nations
UNICEF	United Nations Children's Fund
WB	World Bank
WHO	World Health Organization
WSD	Water Supply Department
WSP	Water and Sanitation Program
WSS	Water Supply Sanitation

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EXECUTIVE SUMMARY

INTRODUCTION

An understanding of the processes that drive public expenditure allocations, and an assessment of the efficiency of such expenditures are critical to ensuring equitable and sustainable WSS services.

The objective of this *Guidance Note: Public Expenditure Review from the Perspective of the Water Supply and Sanitation Sector* is to provide World Bank staff with a body of knowledge and good practice guidelines to help them evaluate the allocation of public resources to water and sanitation services in a consistent manner and to increase their knowledge of public expenditure issues in the sector.

This *Guidance Note* discusses the challenges that are specific to public expenditure management in water and sanitation and the difficulties often involved in identifying sector expenditures. The challenges particular to this sector stem from three factors. First, countries define water and sanitation differently (e.g., drainage may or may not be included, rural services may be considered separately). Second, responsibilities for water and sanitation policy are often divided horizontally across government ministries and agencies, vertically between national and local governments and functionally among the public, private, and non-governmental sectors. Third, the roles of these multiple actors may be unclear or overlapping.

This *Guidance Note* has benefited from analysing the existing coverage, quality and results of the 42 Public Expenditure Reviews (PERs) covering water and sanitation undertaken from 2002–2010. Most of the PERs reviewed discuss water and sanitation along other sectors, with varying scope and depth of analysis. Most of them focus on urban water supply and sanitation. A few focus on rural water supply and sanitation (primarily in Africa) and some include water resource management and irrigation. Annex 2 provides additional details.

Fifteen of the PERs were subject to a separate World Bank analysis from which this paper draws.[1] These covered 15 countries in Sub-Saharan Africa. That study noted the difficulties of standardizing the methodology for PERs in water and sanitation and recommended that the Bank develop a set of tools and resources to help future PERs in water and sanitation to learn from the considerable body of experience and to be completed as effectively as possible.

The World Bank's Independent Evaluation Group (IEG) recently reviewed ten years of Bank support for water (IEG Evaluation of World Bank Support, 1997–2007, Water and Development 2010) and concluded that Bank projects had a low success rate in achieving their cost-recovery targets. Only 15% of the water supply and sanitation projects that attempted full cost recovery actually achieved this goal. The report stated that the question of who pays for uncovered costs remains unanswered, raising concerns about the sustainability of water supply and sanitation projects.[2]

The Bank has proactively examined ways to address the question of who pays for uncovered costs. This *Guidance Note* (along with other analytical work such as *Cost Recovery in the Water Practice* and the *Political Economy and Governance of Urban Water Supply and Sanitation*) identifies ways to increase the effectiveness, efficiency and predictability of water sector-specific public spending.

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1 *More, Better, or Different Spending? Trends in Public Expenditure on Water and Sanitation in Sub-Saharan Africa.* Meike van Ginneken, Ulrik Netterstrom and Anthony Bennett, World Bank, 2011.

2 IEG, p. Xv.

CHARACTERISTICS OF PUBLIC EXPENDITURE IN THE WATER SUPPLY AND SANITATION SECTOR

Water and sanitation services are ultimately paid for by a combination of tariffs from water users, subsidies (from taxes) from national taxpayers or grants (transfers) from external sources. The main public agencies involved in the WSS sector are the ministry of finance, the ministry responsible for local government, ministries dealing with water resources, public works, environment and health, municipalities, utility companies (parastatal agencies, usually focused on urban areas) and in some cases agencies charged with implementing specific programmes or projects.

In rural areas, the main agencies are usually local government, community-based organizations (CBOs) and non-governmental organizations (NGOs). Central governments typically channel finance (grants, loans, proceeds of bond issues) for capital spending on water and sanitation to local authorities or public utilities. Central governments may provide finance to local governments to fund locally managed water supply and sanitation (WSS) sector investments may provide guarantees to sub-national agencies to assist their financing. Tariff revenue from the provision of WSS services may be retained by the local water undertaking or may be returned to the central government treasury.

GOALS OF THIS REPORT

The *Guidance Note* has five goals:

- To provide basic guidance on the analytical components and purpose of a PER. While individual reviews should be shaped to the specific context, sector policy and/or public expenditure management issues, this paper gives basic guidelines which will provide practical support and the basis for comparison with other reviews.
- To introduce the reader to standard budget reports, on which the PER is likely to be based, and sources of further information on the quality of the public expenditure management system to help assess the quality and usefulness of such reports.
- To give a basic understanding of the WSS sector in terms of its institutional and organizational make-up. This understanding can help in planning and managing the review for those unfamiliar with the sector.
- To illustrate the type of findings likely to emerge from the initial analysis and help the readers evaluate the findings and focus the remainder of the analysis.
- To give guidance on standard analysis and sector data presentations and references to additional data sources that allows benchmarking of the country's performance.

This *Guidance Note* draws on a number of case studies to highlight the analysis, findings and recommendations made in WSS PERs across a range of contexts and national income levels.

CHAPTER 1

Purpose and Practice of Public Expenditure Reviews

OBJECTIVE

The objective of this *Guidance Note: Public Expenditure Review from the Perspective of the Water Supply and Sanitation Sector* is to provide World Bank staff with a body of knowledge and good practice guidelines to help them evaluate the allocation of public resources to water and sanitation services in a consistent manner, and to increase their knowledge of public expenditure issues in the sector.

WHY PUBLIC EXPENDITURE ANALYSIS IN WATER SUPPLY AND SANITATION IS IMPORTANT

Public expenditure analysis in water is becoming increasingly important for a number of reasons. First, major public investment is needed to improve access to safe water services and basic sanitation. The price tag for reaching the MDGs for both water and sanitation in Sub-Saharan Africa alone is an estimated USD 22.6 billion per year, or 3.5% of these countries' GDP.[3] And public finance continues to be important for investment. Experience of the past two decades indicates that private finance will not meet the needs for investment in water systems.[4]

Second, public spending is not as efficient as it could be. The review of public expenditure water and sanitation supply in 15 countries in Africa found no relationship between levels of funding and levels of access. It found that public spending did not overcome market failures or reduce inequity. It also found that more than one third of public funds allocated to water and sanitation was on average not spent.[5] A search of more than 12,000 observations on the water utility benchmarking website, the International Benchmarking Network for Water and Sanitation Utilities (IBNET), indicates that 37% of water utilities in the developing world do not even cover operations and maintenance costs from their internal revenue.[6] The remainder either comes from public funds or is deferred maintenance.

Third, poverty analysis shows that in many countries, public funds spent on water and sanitation flow disproportionately to the non-poor, often in contrast to government intention and stated policy.[7]

This analysis therefore aims to help develop diagnostics that will improve the efficiency of public spending. It draws on a database of 42 PERs that include analyses of the water and sanitation sectors, and which were undertaken by the World Bank (see Annex 2). Most of these PERs discuss the water sector alongside other sectors, with varying scope and depth of analysis of WSS sector issues. Most focus on urban water supply services and sanitation. A few

3 OECD, Meeting the Challenge of Financing Water and Sanitation, October 2010.

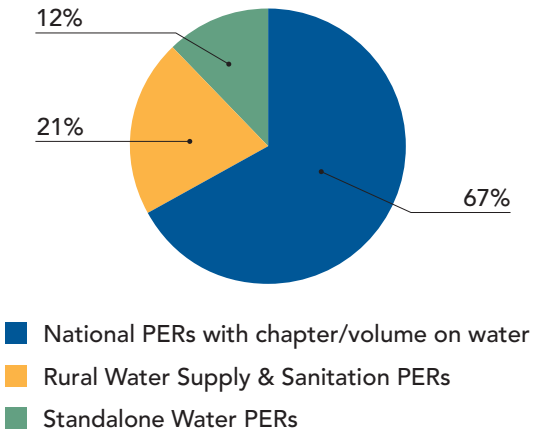
4 Marin, Philippe. Public-Private Partnerships for Urban Water Utilities : A Review of Experiences in Developing Countries. World Bank. 2009

5 More, Better, or Different Spending? Trends in Public Expenditure on Water and Sanitation in Sub-Saharan Africa. Meike van Ginneken, Ulrik Netterstrom and Anthony Bennett, World Bank, 2011.

6 www.IBNet.org. Accessed July 2, 2012

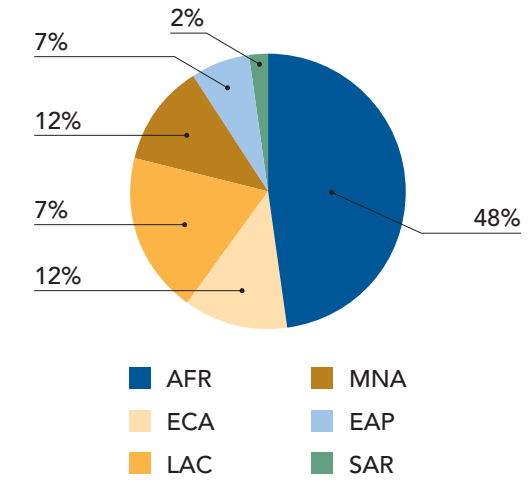
7 Banerjee, Sudeshna; Skilling, Heather; Foster, Vivien; Briceno-Garmendia, Cecilia; Morella, Elvira; Chfadi, Tarik. *Africa—Ebbing Water, Surging Deficits : Urban Water Supply in Sub-Saharan Africa*. World Bank. 2008

EXHIBIT 1: Public Expenditure Reviews by Type



Source: Public Expenditure Reviews 2002–2010.

EXHIBIT 2: Public Expenditure Reviews Completed By Region



Source: Public Expenditure Reviews 2002–2010.

focus on rural water supply and sanitation and some include water resource management and irrigation. The report also makes reference to additional water and sanitation PERs, financed by other organisations.

Out of the 42 PERs, 20 are from Africa, eight are from Latin America, five are from Middle East and North Africa, five are from Europe and Central Asia, three are from East Asia and the Pacific and one is from South Asia. Twenty-eight of the 42 PERs are national with a section on water. Fourteen of them are stand-alone water PERs, of which nine are from the Africa region and primarily focused on WSS in rural areas. (See Exhibits 1 and 2).

The objectives of water PERs vary depending on the context. In Tanzania, the PER aims to gain insight into how budgeted allocations for the water sector translate into actual water and sanitation service delivery and to understand what impacts the links between the two. In Mexico, the report examines water supply and sanitation, irrigation and drainage, as well as the overall water resource and fiscal management issues for the sector. In Lebanon, despite the relatively high coverage rate in the water sector (78%), continuity of supply is low, so the PER aims to see whether public spending could be better allocated and managed to improve the situation. In Egypt, the PER assesses the trends of public expenditures in water, covering irrigation and WSS. It investigates sources of fiscal stress, and explores efficiency and equity implications of the current arrangements. In Mozambique, the PER investigates whether public spending on water supply and sanitation is commensurate with the public health costs of current levels of service.

PERs can cover the following different sets of circumstances:

- Analysis of expenditures of the sector or of dedicated WSS ministry(ies).
- Analysis of the spending of a larger sector or ministry that has water and sanitation as part of its portfolio.
- Review of water and sanitation as part of a cross-sectoral PER.
- Assessment of multi-sector spending, such as infrastructure, where water was included but not disaggregated.

PURPOSE OF A PUBLIC EXPENDITURE REVIEW

The purpose of a PER is to analyze the allocation of public resources and provide an objective assessment of the efficiency and effectiveness of public spending. A PER will review the level and composition of public expenditures, structures of governance and the functioning of public institutions in order to: (i) consider how budget allocations fit strategic development requirements; (ii) track whether and how allocations reach their intended destinations; and (iii) analyze whether expenditures favour efficient, effective, equitable and sustainable services. Therefore, the PER can analyse the extent to which policy priorities are effectively implemented in practice and diagnose ways to improve the effectiveness and efficiency of

BOX 1. OBJECTIVES OF A PUBLIC EXPENDITURE REVIEW IN WATER SUPPLY AND SANITATION

Objectives of the PER in Water and Sanitation

i. To analyse expenditure allocation, disbursement and execution. How are allocations linked to GoR policies and reflected in budgets? How well does the actual spent match allocation priorities and approved budgets?

ii. To assess the robustness of the public financial management systems and institutions in the sector; for example MTEF, budget control processes, budget execution, reporting and accountability processes.

iii. To provide a framework for a rational consideration of public financing in these sectors to ensure an integrated analysis of both recurrent and the development budget and comment on efficiency and effectiveness of public financing in the sector.

iv. To provide an independent assessment of the adequacy, appropriateness and effectiveness of sector spending.

(Commissioned by the Government of Rwanda, through the Ministry of Economy and Finance, in 2008.)

Source: www.grandslacs.net/doc/4140.pdf.

public spending. Box 1 provides an example of the objectives stated for a PER in water and sanitation, commissioned by the Government of Rwanda, through the Ministry of Economy and Finance in 2008.

PERs look at both recurrent and development expenditures, and attempt to review the joint impact of both types of spending on budgetary outcomes including economic growth, poverty reduction, and asset maintenance. A PER may also contain an institutional assessment and analyse the whole public expenditure management system. Lessons learned from the PER can inform strategic planning and budget preparation by identifying ways to improve budget allocation to achieve faster progress towards a sector's policy objectives.

Most PERs consider public expenditures within the broader context of economic growth, poverty reduction and other strategic goals. Increasingly, PERs have moved beyond a review of budgetary issues and sector policies to examine the institutional aspects of

BOX 2. POSSIBLE POLICY GOALS TO BE CONSIDERED WHEN REVIEWING PUBLIC EXPENDITURE IN WATER AND SANITATION

i. Contribution of expenditures to poverty reduction.

ii. Expenditures targeted at those activities that the private sector cannot undertake.

iii. Expenditures targeted at those activities with high socio-economic impact, as measured by rates of return or other quantitative criteria.

iv. Expenditures targeted at activities that communities have identified as important to them.

v. Expenditures directed to well-planned activities for which realistic and modest unit costs have been identified and where there is a well-developed expenditure proposal.

vi. Contribution to reduction of recurrent costs, such as non-wage funds with regard to water supply or alternatively expenditures on activities that are labour-intensive.

vii. Expenditures targeted at those activities that can affordably be extended to the whole relevant target population, rather than those which could be delivered to only a few.

viii. Activities that favour disadvantaged groups, including activities that address gender or age-based inequities and protect the rights of children, and activities that reduce economic inequality.

Source: Authors' analysis.

budget making and public expenditure management. Individual PERs vary in their scope, depending on the objective, but most try to identify:

- The most pressing sector policy issues;
- The current and recent status of the sector in terms of performance and impact;
- Recent levels of public expenditure in the sector, the main sector policy issues and any current or planned measures to improve performance; and
- Most PERs will also make recommendations to improve the quality and coverage of expenditure and performance information relating to the sector.

When reviewing public expenditure, a number of criteria need to be selected for assessing how expenditure is allocated. The following example provides an indication of how this may work. (Box 2.)

The analytical framework for most PERs includes the following elements:

- An overview of the macroeconomic and fiscal context, the structure of public finance and recent trends in economic and fiscal outcomes. Most PERs include a discussion of the economic composition of public expenditure and the functional breakdown of the sectors under review (for the water sector, this may include urban and rural water supply, urban and rural sanitation services, irrigation and water resource management);
- An overview of the national policy agenda and sector strategy and the main expenditure allocations and projections;
- Analysis of the efficiency of expenditure. This generally involves a discussion of the appropriate role of government in the financing and delivery of goods and services in the sector, after the rationale for public intervention—market failure (efficiency) and redistribution (equity)—has been identified;
- Another common comparison is to look at 'budget efficiency'—the difference between budgeted and actual expenditures, followed by a detailed analysis of actual public expenditures by region, urban and rural sub-sectors, looking at capital versus recurrent expenditure, sources of funding and expenditure by income group with a focus on the access to key public programs by the poor; and
- A review of the institutional aspects of public expenditure management and budget decision-making. This review will cover the extent to which system-wide performance issues affect sector performance (e.g., unpredictable releases of the approved budget) and the extent to which institutions, politics and incentives bear on budget allocations and expenditure outcomes.

CHARACTERISTICS OF PUBLIC EXPENDITURE IN THE WATER SUPPLY AND SANITATION SECTOR

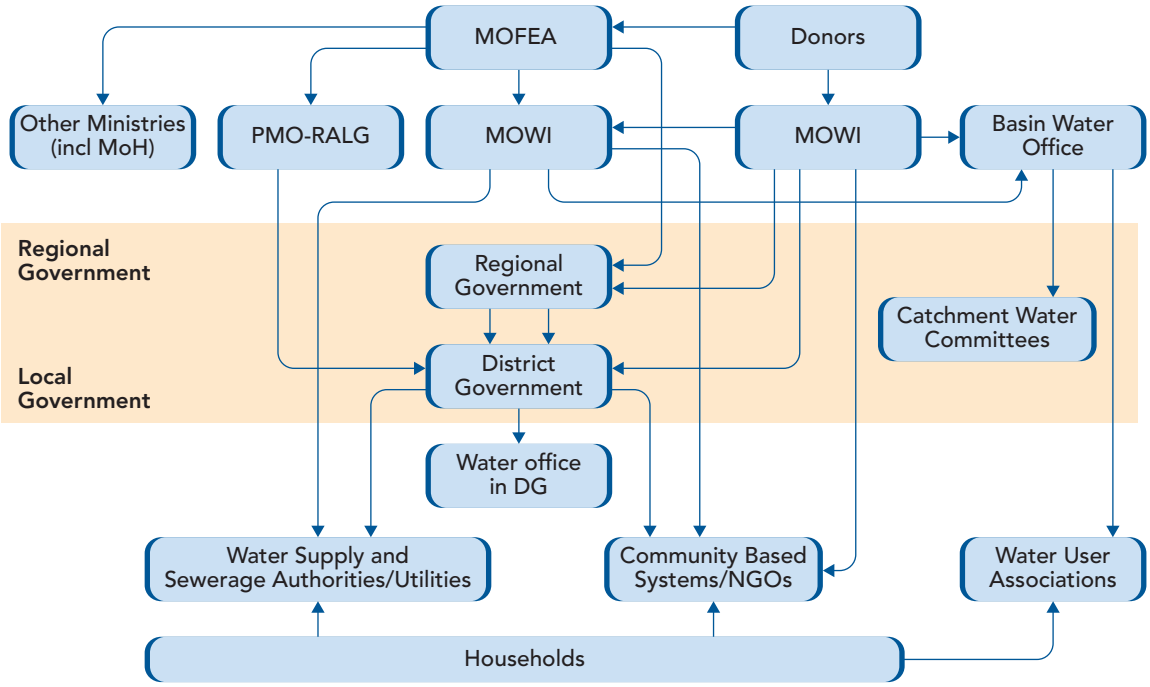
The water practice sector spans a wide range of structures, services and functions that are closely interrelated. It includes water services, household water and sanitation, household sewerage and wastewater treatment, irrigation, catchment management, environmental protection and water quality and pollution control. Public sector involvement in the water sector covers a range of functions including policy, strategy and fixing of priorities, resource allocation and budgeting, systems analysis, funding and management, research and data collection. This can involve a number of different activities including consultation, regulation, monitoring and enforcement, public awareness/information and conflict resolution and arbitration.

Water and sanitation services are ultimately paid for by a combination of tariffs from water users, subsidies (from taxes) from national taxpayers or grants (transfers) from external sources. The main public agencies involved in the WSS sector are the ministry of finance, the ministry responsible for local government, ministries dealing with water resources, public works, environment and health, utility companies (parastatal agencies, usually focused on urban areas) and in some cases agencies charged with implementing specific programs or projects.

In rural water supply and sanitation, local governments, community-based organizations (CBOs) and non-governmental organizations (NGOs) play a more prominent role than they do in urban areas. Central governments typically channel finance (grants, loans, proceeds of bond issues) for capital spending on water and sanitation to local authorities or public utilities. Central governments may provide finance to local governments to fund locally managed WSS sector investments and may provide guarantees to sub-national agencies to assist their financing. Tariff revenue from the provision of WSS services may be retained by the local water undertaking or may be returned to the central government treasury.

Common features of the organizational framework for the sector are the following:

EXHIBIT 3: Example of Flow of Funds in the Water Sector in Tanzania



- Shared responsibilities between central government ministries to achieve sector goals and implement sector strategies, with responsibility for sanitation in particular being shared with health and environmental ministries.
- Primary responsibility for the implementation of water and sanitation schemes often lies with local government and with the local offices of sector agencies. In many countries, decentralization of this responsibility to local governments is recent and has not been fully matched by sufficient qualified technical staff and funding.
- Community organizations often play an important local level role in the implementation of water and sanitation strategies, especially in rural areas. Data on the financing and impact of such schemes, particularly in rural areas, are often scarce.

A key part of the PER is, therefore, to identify the institutions involved in the sector and provide a summary of the roles and responsibilities of the major institutional players. It can facilitate and streamline data collection, identify expenditure allocations, and conduct the analysis of the issues that govern sector performance if a WSS PER can 'map' sector institutions. Sector financing arrangements can then be clarified by assessing the relative contribution of funds by different channels and sources of finance. (Exhibit 3.)

INSTITUTIONAL FEATURES OF THE WATER AND SANITATION SECTOR

Absorptive capacity constraints (measured by budget execution performance) vary depending on the type of expenditure involved (e.g. staff costs, capital expenditure, subventions to service providers, transfers to other levels of government) and the source of financing (e.g., domestically financed, externally sourced finance, whether from private or public sources). In general, capacity to spend budgeted resources is likely to be lower in sectors where:

- A relatively low proportion of total sector spending is accounted for by staff costs relative to capital expenditure;
- Spending depends on successfully managing complex procurement processes, especially at local level for which specific administrative skills are required; and
- There is a requirement for technical skills to allow investments and maintenance to take place.

There are therefore some *prima facie* reasons for expecting the WSS sector to face particular problems

BOX 3. LIMITED INTEGRATION OF POLICY-MAKING, PLANNING AND EXECUTION IN LEBANON

The sector's investment absorptive capacity is low. Under the current institutional framework, there is limited integration between policy-making and investment planning and execution in the WSS sector. The Ministry of Electricity & Water is responsible for setting the strategic direction of the sector; while the Council of Development & Reconstruction is de facto leading the investment planning and execution, given that the bulk of the sector investment is financed by donors. The loose alignment of policy-making and investment planning and execution is accompanied by limited interagency coordination. Capital expenditure has been consistently below planned and approved capital outlays. Only 55% of planned and approved capital expenditure has been executed over the period 1992–2006 in the water sector. There is also a lack of coordination in the planning of maintenance and capital expenditure, which negatively affects the sustainability of public investment in the water and wastewater sector.

Source: Republic of Lebanon: Water Sector PER, World Bank, May 2010.

of budget execution compared to other sectors, since the pattern of spending in the sector (compared to health and education, for example) tends to be relatively capital intensive, to have a relatively low proportion of staff costs, to be dependent on external contracting and to require technical skills particularly in engineering and local facilitation. (Box 3.)

Another factor that may lead to differential performance among sectors is the priorities that governments (and particularly ministries of finance) follow in the release of funds in circumstances where governments are operating under cash budget constraints. Under cash budgeting, for example, spending agencies are able to incur budgeted expenditure only when the ministry of finance provides a specific release of funds to the sector. This effectively introduces a second level of decision-making about resource allocation in addition to the budget, since ministries of finance operating under cash budgeting tend in practice to favour particular forms of expenditure, rather than making a pro rata allocation of available funds in line with budget shares. (Box 4.)

BOX 4. DIFFERENCES IN BUDGETED AND ACTUAL EXPENDITURE IS THE WATER SUPPLY AND SANITATION SECTOR

High level of unspent budgets for water and sanitation could signal insufficient absorptive capacity, for which the reasons should be identified In a multi-country survey; WaterAid found that actual disbursements of water budgets were routinely only a fraction of the allocated amounts. This may reflect a difference in priorities between the central and local levels of administration, bureaucratic blockages in the system or the presence of other, nonfinancial, constraints on higher spending. In such cases, finance may not be the most urgent problem to address as the first priority.

Source: Redhouse, D., et al., Getting to Boiling Point—Turning up the Heat on Water and Sanitation, WaterAid, 2005.

CHAPTER 2

Guidance for Conducting Public Expenditure Reviews

IDENTIFICATION AND PREPARATION

Contextual Fit

Undertaking a PER arises from the particular context leading to the perceived need for a PER. It may be linked to larger reform issues, specific performance deficiencies, agitation from users, or the investment interests of leading sector donors. This linkage will be a significant determinant of what issues the PER is to answer, who should be partners, and by when it should be completed. The actual in-country context is equally important in terms of most of the other considerations relative to preparation as well as to the entire PER process.

Ownership: Consultation, Dialogue and Collaboration

It is important that the PER be fully owned by the stakeholders that are needed to carry it out and to follow up on the conclusions and recommendations. Ownership comes most readily on the basis of inclusion, arising from consultation, dialogue and consultation. Cooperation can be readily reinforced by linking expenditure analysis to good governance.

- Extensive involvement of stakeholders is helpful in increasing the effectiveness of analysis but it may also complicate the process and the time frame required. A balancing of the trade-off should be considered.
- The inclusion of groups not only helps to assure the access to data and analysis but also increases the likelihood that recommendations will be considered and carried out in a timely and effective way.
- Other development partners, especially active donors, should be included to not only avoid duplication but also to give access to supplemental financial and human resources
- Civil society should also be considered as essential, throughout the process e.g. impact analysis.

Complementarity

Complementarity is in certain respects a sub-set of context and consultation, but it is significant enough to be considered specifically at an early stage in preparation of PERs.

- On the one hand it identifies what has been done, is being done, or will be done that relates to the concerns of the PER. Often this is not immediately determined during the initial consultation stage, and it may result once broader ownership is obtained.
- On the other hand it may be the result of changes in the context, especially the identification of modifications of the timing of other actions and processes.

Methodology and Analysis

The general focus for the PER analysis is the budget cycle itself. This starts with the sector objectives, strategy, and policies. Consideration is next given to the budgetary allocation process and budget execution, the two core but related phases in public expenditure. Finally there should be an examination of the monitoring and evaluation processes. Additional discussions of the methodology and approaches that can be taken are provided below. The preparation of the PER needs to carefully consider and specify the options to be followed.

Documentation

The preparation of documentation for the conduct of a PER is essential to locking in place the results of the consultations and reviews that have taken place.

Budgeting and Scheduling

Adequately budgeting for the PER process is a key to the ultimate quality of the PER and its fit to the needs at hand. The budget is also tightly linked to the time frame that is required or can be a limit on the time frame that can be supported. Rapid PERs carried out in two months can cost between US$50,000 and US$100,000. More comprehensive undertakings running two years or so can exceed several times this level. Assuring follow-up and recurrence are additional expenditures to consider.

CONTENTS AND MINIMUM COVERAGE OF A PER

Once it has been agreed to carry out a review of public expenditure within the sector, decisions need to be taken as to what sort of PER can be undertaken. Maybe, for instance, data are insufficient to allow a full sector PER and it is only possible to conduct a sector PER as part of a larger national PER. Once there is an agreed methodology and toolkit for undertaking such PERs, whether as part of a larger study—strategic review—or as a separate sector study—there should be greater consistency between the reviews which allows for comparative exercises and more useful lessons to be learnt.

Whichever PER is to be undertaken, it is important to provide clear guidance on what minimum scope and coverage is expected of a PER. This will clearly be different depending on whether it is a separate standalone sector PER (water and sanitation) or whether it is a chapter (section) or chapters (sections) on the sector within a country PER or a country development strategy or similar documents.

Clearly if the PER focuses entirely on the sector, the review is devoted 100% to WSS. In cases where the sector is covered under a national PER or as part of a Development Strategy, there would be a chapter or section devoted to the WSS.

Sector PER

Clearly, a sector PER that is purely sector focused will be more detailed—where sector programs and even sub-programs may be studied in some detail—than where the sector is reviewed as part of a national PER.

The Contents of a standard PER would include the following and a more detailed Contents list is illustrated in Box 5:

- Introduction (a backwards look at public spending in order to inform preparation of future budgets and sector strategy), to include PER approach and methodology
- Sector background, to include goals and priorities and institutional context (description of the sector, including public, private and community-based facilities and inputs, recent policy developments, output and outcome indicator targets, performance issues)
- Sector performance
- Description of expenditure on the sector, including sources of finance, indicate the composition of flow of funds (public—budgetary, investment—private, central, sub-national), summarize the funding of the sector, and linkage to sector goals; expenditure management and fiscal discipline; allocation across budget categories; allocation across expense categories; division between recurrent and capital/development expenditure; allocation to the 'home' institution (government ministry or agency); allocations to regions; role of local government; allocation across the country
- Analysis of spending on the sector (covering effectiveness, efficiency, equity); is budget allocated to priority programs (sub-programs etc.) as planned; assessment of ***allocative efficiency*** (expenditures based on prioritisation and effectiveness of programs—i.e. strategic prioritisation)); assessment

BOX 5. AN INDICATIVE CONTENTS PAGE OF A WSS CHAPTER OF A PUBLIC EXPENDITURE REVIEW

Executive Summary

1. Introduction
2. Methodology
3. Sector Background (including institutional context)
4. Performance of Water Supply and Sanitation Sector:

   Access to Improved Water Sources; Performance of Water Supply and Sanitation Sector; Rural water supply sector performance; Performance of the Rural Water Sector using International Benchmarks; Functionality of Rural Water Points; Urban water and sanitation performance; Performance of the Urban Water Sector using International Benchmarks; Sustainability of Urban Water Utilities; Sanitation Performance
5. What Is Being Spent On Water Supply and Sanitation?

   Composition of Flow of Funds
   Summarizing the funding of the sector
6. Is Spending Well Allocated?

   Allocation across budget categories
   Allocation across Expense Categories
   Recurrent Expenditure
   Development Expenditures
   Ministry of Water and Irrigation (or other 'home' ministry for the sector)
   Regions
   Local Government Administration
   Spatial Allocation
   Summarizing the allocation of public expenditure
7. How Efficient Is Spending?

   Allocative Efficiency
   Technical Efficiency
   Budget Efficiency
   Investment planning
   Procurement processes
8. Conclusions and Recommendations

   Conclusions of findings
   Recommendations on what is required for the future (e.g. policy directions, financing, capacity issues) and next steps based on these findings

of ***technical efficiency*** (effective use of budgeted resources—including capacity of line ministries and other government agencies to use the allocated resources, in a timely fashion, to ensure efficient delivery of public services); recurrent expenditure (wages & salaries; other operations & maintenance costs); capital expenditure and the development budget; allocation to local levels and sub-national contributions; overall assessment of ***budget efficiency*** (difference between formulated budgeted and actual expenditures and reasons for any variance); investment expenditure as against investment planned; efficiency of procurement process; ***efficiency and effectiveness of service delivery*** (the value-for-money criterion)—the latter may also be carried out in conjunction with other public expenditure tracking tools (such as PETS, QSDS, BIA etc.) which indicate service delivery problems, consumer perceptions of those services, effectiveness in targeting specific groups (e.g. poor, families, women and children) and services provided by informal sector.

- Public Expenditure Management issues that impact on performance: predictability, budget cycle management at both national and sub-national levels of government, budget preparation, classification; comprehensiveness, information systems, budget execution; sector forecasting—various funding scenarios, performance scenarios through prioritisation and greater effectiveness, efficiency and equity).
- This would be rounded off with some Conclusions, Recommendations and the Next steps which need to be taken, to address and mitigate the problems identified.

A stand-alone PER devoted to the water and sanitation sector

This Contents page may be further elaborated as follows:

- An Introduction and an explanation of the PER methodology to be followed and then a section on sector background to put the study into context;
- A detailed section on performance of the water supply and sanitation sector, which relies very much on sector specialists;
- In institutional context of the water sector, based on a National Water Policy, for instance, outlining the role of central government, where responsibilities will be de-centralized and to which level(s), the responsibility for regulation will be separated from financing and from performance monitoring; autonomous entities, if established, to manage water supply and sewerage services in urban areas; community-based organizations where they own and manage rural water supply schemes; and water basin offices, where established, as autonomous bodies;
- Description of expenditure for water supply and sanitation, whether the spending is well allocated (and how this is divided between recurrent and development), the relevant responsible body (e.g. Ministry of Water & Irrigation), the regions, local government, and the efficiency of the expenditure; and
- Conclusions and Recommendations: how much finance is needed and how will this investment be funded and questions such as the need to improve capacity of government to use funds more efficiently. This section will also include next steps to be followed based on the findings of the PER.

Chapter or Section within a National PER

A good example of what is required when a national PER includes a chapter on water and sanitation, can be seen from the following example.[8] This covers public spending in the social sectors where water supply and sanitation was one chapter among seven such sectors (the others being food security and safety nets, population and family planning and public health expenditure, education expenditure, higher education, plus an overview of total social sector spending).

The broad focus of the chapter on water supply and sanitation within the national PER is on:

- analyzing WSS targets as set out in policy and strategy documents,
- the expressed demand of the population (including Millenium Development Goals),
- examining expenditure patterns in the sector to determine their consistency with policy objectives and priorities and their adequacy in terms of meeting sector targets;
- preparing "development scenarios" for the sector for the next 20 years,
- taking into consideration financial and other constraints on the government's ability to meet the targets; and
- suggesting options for removing constraints and improving sector performance.

In detail, the **chapter contents** cover the following:

1. Introduction
2. Analysis of existing pattern of expenditure:
   a. ***Trends***: decentralization; prioritization of urban over rural water supply; future financing of urban water supply; sustainability of urban water supply systems; future financing of rural water supply and improving sustainability; improving sanitation and hygiene; capacity constraints;
   b. ***Composition of water supply spending***: recurrent versus capital expenditure; national (or federal) budget; external assistance to national (or federal) budget; regional governments; rural water supply financing; municipal expenditure; water utilities; NGOs; sanitation;
   c. ***Effectiveness, efficiency, adequacy, appropriateness of spending*** on the sector:
      – *Effectiveness of spending* on water supply and sanitation indicated by the increase in coverage corresponding to spending, and both quantitative and qualitative measures of the sustainability of systems installed;
      – *Efficiency of spending* on water supply and sanitation indicated by the investment cost per capita, the on-going operating and maintenance costs (comment on whether systems

8 This example is taken from the Ethiopia PER, 2004.

have deteriorated); operating efficiency and financial performance ratios of water utilities; urban water supply; rural water supply; efficiency in utilisation of funds (raising questions such as—does data on utilization of Government budget from larger regions shows that actual capital expenditures have been consistently below planned levels); uneven performance across regions; how much did water supply coverage increase over previous decade? Indications that spending in the sector outpaced or only managed to keep pace with population growth?

- *How adequate and appropriate has this spending been?* Have regions and the federal government, with donor assistance, spent more in recent years on urban water supply than on rural water supply and sanitation? If government officials at all levels have indicated they recognize the need to shift focus to development of water supply and sanitation in rural communities and smaller towns, this will require increasing emphasis on capacity building to ensure sustainability. For urban water supply, capacity building will be needed for the local governments to take up their new responsibilities for planning, governance and monitoring and evaluation, and autonomous Water Boards will require strengthening in the areas of management and operation to improve coverage and the levels of service provided, while at the same time improving cost recovery and efficiency. Consistent with its policy of full cost recovery for urban water supply, Government grant funding to established water utilities in the larger cities may be limited to capacity building for improved management and cost recovery and support with planning and preparation of business plans to support financing for further development through loans.

3. Projections for future expenditure requirements

A key government document for the sector (e.g. 'Water Sector Development Program', 'Water Master Plan') should provide estimated funding requirements for urban and rural water supply and sanitation for the next 15–20 years (with 5-year sub-periods), with associated coverage targets; for sanitation the data provided in such documents may be much less comprehensive. The document(s) may present spending scenarios for rural sanitation and on-site urban sanitation, which in any event will be the responsibility of households, not the Government. Projections may also be provided for urban sewerage (though no projections may be provided for spending on sanitation promotion and hygiene education, which are likely to be included in health sector projections); check whether funding estimates are too ambitious compared to MDGs (e.g., an intention to increase urban and rural water supply coverage up to a certain percentage within a designated period) and whether financing, institutional and staffing constraints fully taken into account; urban and rural sanitation.

4. Policy implications and links with a broader development strategy
   - Consider shift in spending, e.g. from large urban to smaller towns and rural communities, while enforcing policies that cities cover their costs from own revenues, or from water supply to sanitation.
   - Assess feasibility of establishing an earmarked fund to finance capital expansion, such as a Water Resources Development Fund.
   - Assess options for capacity building to help any autonomous water boards improve service levels, efficiency, financial performance, financial management and monitoring and evaluation systems so that they can prove themselves creditworthy entities.
   - Invest in M&E systems especially to cover decentralized agencies,
   - Consider mechanisms to link with other social sector spending.
5. Sustainable improvements in water and sanitation conditions.
   - Make the argument that sustainable improvements in water and sanitation conditions are essential to improve the quality of life of the poor through: (i) positive impacts on hygiene and maternal and child health, (ii) reduced drudgery and time spent on collection of water, especially for women, (iii) reduced cost of health services especially for water related diseases such as diarrhoea, for both households and the government (iv) increased productivity due to improved health (v) improvements in education

enrolment and attendance through better school sanitation and reduced home duties for water collection or caring for siblings, especially for girls and (vi) increased income from cattle that depend on water.

- The linkages between access to water and sanitation and poverty may rank among the top five priorities in rural areas and sanitation is also likely to rank high in urban areas.
- It should be possible to determine the level of water supply coverage within the country (and compare with the region), as well as sanitation coverage, and whether water coverage increased over, say, the previous decade and by what percentage (using WHO data). The relevant ministry (e.g. a Ministry of Water Resources) and regional water bodies (such as Regional Water Bureaus), may report higher coverage levels and greater gains in recent years and these differences will need to be explained, probably due to different definitions of access and coverage.
- Likely to be agreement that the level of service provided to those with access to improved water supply is poor: on average less than the WHO minimum standard of 20 litres per capita per day provided; is service intermittent in urban areas, what proportion of systems in rural areas (compare with between 25–30% of such systems according to other PERs) are non-functional at any given time.
- Check whether government has put in place a good policy framework designed to provide an efficient and sustainable service and is committed to tackling the problem, though this is an enormous challenge.

To summarise the above, the following steps need to be followed in order to undertake a PER in WSS. (See Box 6.)

BOX 6. INDICATIVE STEPS TO FOLLOW WHEN UNDERTAKING A PER IN WSS

Indicative Steps to follow when undertaking a PER in WSS

Step 1. Decision to undertake a PER and specific reasons why (this will determine what is expected from PER and what are likely results); identify institution consider stakeholders needs and expectations and ensure ownership; decide on budget required and funds available; organisation of team to conduct PER Calibrate objectives to availability of suitable data.

Step 2. Preparations for undertaking PER: thorough guidance and preparation of team to conduct PER, including assessment of data (and documentation) required and its availability, accessibility, quantity and quality, as well as appreciation of potential data problems; approach & methodology to follow Guidelines as set down in Guidance Note for either sector PER or a chapter/section of a national PER (making clear objectives, contents, scope & coverage, results monitoring and follow-up).

Step 3. Implementation

- Commence the PER process by drafting a Report following Contents as set in Step 2.
- Team members to gather information according to their own allotted tasks.
- Team members to prepare drafts on their own sections.
- Sections reviewed by Team Leader and feedback to team members.
- Conduct interviews (if necessary) with relevant bodies in both PFM and in the sector (at national and sub-national levels), to check queries with regard to specific areas of uncertainty, including any data issues.
- Prepare draft PER and share findings, conclusions and recommendations with representatives of donors/stakeholders etc. at workshop or other meetings; and
- Feedback from workshop and/or meetings and preparation of final PER.

Step 4. Once the conclusions and recommendations in a PER is accepted, need to implement recommendations based on findings, including any implications for sector policy and reforms (including capacity and resource issues) and how results are measured.

GUIDANCE ON HOW A PER ANALYSIS CAN FOCUS ON RESULTS AND MEASUREMENT

Whether the PER is devoted entirely to the WSS or is a chapter/section on WSS within a larger review, the PER analysis will highlight problems with the flow of funds but it also provides findings and results and proposes how we can measure these results. Thus the results or outcome of a PER will focus on an assessment of the effectiveness, efficiency, adequacy and appropriateness of expenditure on the sector. These results can be measured against the intended expectations and targets (e.g. coverage).

The effectiveness of spending on water supply and sanitation is usually indicated by the increase in coverage corresponding to the amount spent, using both quantitative and qualitative indicators to measure the sustainability of the systems that have been installed.

From the data available, it may not be possible to correlate spending in the sector to a change in coverage levels, due to lack of an effective monitoring and evaluation system. However, if the level of coverage, increased only marginally, this could be taken as an indicator that there may be a problem with the effectiveness of spending. There may also be evidence that sustainability is an issue for both rural and urban systems; rural systems may not be functioning at any given time and urban water supply tariffs might be insufficient to provide for adequate maintenance, notwithstanding the costs of renewal and replacement or the expansion of facilities.

The efficiency of spending on water supply and sanitation can be measured by the financing cost per capita, that is, the on-going operating and maintenance costs and the operating efficiency and financial performance of water utilities. While the relative efficiency may be measured by the per capita cost, it is important to investigate ways to reduce the cost per capita by providing incentives in the form of access to financing for the selection of the most cost-effective and affordable technology.

In addition, the results of financial performance should be checked. Many utilities may have been receiving subsidies for operations, though tariffs may have increased in recent years to cover at least recurrent operating costs.

For ***rural water supply*** it is important to find the best source of data on the average cost per capita of different types of schemes (e.g. maybe engaging local engineering consultants to carry out a study) and the findings may be presented in a table, e.g. 'Estimated Unit costs of Rural Water Supplies' (Construction total; type of scheme cost per capita—hand dug well or spring (the cheapest); hand dug well and pump; borehole with hand pump; to borehole with electric or diesel pump (the most expensive).

A check can be made to see whether these figures are consistent with data obtained from other sources (such as externally funded projects carried out in other regions), and the amounts budgeted per capita, including technical assistance and program running costs, for the next phase of the project. Such projects may also provide examples of lower per capita construction costs being achieved, especially for hand dug wells and springs (and compare this, say, with the regional average).

Investigation can also be made as to whether the country rural water supply cost per capita is in line with other countries in the region (internally), though regional experience may show that greater efficiency is possible if the volume of business increases and procurement packages are designed to permit economies of scale, while at the same time encouraging competition (such as, for instance, grouping lots of ten boreholes in a particular area, to reduce driller mobilization and supervision costs).

The results of the PER will also examine **the efficiency in the utilization of funds** available to the sector for urban and rural water supply and sanitation. Data on the utilization of the government budget from, for instance, two or three larger regions may indicate the extent to which actual capital expenditures have been consistently below planned levels and this can be captured in a table showing: 'Actual vs. Planned Water Supply Spending', including Regional Planned Capital Actual and utilization.

Various reports can be used to check for uneven performance across the geographic areas, where some parts of the country might utilize their initial allocations quickly while others are unable to do so within the first planning and financing phase.

External funding results are also important since, as noted above, some donor-funded projects suffer from actual disbursements lagging behind schedule throughout the project while under-utilization has been noted as an issue in other such projects. Possible reasons for under-utilization may include unrealistic plans and resource estimates, failure of donors or the Treasury to deliver funding according to plan, flow of funds problems, absorption capacity and cumbersome rules for accessing funds.

Adequacy of funding

It is important to assess the increase in water supply coverage over the previous decade since this will indicate whether spending in the sector has managed to outpace, or merely keep pace with, population growth and the extent to which systems may have deteriorated. This provides an indication as to what needs to be done if targets are to be met, especially for rural water supply and sanitation, where coverage is probably worse and government spending has been low. Such results then lead to recommendations such as, for instance, where increases in block grants to regions may be needed so that budgets can be allocated for both capital and recurrent costs to support implementation of regional water supply and sanitation programs. (Projected funding requirements should be closely linked to targets).

Appropriateness of funding

The priorities of both the national and sub-national governments, with donor assistance, are demonstrated through an analysis of the amounts spent on urban versus rural water supply and sanitation. Thus the results of the PER impact directly on government policy (as noted above). Government at all levels may recognise the need to shift the focus to the development of water supply and sanitation in smaller towns and rural communities although this will require an increasing emphasis on capacity building to ensure sustainability.

In the case of rural water supply, this would include capacity building at lower levels to develop water and sanitation programs, capacity building at the community level for management and maintenance of systems and the building of partnerships with the private sector, to provide maintenance support, technical assistance and spare parts.

For urban water supply, capacity building will be needed for the local governments to assume their new responsibilities for planning, governance and monitoring and evaluation, the autonomous Water Boards (if existing) require strengthening in the areas of management and operation to improve coverage and the levels of service provided, while at the same time improving cost recovery and efficiency. Consistent with its policy of full cost recovery for urban water supply, government grant funding to established water utilities in the larger cities may be limited to capacity building for improved management and cost recovery and support with planning and the preparation of business plans, to support financing for further development through loans.

DISSEMINATION

PERs need to be disseminated to the stakeholders as part of the PER cycle. This completes the reason for which they were undertaken. The only justification for PER is that it be analyzed in order to improve the use of public expenditure. The dissemination could be through a workshop with broad participation (including from civil society), or as part of the dialogue with the macroeconomic and sector authorities.

FOLLOW-UP AND MONITORING

Just as dissemination is often omitted from PER planning and budgeting, too often little consideration is given to how action planning and monitoring is to take place after dissemination. The key to this issue is to begin with a good contextual fit. If the PER is undertaken within the context of other programmed activities and if representatives of those programs are included in the PER process, there is a good opportunity for such other programs to own the follow-up and monitoring process. If major sector reform is involved, the sponsoring ministry or a lead donor might be designated as the chair of an inter-ministerial coordinating group. Alternative solutions can be found in sponsorship by a national commission or a leading NGO.

CHAPTER 3

Methodological Factors and Data Issues in Water Public Expenditure Reviews

TYPOLOGIES

A number of typologies can be drawn up which show the considerable variation in the types of PERs that may be undertaken that cover the water and sanitation sectors. These typologies can be considered when undertaking a PER in WSS, so that there are common factors within the appropriate typology which affect the funding of the sector. They can also serve a useful purpose in that those preparing the PER are able to learn lessons from PERs undertaken in the past within the particular typology.

We can develop typologies by region, and sub-region, in an attempt to understand better the common factors affecting the political, economic, institutional and administrative development of the countries reviewed. In this instance information may be more readily available for some regions and sub-regions than others. However, factors common to certain countries may well cut across regions and sub-regions, while each region and sub-region may contain a mix of countries which are better understood through alternative typologies.

For instance, we may draw up typologies as follows:

- low income countries;
- scarce water resources (and possibly a sub-division between those with a strategy for using such resources efficiently and those which lack such a strategy[9]);
- financing problems;
- a heavily subsidised WSS (where, for instance, there may be a single urban water and sanitation public utility heavily subsidised by government with water tariffs remaining unchanged for several decades[10]);
- post-conflict;
- natural resource endowment (e.g., oil rich) or lack of such natural resources (e.g., oil dry); national/sub-national;
- EU accession; and
- weak governance (including PFM system in need of reform).

Lessons can be learnt from developing such typologies to guide those who are about to undertake a PER in WSS. These typologies can be extended to variations in objectives and assessments, in contents of a PER, variations in definition of the sector and in the institutional home (e.g. a particular ministry or government agency) for the sector and in the proportion of public expenditure devoted to the sector. Of the many potential typologies that could be constructed,

9 See for example, the case of Senegal where the capital Dakar is not located near any sizeable water source though over the past 15 years the country has managed to implement a strategy to deliver good quality urban water service provision in an efficient and financially sustainable manner (Political Economy in Urban Water series, no. 4, World Bank, May 2012).

10 See for example, The Political Economy in Urban Water series, no.1, World Bank, May 2012 (on Panama).

some of the key ones are discussed below as a Guide to the preparation of a sector PER.

Within Europe, Central & Eastern Europe can be divided into the Former Soviet Union and Central Europe and the Balkans. This typology is useful initially since all of the former Soviet economies have common characteristics though they also have specific political, economic, institutional and cultural features that may have proved more important in terms of their subsequent emergence as independent countries. For instance, some of the central European economies have recently been accommodated within the European Union and so share common characteristics of EU accession states (e.g., Bulgaria, Romania).

Elsewhere, within the FSU, in a region such as the Central Asia where water is a fundamental issue for all countries, there is a mix of relatively wealthy (e.g. Kazakhstan, Turkmenistan) and relatively poor countries (Kyrgyz Republic, Tajikistan, Uzbekistan), thus demonstrating one of the problems of a typology purely by geographical region. In this case, a typology based on wealth accrued through the possession of natural resources (oil, gas) and those countries that lack such resources may be of more use, though it is often the case that countries which appear under the former category ('wealth based on natural resources') also appear under a grouping that might be headed 'weak governance, accountability and transparency'.

A similar sub-regional grouping would be relevant in the case of the south Caucasus where Azerbaijan fits a typology of wealthy through natural resources (oil) and with governance issues but the other two countries are relatively poor in comparison (without such resources) but with better governance and more evidence of progress with PFM reforms. Another typology could be developed for the FSU based on the considerable proportion of GDP accruing from income from remittances (e.g. Armenia, Tajikistan).

Some countries may be grouped according to the need to improve governance where, for instance, undertaking such a PER in water and sanitation is made difficult because of the general lack of transparency and accountability within the system. This is typified by the lack of appropriate data (in terms of both quantity and quality), difficulties with access to data, data reliability and data that is produced in a timely fashion, all of which limit/hinder information flow and renders such an exercise as a PER, particularly difficult. Many of these same countries could also be grouped, for example, according to low capacity and developments skewed by donor funding.

Other typologies may be based on the objectives and assessments of the PER, depending on the particular context. A PER may aim to gain insight into how budgeted allocations for the water sector translate into actual water and sanitation service delivery and to understand what impacts the links between the two. The review may examine the subsectoral themes of water supply and sanitation and irrigation and drainage, as well as the overall water resource and fiscal management issues for the sector. The state of WSS may not, for instance, be not in line with the level of economic development reached by the country. Despite a relatively high coverage rate in the water sector, the continuity of supply may be extremely low. The PER may assess the trends of public expenditures in the water sector with a particular focus on the irrigation and WSS subsectors, the major recipients of public financing in the water sector, the different sources of finance and explore the efficiency and equity implications of the current arrangements. The water supply and sanitation may be of prime importance in the PER because of their complementary role in preventing disease.

Other typologies might relate to the definition of the sector, which might differ considerably from one PER to another. Indeed, in accordance with classification systems, it is important to consider which sector expenditures are included and which are not: for example, is expenditure on sector training or on state water and sanitation companies included in the definition of the sector. One ministry may be responsible for the bulk of sector expenditure, although other public bodies, as well as private bodies and NGOs, may also be important players in the sector. While data on the annual spending of these other organisations needs to be included, so also does expenditure at sub-national (as well as national) level, if a complete picture of sector expenditure in the country is to be obtained. In addition, in some countries, some sector-related spending is not recorded in the total expenditure of the sector.

A number of other approaches may be adopted when preparing a PER, including more recently that using political economy, in an attempt to understand better the political and institutional factors that can impede or delay developments within the sector.[11]

[11] See for example, The Political Economy of Policy Reform: Issues and Implications for Policy Dialogue and Development Operations, Report No. 44288-GLB, World Bank/Oxford Policy Management Ltd., Washington D.C., 2008; 'Guidelines for Political Economy in the Urban water Sector', internal draft, World Bank, May 8, 2012.

DATA ISSUES

The availability and quality of the data will be a key determinate in what can be expected from a PER process. Most certainly data issues must be discussed in the initial consultations with stakeholders as such will determine the scope and quality of the analysis that can be achieved. From the start it is essential to identify the sources, accessibility, timeliness, and any limits in data. If there are major constraints these should be identified and means of compensation suggested.

WSS PERs rely on existing reporting and monitoring documents for the expenditure and performance data they require. They do not normally involve primary data collection. However, WSS PERs may include key informant and stakeholder interviews to validate understanding, use of household and international survey data for comparative analysis and use of sector specific studies. While PERs are not audits, they will seek third party assurance on the accuracy and propriety of government financial reports and management systems (for example, from the annual report of the Auditor General, the PEFA PFM Diagnostic, and other similar reports).

For general quantitative comparison of performance and expenditure allocations between countries, a WSS PER should normally seek to analyze the following expenditure and performance metrics over time, usually the last 3–5 years:

Access

- Access per household and per capita to improved water supplies (by location, income group and over time; and by main subsector—urban, rural)[12]
- Access per household and per capita access to improved sanitation (by location, income group and over time; and by main subsector)

Quality

- As measured by type of service (piped, non-piped; improved, unimproved)

Expenditure Allocations

- Sector budget share as a percentage of the total government budget
- Sector expenditure as a percentage of GDP
- Domestic/external expenditures in the sector as a share of total public allocations
- The composition of on-budget expenditures by sub-sector, by level (national, sub-national), and (in the case of the capital or development budget) by major program
- Sector expenditure per capita
- Sector expenditure by region or province

Budget Performance

- Budget versus actual expenditure (total, domestic, external)
- Budget versus actual expenditure (recurrent, capital)
- Budget versus actual expenditure (national, local; urban, rural)
- Ratio of recurrent to capital expenditure
- Sector expenditure in urban versus rural subsectors, as a share of total expenditure and per capita
- Flow of funds—how predictable is the flow of funds once the annual budget has been approved?
- Fiscal impact from the policies of CAPEX and OPEX?
  - Subsidies to the sector as a percentage of total government deficit

Performance

- Coverage of water supply and sanitation services?
  - Water Supply (house connection; public tap; private well or source, street vendor, other)
  - Sanitation (Sewerage connection; septic tanks or latrines; other)
  - Wastewater treatment (primary, secondary)
- Quality of services in terms of safety and convenient water?
  - Hours of service
  - Water quality (water treatment and disinfection?)
- Efficiency of use of resources in CAPEX?
  - Investment per capita (water; sanitation; wastewater treatment) in urban and rural areas
- Efficiency of use of resources in OPEX?
- Non-revenue water (as a percentage and as m3/day/km of distribution pipes)
- Sustainability of services?

[12] Where access is defined as direct connection to the household or a public facility within 200m of the household.

- Cost recovery
- The effect on social equity from the pattern of CAPEX and OPEX?
  - Improving access (water and sanitation) to low-income segments
  - Cost of services for low-income segments (as a percentage of family income)

Expenditures should be shown in constant (inflation-adjusted) prices to allow for comparison over time and presented for the period covering the previous 3–5 years to allow trends to be observed. The source of expenditure data should be the audited accounts of government and of service providers (for instance, utility companies). In the absence of audited accounts, unaudited financial reports of may be used provided the source is made clear (and an observation made on the general quality of financial reports based on the findings of previous audit reports). Data on access to water and sanitation services is normally provided by national household surveys. Household surveys may also identify changes in the quality of services provided.

Survey data (for example, Poverty and Social Impact Analysis) conducted in the water and electricity sector can provide a wealth of information on household spending patterns and quality of service provision in the water sector. Spending and consumption patterns cannot often be jointly assessed at the household level given the virtual lack of metering in most countries but the PSIA data nevertheless provides a useful picture of equity and affordability patterns in the water sector, including:

- Unmet demand: the extent to which connected customers face rationing of public water supply;
- Private water supply: household spending for private supply solutions as a percentage of total water expenditure;, and
- The difference in the share of income spent on water in private connected households and private unconnected households

DATA ANALYSIS

The PER should include specific information on data sources both in the client countries (e.g. data on expenditures, national survey data, etc.) and from IFIs and other international organizations. The work should include additional information which can help to overcome problems of finding appropriate data.

Source of expenditure data and its validation

In order to allow useful data analysis it is important to understand the source of expenditure data reported in the PERs and the extent to which it has been validated. In order to permit trend analysis a series of annual data is necessary to compare sector performance within a given country (time series analysis). In order to permit comparisons between different countries (cross-sectional analysis) it is a prerequisite to have clear definitions of the different indicators. In the completed PERs, such definitions are usually absent. Indeed, some indicators show such large variations that one could suspect that different definitions have been used which is often the case when a large number of studies from different countries and regions are analyzed.

What data do we need on basis of Public Expenditure and Financial Accountability?

The IMF's Manual on Fiscal Transparency (May, 2007) and the Public Expenditure and Financial Accountability's (PEFA) Performance Measurement Framework (PFM) provide, respectively, a good introduction to the public expenditure management process and its core documents (sources of data) and to standardized, country-specific assessments of the PFM systems.

The Manual on Fiscal Transparency provides standard definitions and further information on important features of the PFM systems. It has gained acceptance as the standard against which fiscal transparency should be judged and has become the principal source of reference on accepted definitions for budget documents and approaches to improving fiscal transparency. The budget documents that provide the main source of public expenditure data for a PER are:

- *The annual budget presentation*. Includes detailed projections of revenues, expenditures, balances and borrowing; proposed revenue and expenditure measures; and expenditure for each ministry, department and agency for the coming year to be authorised by the legislature through the annual budget law (appropriations). Transactions are generally classified by administrative unit and item of expenditure
- *Budget supporting documents*. Includes various statements (e.g. autonomous agencies, guarantees and other contingent liabilities) and background papers. Increasingly may include presentations for medium term expenditure estimates by programmatic classification (medium term expenditure frameworks).
- *Within-year budget reports*. Reports on fiscal outturns produced monthly or at least quarterly. These will be prepared by the Accountant General for the government and will not be audited.
- *Final Accounts*. Final audited accounts presented to the legislature at year's end to provide assurance of regularity and consistency with the approved appropriations.

A good understanding of the institutional features of the public financial management system and its impact of performance is available through the PEFA's PFM. This is an integrated monitoring framework that measures country PFM performance over time. The framework provides a basis for understanding aggregate expenditure management issues (i.e. PFM system-wide) and the accuracy and comprehensiveness of the expenditure data reported in budget documents.[13]

The 28 indicators for the country's PFM system are structured into three categories:

- *PFM system out-turns*: these capture the immediate results of the PFM system in terms of actual expenditures and revenues by comparing them to the original approved budget, as well as level of and changes in expenditure arrears.
- *Cross-cutting features of the PFM system*: these capture the comprehensiveness and transparency of the PFM system across the whole of the budget cycle.
- *Budget cycle*: these capture the performance of the key systems, processes and institutions within the budget cycle of the central government.

In addition to the indicators of country PFM performance, this framework also includes:

- *Donor practices*: these capture elements of donor practices which impact the performance of country PFM system.

PEFA PFM Performance reports are normally conducted every 3–4 years. Although the reports focus on central government as a whole they provide a useful indication of the type of performance issues which may affect WSS sector expenditures and of the general quality of public expenditure data. Moreover, the PEFA Guidelines which accompany the measurement framework and explain its scoring system serves as a useful introduction to public financial management for the non-specialist.

PEFA PFM Performance reports will provide information and an assessment of, inter alia, the following important aspects of public expenditures:

- *Composition of expenditure outturn compared to the original improved budget (Performance Indicator (PI) 2)*. A PER should assess the extent to which this is reflected in the WSS sector and investigate underlying causes for any differences.
- *Extent of unreported government operations (PI-7)*. This provides a general indication of whether all sector expenditures are included in budget documentation.
- *Predictability in the availability of funds (PI-16)*. This provides an indication of the extent to which spending ministries, departments and agencies (MDAs) receive reliable information on availability of funds within which they can commit expenditure for recurrent and capital inputs.

[13] The PEFA PFM Performance Measurement Framework was developed as a contribution to the collective efforts of many stakeholders to assess and develop essential PFM systems. It provides a common pool of information for measurement and monitoring of PFM performance progress. The development of the Framework was undertaken by the OECD/DAC. Since 2005, nearly 200 PEFA assessments have been conducted in over 110 countries with involvement of over 25 donors and multilateral organizations. www.pefa.org

- *The quality and timeliness of in-year reports and audit (PI-24, 25 and 26)*. The ability to 'deliver' the budget requires timely and regular information on actual budget performance to be available both to the ministry of finance, to monitor performance, and to ministries, departments and agencies for managing the affairs for which they are accountable. The indicator focuses on the ability to produce comprehensive reports from the accounting system on all aspects of the budget.

Data sources required

To get a comprehensive picture of public expenditures in the WSS sector, it is often the case that several data sources will be needed triangulate findings. The following sources of data would normally be consulted:

- Publicly available budget and expenditure data. Budget estimates and disaggregated actual expenditures for the major sources of sector expenditure, including the ministry responsible for water, local and regional government authorities, and other government ministries as appropriate. Apart from these government entities, water utilities may be included in the analysis. The detailed expenditures of utilities do not appear in budget documents and financial reports of the government but they are often are public companies. The most significant of these companies should be included in the PER.
- The national water authority for technical data including water produced, water sold, total connections, water losses and continuity of supply. Major water utilities can provide data on staff/connection ratios, operations and maintenance expenditure, staff costs, maintenance costs as percentage of the depreciated value of infrastructure, failure rates, total investment (capital expenditure), billed and collected revenues, and the servicing of finance instruments (debt, equity). Agreement on the extent of utility coverage should be reached at the scoping stage of the PER based on access to and quality of water authority data.
- Private and community-based expenditures in the sector. Ideally, private expenditure should be investigated to enable public policy choices and expenditures to be seen in their strategic context. Information on household expenditures on water and sanitation is normally available from household survey data (see below).
- Local Level Financing. There tend to be many small-scale providers, community groups and NGOs active in the water sector. Comprehensive data on local level financing is often not available and for this reason actual spending from these sources is often excluded from PERs. International NGOs (e.g., WaterAid) sometime publish comparative research in this area.
- The most recent PEFA PFM Assessment. PEFA reports can provide an indication of the type of systemic PFM problems which may affect the water and sanitation sector. This will need to be investigated in key ministries. Common lines of enquiry include the extent to which policy and budget planning are linked, the extent to which budgets approved are disbursed, and predictability of in-year funding (including disbursements to local governments).
- The national statistical authority of the country under review for household surveys, poverty and social impact assessments (PSIA) and/or living conditions surveys for background data such as population, number of households, average household size and household water connection rate.
- The International Benchmarking Network for Water and Sanitation Utilities (IBNET) for comparative indicators of utility performance. IBNET is an initiative to encourage water and sanitation utilities to compile and share a set of core cost and performance indicators, and thus meet the needs of the various stakeholders. It sets forth a common set of data definitions; a minimum set of core indicators, and provides software to allow easy data collection and calculation of the indicators, while it also provides resources to analyze data and present results. IBNET is funded by DFID, the World Bank and the WSP.
- The WHO/UNICEF Joint Monitoring Program for Water Supply and Sanitation (www.wssinfo.org) for country, regional and global estimates of access to water and sanitation by type of drinking water and type of sanitation facility.

DATA PROBLEMS

However, it is often difficult to get comprehensive and comparable data on WSS sector financing. Contributory factors include:

- Limited availability of government financial data generally and in the WSS sector in particular, with mutual responsibilities and data often not reported in a way that allows straightforward identification of sector expenditure;
- Performance data on access to WSS services at national level only periodically available through household budget surveys;
- Important elements of sector expenditure unlikely to be fully captured within central government accounts (notably, off-budget aid, spending by local government, the private sector and NGOs); and
- Incomplete capture of the government's full relationship with paratstals (e.g. government owned utilities) and related large capital programs.

Data problems and the impact on the quality of PERs

As might be expected, data problems, including reporting inadequacies, are a common problem hindering the comprehensiveness of the analysis that can be carried out under a Review. For this reason, any interpretation of the findings and conclusions of PERs needs to take account of the tenuous nature of the data. For example, the inadequate flow of data on both budgets and expenditure is a significant constraint to the identification of resource needs and commitments for existing programmes and activities, to an assessment of the funds that are available for new programmes and to calculating funding gaps in the sector.

In fact, the quality of many PERs often suffers from the review teams being unable to obtain a complete and detailed breakdown of expenditure for the sector, covering the recent past. Both the poor quality of the data and their limited availability and access are problems and are likely to result in unreliable analyses of expenditure. For example, a major limitation to a review can be principally on data accessibility. In particular, data on revenue and expenditure might either not be available or are aggregated in other categories of expenditure in the sector ministries. Similarly, the ministry (or other relevant government agency) estimate of expenditure from certain years may be dramatically less than the amounts reported in other official documents and these figures cannot be satisfactorily reconciled.

To provide guidance on the kinds of difficulties to be aware of when undertaking a PER, the following section looks at the ***data problems*** that are likely to be encountered:

- ***No satisfactory state of sector financing available***

  It might be the case that no consolidated and comprehensive overview of public and other sector expenditure is available that provides a satisfactory picture of the status of sector financing and the flow of resources into the sector;
- ***Different organisational responsibility for planning and reporting expenditure***

  Expenditure planning and reporting responsibilities are spread between different ministries as well as different administrative levels. Specifically, planning of recurrent and capital budgets is separated between two ministries, and recurrent and capital budgets are only weakly linked and coordinated;
- ***Different expenditure reporting and classification systems***

  The previous points are compounded by different expenditure reporting and classification systems that do not allow the monitoring of spending along programs or sector objectives;
- ***Problems with sub-national expenditure***

  Expenditure analysis is further complicated by the fact that sub-national expenditures may not be fully captured in the spending data that is held at the central level (see below);
- ***Inconsistencies (over/under estimations)***

  There are significant inconsistencies and gaps in the overall expenditure picture, which may also include over—and under-estimations of different expenditure;
- ***Expenditure reporting*** is often fragmented: for instance, capital and recurrent spending follow different reporting channels, while DP funds are separately reported and accounted for; and
- ***Not all expenditure of budget funding being recorded or captured***

  At the same time, as a result of poor reporting, particularly by local governments, the central authorities have inadequate information on actual expenditure levels and composition, as well as on the activities financed. A consequence of this is that it is impossible to assess the effectiveness of expenditure at the programme level.

  Expenditure reporting by DPs may be poor, yet DPs are often substantial contributors to development budgets, in particular. This, combined

with the sub-national reporting problems, means that total expenditure levels in the sector may be largely unknown.

If expenditures are recorded by DPs themselves, such information is not systematically recorded or passed on to those in the recipient government who are involved in recording public expenditure. In addition, DP financial year (and expenditure) reports sometimes differ from those of the government with which they are working. DP funding may account for a substantial portion of sector expenditure, although it is usually under-reported or not accounted for in calculating the total spending in the sector. It may account for a significant proportion of the total budget.

In any case, a significant proportion of DP expenditure may be 'off-budget' in special accounts (with their own disbursement, accounting and reporting procedures) and, consequently, more difficult to capture (with only a certain percentage of DP expenditure recorded in the national budget, a certain proportion disbursed using the government's budget procedures and another percentage following the government's financial reporting systems). The recorded income from DPs is probably significantly higher than that recorded as going through the Treasury, indicating that large sums are 'off-budget'. The DPs also provide notoriously-poor expenditure forecasts, releases of funds are, for the most part, erratic while reporting them is often poor. Overall, then, DP releases and expenditure data series are often incomplete or out-of-date and governments are consequently unable to obtain a comprehensive picture of expenditure on the sector and of its impact.

- ***Overall expenditure unknown***

  Such poor expenditure reporting practices results in uncertainty over the total spending in the sector and whether or not overall spending reflects national priorities for the sector. Indeed, overall expenditure on the sector tends to be underestimated and, not surprisingly, this complicates planning the development of the sector. Records of expenditure and budget data may not be up to date and this can prove problematic within a changing budget environment.

- ***Inconsistencies from different sources***

  There are significant inconsistencies in expenditure data obtained from different national sources. The (institutional home) ministry data provide a significantly higher expenditure pattern than the data assembled by the Ministry of Finance, while maybe another government institution (Ministry of Planning and Investment or Parliament ?) produces a third series of budget data which are again, different.

- ***Differences in budget and aggregated expenditure data***

  Major differences may be found in both the budget and the aggregated expenditure data available from different government sources. (A study of PERs which cover the sector may reveal that, on average, this difference amounts to more than x% of the total spent on the sector.)

- ***Fragmented, inconsistent, poorly-organised expenditure data***

  Expenditure data are also often fragmented, inconsistent and poorly-organised. Frequent revisions made to the budgets and allocations during the course of budget implementation further complicate their collection and analysis. There may well be confusion over what constitutes the official government budget.

- ***Different bodies responsible for recurrent and development expenditure***

  It may be particularly difficult to collect expenditure data when different ministries are responsible for the recurrent (e.g. Ministry of Finance) and development (e.g. Ministry of Planning and Investment) budgets. As a consequence, neither the ministry which serves as the institutional home for the sector nor the Ministry of Finance has the complete picture, so that neither is able to monitor expenditure adequately.

- ***Numerous institutions collect data***

  The involvement of multiple and uncoordinated institutions in data collection compounds the problem of data inconsistencies.

  In some cases, the lack of data and information may stem from agencies being unwilling to disclose such details to those involved in carrying out the PER exercise (issues linked closely to transparency, accountability and governance discussed above).

  Decentralisation of the budget to local authorities can further aggravate the collection of expenditure data. Some PERs fail to distinguish between expenditures at the national and local government levels, though inadequate and delayed reporting to the parent ministry of expenditure (and releases) by local authorities, will result in the data being of poor quality and incomplete.

- ***Recurrent and capital costs***

  Recurrent costs may be misclassified as capital expenditure, which complicates any analysis of the 'economic' classification of expenditure. The capital budget (and the capital expenditure line) often hides much recurrent expenditure, meaning that the split between the two may serve little purpose. In some places, the deliberate misclassification of recurrent expenditure (and operating costs, in particular), as capital spending, is widespread throughout government, so as to enable spending departments to increase their control over funds. At the same time, detailed data on expenditure broken down by function are limited. Both of these factors serve to complicate any analysis of expenditure amounts and patterns.

- ***Information reporting fragmented and delayed***

  The reporting of information is both fragmented (with capital and recurrent expenditure following different reporting channels) and delayed. Indeed, although it is a critical process, the reporting of expenditure (and performance) is often problematic: it is difficult to report progress against budgets in many countries where expenditure is not classified by programme. The end result is that much of the data on the amount and composition of the expenditure and on the activities being financed which is needed for a PER, is simply not available. (Due to reporting problems, the ministry may lack aggregate data on arrears, as well as information on the funds actually released to its provincial and district departments). The limited reporting of capital expenditure, together with the absence of records on DP contributions to the sector might lead a PER to conclude that there were no complete and consolidated data on sector expenditure for the country. Despite improvements in government financial reporting, the presence of incomplete data for government and donor expenditure and the lack of readily available expenditure data continue. Moreover, actual spending figures only become available after a delay, which makes the ability to track and analyse actual expenditure in the sector extremely difficult.

- ***Data needed***

  Data is needed on central spending; on other external assistance to the central budget; on regional government spending on water supply; on available funds (water utilities; NGOs) for financing rural water supply; municipal expenditure; sanitation.

- ***Gaps in data***

  Due to the serious problems encountered in obtaining and reconciling data from different sources, there can be gaps in the data and what is presented should be taken as indicative rather than definitive (e.g. NGOs also contribute a large amount and information on this may not be included).

  Whether a reasonable estimate of the annual spending on water supply and sanitation by regions can be achieved depends very much on the extent and nature of the regional information available. Data might not be collected on actual and budgeted spending in the smaller regions, for instance, but data may be available for spending in the larger regions which may account for a majority of the total spent by all regions on water supply and sanitation.

DATA AND METHODOLOGICAL ISSUES

Severe data limitations often limit the scope and analysis of a WSS PER. In 2011, the Regional Overview Paper of WSS PERs in selected African countries noted:

> "The review faced considerable data limitations. As a result all analysis in this review are based on partial and sometimes unreliable data and should be used with care. Data scarcity poses problems well beyond this review. In order to set and monitor programs, policymakers require quality and timely disaggregated data gathered

by local jurisdictions. Often special information is required to respond to the needs of the poor, who often do not show up as a disaggregated unit in consumer databases or even in survey and census information. The first conclusion of this review is thus that more attention needs to be paid to WSS information systems, particularly with respect to data definitions, classifications and coverage."[14]

Commonly cited problems include:

- *Lack of WSS performance data:* Lack of regular monitoring data on access to WSS services, especially in rural areas, where non-governmental actors may have a significant impact; inconsistencies in the definitions of drinking water used between different household surveys; differences in methodologies between government and non-government household and sector surveys; large temporal gaps between national household surveys, and; differences in service standards between countries, making comparison difficult.
- *Incomplete and inaccurate expenditure data.* Common system-level problems include lack of audited accounts and classification systems that do not distinguish accurately between expenditure categories (e.g. recurrent/development). Problems of completeness include difficulty in identifying sector expenditures in other institutions and in multi-sector programs, subsidies to state owned enterprises and incomplete records of sector revenues (user fees). Inclusion of user fees in expenditure planning is crucial for enabling governments and sector ministries to have a complete picture of the full costs of service provision.
- *Inadequate capture in the budget of external expenditures supporting the WSS sector.* Despite recent efforts at coordination, most donors and NGOs have disbursement and expenditure reporting systems that are independent of government. In most cases, information on grants directly executed by donors is fragmented and not brought together in one location (e.g. the ministry of finance). This is likely to be a particular problem in the WSS sector where donor funding represents a large portion of sector expenditure.
- *Weak integration of policy-making and budget execution.* Many countries still operate dual budgeting systems—the practice of making capital and recurrent expenditure decisions separately, often in separate ministries. In many countries the Ministry of Finance prepares the overall fiscal framework and recurrent estimates and another agency (such as the Ministry of Planning or Investment) prepares the public investment program. Dual budgeting results in poor coordination of capital and recurrent spending. Typical indicators of this are actual capital expenditures significantly below budgeted levels and failure to provide fully for the operations and maintenance expenditures implied by new investments in the recurrent budget.

[14] Public Expenditure on Water and Sanitation in Selected African Countries, 2000–2008, Draft version for Internal AFTUW Review, Africa Region, World Bank, February 2011.

CHAPTER 4

How PER Findings Impact on Sector Policy and Reforms

The PER examines expenditure patterns in the sector to determine their consistency with policy objectives and priorities and their adequacy in terms of meeting sector targets. Thus, the findings that come out of the analysis of public expenditure within the water and sanitation sector should provide some guidance as to key policy issues which need to be addressed in the future and reforms required for their successful implementation. In essence, the PER analysis can serve as a guide to future policy discussions and the necessary sector reforms.

PER AND SECTOR POLICY DIALOGUE

A PER is a key component of the sector policy dialogue between the government and its Development Partners, with the findings and conclusions of the PER providing valuable input into these discussions. It may be the case that PERs have brought together for the first time data on public expenditure within the sector which provides a basis for future analyses of the impact of public spending on sector performance. A PER can also contribute to a better understanding among government decision makers and sector planners of expenditure in the sector and stimulate discussion and exchange between the ministry and sub-national line authorities on sector priorities and their associated fiscal implications.

PER AND DECENTRALIZATION POLICY

PERs, together with a number of other public expenditure tools[15] can also be used to study the implications of de-centralisation on service provision in the sector (i.e. the result of a policy decision) while they can also play a useful role in improving the dialogue between the sector ministry and the ministry(ies) responsible for finance and planning. This is particularly important in the water sector where sub-national authorities may have responsibility for providing services but not necessarily the responsibility to finance.

PER AND POLICY IMPLEMENTATION

Most importantly, the PER analysis can provide justifications for requests for additional funding or it might reveal that funds allocated to the sector could be used more efficiently and effectively and thus 'savings' can be made which can be used to fund other sector priorities. Alternatively, it might reveal the need to re-prioritise, from relatively low-benefit programs to those which have potentially greater benefit, or in accordance with new government policy directions.

Partly as a consequence of the constraints that are likely to be placed on the capacity of governments to increase public expenditure in the near future, as a

15 A number of Public Expenditure Assessment Tools (PEAT) are available which can be used to track public expenditure, in particular at sub-national levels, to service delivery mechanisms and to final beneficiaries. Such PEAT include Public Expenditure Tracking Surveys (PETS), Benefit Incidence Analysis (BIA) and QSDS.

continuing consequence of the impact of the global financial crisis, questions are continually asked about both the quantity and quality of public expenditure within the sector and the fiscal space available for additional funding. Thus, it is important for sector planners and decision-makers to have a thorough understanding of the volume of public spending, together with its patterns and trends, within the sector. At the same time, because of the potential of the sector to contribute to poverty reduction and environmental improvement, it is important to evaluate the patterns of public expenditure in the sector and, subsequently, to recommend more effective allocation of funds. The WSS may also be seen, for example, within the broader context of natural resource development and climate change and hence, by making links with other policy issues, it becomes possible to justify and attract additional funding for the sector.

PER AND IMPROVING SECTORAL BUDGET ALLOCATION

The objective of carrying out a PER, therefore, is to improve sectoral budget allocation and management decisions made during budget formulation, to improve the composition and management of the budget, at both national and sub-national levels, as well as to improve the efficiency of actual expenditure.

The results of a PER can be used to improve the efficiency, effectiveness and equity of public spending in the sector in the future (by better aligning future expenditure to national development policy priorities), thereby improving the likelihood that sectoral/national outcomes will be realised. Thus the PER is used as an input into discussions to improve the prospects of achieving priority sectoral outcomes outlined in national planning documents and to come up with options and recommendations to help improve the effectiveness and impact of the sector. Analyses of public spending in the sector should highlight whether budget allocations to the sector have been in accordance with sector priorities.

Changing both the composition and prioritisation of water and sanitation expenditure, for instance, may have a huge impact within a country. Thus, it can be hypothesised that, by altering the composition of sectoral expenditures and bringing about a more-efficient use of public goods and services, the chances of meeting sectoral targets should improve. In addition, with the resources being made available for public expenditure as a whole coming under increasing scrutiny, at a time of fiscal constraints, it is critical that sector spending be targeted more effectively.

Finally, given that water and sanitation bodies have, in general, been ineffective in making claims upon the limited national budget resources, a PER can help provide clear, more understandable and relevant information to enable the sector to advocate more effectively for more appropriate levels of budgetary allocation to the sector. It should also be emphasised to all parties from the outset, however, that by commissioning such a Review, the government is committed to implementing its recommendations. Otherwise, the exercise represents a waste of valuable (and scarce) resources.

Sectoral, program and sub-program analysis

Where expenditure details exist, the same analysis can be carried out by program, sub-program or budget agency under the sector. This can reveal those which are the most funded and the least funded. PER analysis can provide information on how programs and sub programs are prioritised in practice by the relevant line ministry (ies) or government agencies (ies). It can show the variance between the initial allocation budgeted and expenditure (are programs or sub-programs funded which were not intended or over-funded and others under-funded?), and between what is allocated and what is unspent. The sector line ministry and/or government agency needs to prioritise on the basis of the national development strategy for the sector (indicating which policies are prioritised for the sector) and then the programs prioritised for budgetary funding need to be able to achieve the outcomes intended to address the priority policies (and correspondingly, the sub-programs need to be able to achieve what is intended in the program). The PER analysis should be able to demonstrate the correspondence between sector prioritisation and programs that are funded. It is important to remember that policies can only become effective once funds have been allocated and used for their implementation. Without proper funding, policies become only parts of a 'wish list'.

If reforms are necessary, programs to achieve these will need to be prioritised and funded. The PER should help to demonstrate to the sector and policy/decision makers whether there is fiscal space for this. Most important is whether there is medium term budgeting in place and whether there is a sector

strategy, a sector expenditure strategy and a sector Midterm Expenditure Framework. If funds have been well used (efficiently and effectively and provide value for money) then this can be used as justification for additional funding.

Implications for development projects

The above analysis would entail the following;

- The listing of development projects under the sector, showing total budget, and how they are shared between government funding and external funding. This can tell the extent to which the government is improving the financing of capital expenditure.
- The likely future recurrent expenditure consequences of development expenditure.

POLICY IMPLICATIONS AND LINKS WITH A BROADER NATIONAL DEVELOPMENT STRATEGY

As a consequence of the PER findings, there are likely to be shifts in policy relating to the WS sector. Governments may well have decided (and/or been pressurised) to change policy direction but required the necessary data to support their argument for change. Such policy changes may well involve a number of trade-offs since the total volume of public spending might not increase but the way in which resources are distributed may change, i.e. in accordance with new priorities. A new policy focus might well be necessary to fit within the broader country Development Strategy and the goals and targets that are set within it for the sector.

The sorts of policy changes within the water and sanitation sector might involve:

- a shift in focus from large urban to smaller towns and rural communities;
- a move to higher customer tariffs;
- grant financing (or an increase in it) for new water utilities;
- new emphasis on rural water;
- urban sanitation and sewerage: the poor cannot pay so if a policy decision is taken to prioritise this a budget must be allocated or a multi-pronged approach taken, involving public and private funds;
- prioritise rural sanitation;
- prioritisation of rural over urban;
- capacity constraints recognised and measures proposed to remedy the situation;
- M&E difficulties recognised and addressed within a decentralized environment; and implications for water resource management;
- links with other social sector spending; and
- new targets set for the consequences of such policy changes (e.g. expected reduction in morbidity and mortality from improved water supply and sanitation so new targets re-incidence of certain diseases).

Some of the main policy changes in policy direction that are likely to stem from PER findings and recommendations are discussed below.

Policy shift in focus from large urban to smaller towns and rural communities

In recent years governments have tended to devote more resources to improving urban water supply in the largest cities than to rural or small town water supply, the result being that coverage in rural communities and smaller towns is much lower than in the larger urban centres. While there may well be justifiable reasons for having prioritized urban over rural in the past, a shift in focus to rural communities and smaller towns in the future, may well be recognized by government (policy) and supported with results from the PER.

The ***larger cities,*** most of which have new or recently rehabilitated water supply systems, will be expected to pay for the upkeep and expansion of those systems with internally generated funds. The financial and economic analysis stemming from the PER may indicate that this is feasible, and other studies may indicate that customers are willing and able to pay the required tariffs if services are improved. What is critical is whether there is the political will to support such a move and a willingness to charge higher tariffs. Some capacity building will be needed to help newly formed autonomous water boards improve service levels, efficiency, financial performance, financial management and monitoring and evaluation systems so that they can prove themselves creditworthy entities.

Focus on approach to financing improved water supply and sanitation

Many ***smaller towns*** (under a specified population) may not have a functioning water system. Grant financing will be required for the initial investment and capacity building to establish financially viable water utilities capable of funding their own operations and maintenance, renewal and expansion going forward. Rapid growth can be expected in such towns and a functioning water supply system will help lay the groundwork for their contribution to the overall economic development of the country.

Policy focus on rural water supply: The greatest needs are in the rural areas, where a large percentage of the population is located but only a small proportion of water supply coverage. Where there is high failure rate of such systems there will be a need to address the underlying causes, such as inadequate preparation of communities to manage their own systems and lack of spare parts and maintenance support. For implementation of all rural water supply systems, communities should be fully involved in the planning stages (often together with NGOs) so that they choose systems they are willing and able to maintain and thus reduce the per capita investment cost.

Focus on urban sanitation; It is not always clear who is expected to finance the expensive urban wastewater systems. Cost recovery is notoriously difficult as willingness to pay for piped sewerage and treatment is usually low (even for the on-going operation and maintenance costs) and given the low levels of household income in many of the countries covered, it is unlikely customers will be able to afford the high operating and maintenance costs of extensive sewerage systems (though donors may agree to fund some improvements to these water supply and sanitation systems).

Therefore, a multi-pronged approach may be supported:

- Planning for sanitation—including sewerage, where applicable, and drainage—to be carried out in conjunction with planning for improvements in water supply and planning for the latter will normally be the responsibility of municipalities.
- Sewage systems should be developed to serve only the most densely populated areas and the business districts of large urban centres, where affordability is usually higher and health issues dictate the need for piped sewerage.
- Urban customers with inside plumbing (probably a small percentage of water connections in most cities) should be required to be connected to the sewerage system where one exists or, in less densely populated areas, to have a septic tank.
- Vacuum truck operators should be regulated to ensure proper disposal of septage. In general, construction of latrines, installation of septic tanks and septage hauling should be carried out by the private sector and would be financed by households, not from the Government budget. However, government policy should be to support development of a market for private sector operators to construct latrines and for vacuum truck operators to haul septage.
- Government should also support dissemination of sanitation and hygiene promotion, with the help of NGOs.

For ***rural sanitation;*** communities are expected to finance sanitation promotion and hygiene education carried out at the community level in conjunction with improvements to water supply systems, together with support from donors and NGOs. Support will also be needed to train local operators to construct latrines and to help them to become business oriented. Institutional arrangements will need to be addressed to ensure coordination of the various governmental agencies involved in planning and promoting sanitation and hygiene.

Prioritization of rural over urban: Despite a stated intention by government to withdraw over time from using Government resources to finance investments in urban water supply and to devote more funding

to improvement of rural water supply and sanitation (i.e. the policy change), there is a risk that this will take a long time. Tariffs for urban water supply will have to increase, but political realities dictate that they must be phased up to full cost recovery levels, and corresponding programs will need to be carried out to increase understanding by customers and decision-makers of the reasons for the increases. Tariff increases will need to be accompanied by improvements in service and efficiency and utilities will have to be more accountable to consumers. At the same time, efforts will be needed to raise awareness of the benefits and need to prioritize rural water supply and sanitation among local government decision makers, who will need to budget resources for rural water supply and sanitation. The Ministry of Water Resources and other government organisations will have to play the role of advocate for the policy objectives and achievement of targets.

Capacity constraints in the sector need to be addressed as a matter of priority and this is more critical and more difficult with decentralization. There is an increasing awareness that it will not be possible to employ sufficient staff in the public sector and that, in fact, this is not necessary or desirable. Other actors, including the private sector and NGOs should be brought in as partners in development and considerable work is required to create an enabling environment and to attract private sector partners to the water sector.

Monitoring and evaluation in a decentralized environment; With the continued moves towards more decentralization, it is becoming increasingly difficult to monitor the level of spending in the sector and to evaluate the efficiency and effectiveness of this expenditure. Data are not collected and reported in a consistent manner from region to region and what does exist is not passed up to the national (federal) level. Thus considerable efforts will be required to implement effective monitoring and evaluation systems throughout the country in order to provide the data and feedback necessary to attract resources for sector development.

Linkages with other social sector spending

Several studies have shown strong linkages between water supply and sanitation and performance in other sectors, such as health and education. Evidence shows that increasing access to clean water and to improved sanitation reduces the incidence of disease and mortality (especially among the young and most vulnerable). However to measure these linkages requires tightly-controlled surveys to isolate the effects of improved water-supply from other factors. Such measures are clearly necessary and require funding to ensure that such policies can be implemented.

WATER POLICY

It should be noted that much spending in the water sector is not technically public expenditure. While the government funds the bulk of capital costs, users contribute in the form of connection fees for urban water supply, community contributions (cash and in-kind) for rural water supply, and direct purchase of on-site sanitation. In addition, user fees cover a large share of the recurrent costs of operating and maintaining urban water supply and sanitation systems. Financial sustainability resulting in users covering an increasing share of both capital and recurrent expenditures over time and the PER findings can be used to support this policy initiative.

Water resources management: While the PER focuses on water supply and sanitation, it should be recognised that without accompanying measures for water resources management, water supply and sanitation improvements cannot be sustainable. Thus, the PER needs to take account of separate sector work (government, donors)—and policies—which reviews the water sector in an integrated way, examining the linkages between water resources management, hydropower, irrigation and water supply and sanitation as they relate to poverty and economic development in the country. Only in this way, can such an integrated policy for water resources management prove effective.

USING THE PER FINDINGS TO STRUCTURE FOLLOW-UP ACTIVITIES

The Conclusions & Recommendations sections at the end of the PER are critical for **developing a program of follow up work**. One of the most important points of carrying out a PER is to use it as a guide for what needs to be done in the future—to develop a road map, an Action Plan with an implementation schedule, designated funding sources and a timetable with priorities. There is little point in undertaking a PER (and wasting valuable resources) if the government fails to take account of the PER findings and recommendations and, most critically, act on these issues.

PER findings may help to **(re)examine prioritisation within the sector** which may lead to policy changes, although to ensure such policies are implemented will require specific sources of finance, whether public budget or investment, national or sub-national levels, private sector, NGOs, or IFIs/donors.

Despite the stated intention by the Government to reduce government resources to finance urban water supply and to devote more funding to improvement of rural water supply and sanitation, in line with re-prioritization, there is a risk that politics and the political environment may work against this shift in focus. Tariffs for urban water supply will have to increase, but political realities dictate that they must be phased up to full cost recovery levels, and corresponding programs will need to be carried out to increase understanding by customers and decision-makers of the reasons for the increases. Tariff increases will need to be accompanied by improvements in service and efficiency and utilities will have to be more accountable to the public. At the same time, efforts will be needed to raise awareness of the benefits and need to prioritize rural water supply and sanitation among local government decision makers, who will need to budget resources for rural water supply and sanitation. The Ministry of Water Resources and any regional bodies will have to advocate for the policy objectives and achievement of targets.

Whether such policies can be implemented will depend on political will and power—hence the need for a political economy assessment (as discussed below) and discussion of governance—to help determine the likelihood of such outcomes being achieved, though this needs to be handled with a degree of sensitivity given that the PER is usually conducted together with government. The government's ability, willingness and power to engage in such activity needs to be carefully assessed before being built into any program of follow up work.

Consumer contributions (through tariffs) to financing water and sanitation may be required, though that will need to be carefully phased, ensure they are realistic, taking account of ability to pay and political support (with convincing explanations as to why these are needed) and demonstrating to consumers that money is well used, by providing evidence of improvements in service delivery. Where governance is an issue, different arguments will apply.

There is also a need to ensure local decision makers allocate adequate resources to these new priorities (e.g. rural water and sanitation) and that the funds are spent appropriately.

The PER should indicate in the **institutional review** some sort of capacity assessment (needs assessment), staffing required, numbers, qualifications, organisational chart (policy, budget, M&E) as well as a judgement on the absorptive capacity of the institutions involved. Any such institutional review should be guided by policy priorities for the sector and closely linked to financing.

Capacity constraints in the sector need to be addressed as a matter of priority. With decentralization this is at the same time more critical and more difficult. There is an increasing awareness that it will not be possible to employ sufficient staff in the public sector and that, in fact, this is not necessary or desirable. Other actors, including the private sector and NGOs, should be brought in as partners in development. Much work will be needed to create an enabling environment and to attract private sector partners to the water sector.

The PER should also provide an assessment of the state of **Monitoring & Evaluation** (M&E) particularly at sub-national levels, and the ability to review spending and its efficiency and effectiveness. The appropriate data and of the right quality are required in time to enable such an assessment to be undertaken. Hence the need under any such institutional reorganisation and capacity needs assessment to ensure that adequate consideration is given to strengthening capacity within M&E. As decentralization is being gradually introduced, it is becoming increasingly difficult to monitor the level of spending in the sector and to evaluate the efficiency and effectiveness of spending. Data are not collected and reported in a consistent manner from region to region and what does exist is not passed up to the national (federal) level. A concerted effort

will be needed to implement effective monitoring and evaluation systems throughout the country in order to provide the data and feedback necessary to attract resources for sector development.

Without accompanying measures for water resources management, water supply and sanitation improvements cannot be sustainable. Thus the PER findings need to be taken together with other (separate) sector work (by donors, government), which reviews the water sector in an integrated way, examining the linkages between water resources management, hydropower, irrigation and water supply and sanitation as they relate to poverty and economic development in the country.

Other studies have shown strong linkages between water supply and sanitation and performance in other social sectors, such as health and education. Increasing access to clean water and to improved sanitation reduces the incidence of disease and mortality. A table could review the large number of studies that have sought to understand and estimate the impact of improved water and sanitation facilities on water-related diseases.

The results of the PER are often useful in terms of other aspects of the social sector.[16] To measure these linkages, however, requires tightly-controlled surveys to isolate the effects of improved water-supply from other factors. Unfortunately, quantitative studies linking spending on water supply and sanitation to improvements in health and education are often not conducted, although sometimes a very preliminary modelling exercise has been conducted where data suggest that full rural access to safe water could reduce under-5 mortality, with the benefits being greatest for households in the poorest consumption quintiles. Thus, the future work program, based on the PER findings, might include such surveys to gather the necessary data for this type of analysis.

16 Thus, the need to advocate for change, using arguments such as when water points are installed, especially in rural communities, women and girls spend less time fetching water and are, therefore, able to engage in more productive activities and attend school. In many cultures, school attendance frequently falls-off or ceases by older girls, when sanitation facilities are inadequate.

CHAPTER 5

Examples from Case Studies

PERs should provide data that will enable analysts to undertake more penetrating kinds of analysis. There are many examples of this kind of analysis, and a few sound examples are cited below to follow in future PERs. The first example, from a PER in Romania, focuses on the capacity of the sector to absorb pre-accession grants that Romania could obtain prior to acceding to the European Union. The absorptive capacity is key to monitor since pre-accession funding is limited in time: a country's failure to make use of it by a certain year would translate in lost concessionary financing with the subsequent loss in macro-economic stimulus and employment creation.

EXAMPLE ONE: ROMANIA—MONITORING SECTOR CAPACITY TO ABSORB INVESTMENT FUNDING

At times, there is a concern that the water supply and sanitation sector suffers from limited absorptive capacity. One such example is from a PER in Romania where the concern was whether the country would be able to utilize EU concessionary financing to help the new EU member comply with the EU water *acquis*. At the time (in 2005), the PER analyzed the issue as follows:

The bulk of the EU funding—and of the investment requirements to comply with the EU environmental *acquis*—will arrive from January 1, 2007 onwards. Following EU directives the Ministry of Public Finance is now rushing towards the deadline of December 31, 2005 to prepare Romania's National Development Plan that will be detailed in Sector Operational Programs and in Regional Development Programs. The National Development Plan and its corresponding Sector Operational Programs will constitute about 70% of the public investment program for 2007-2013. It will be eligible for grant assistance from the European Union's Cohesion and Regional Development Funds in aggregate volumes that dwarf the pre-accession funds. The post-accession funding is "perishable" in the sense that at least part will be lost if Romania proves unable to use them under the EU directives. The effective and timely absorption of the post-accession funding will be analyzed considering five critical factors: (See Exhibit 4)

- The ability to prepare feasibility studies that respond to EU directives;
- The ability to mobilize the necessary co-financing to the EU grant funds;
- The ability of the municipalities to contract debt and pay for debt service;
- The ability to implement the projects under EU procurement procedures; and
- The ability of the municipalities and independent water supply and wastewater operators to manage and maintain the constructed environmental infrastructure in a sustainable fashion.

EXAMPLE TWO: NEPAL—MONITORING THE EVIDENCE OF INSUFFICIENT SECTOR FINANCING

Another example-this time forms a sector assessment for Nepal-is concerned with the ability of the sector ministry to reduce the construction time so

EXHIBIT 4: **Romania—The Absorptive Capacity of the Water Supply and Wastewater Sector**

The necessary average investment volume to comply with the EU *acquis* can be estimated by dividing the outstanding investment volume by the number of years available from accession to the respective year of compliance as shown below:

AVERAGE REQUIRED INVESTMENT VOLUME IN WATER SUPPLY AND WASTEWATER

Sub-sector	Investment Costs, € mn	Available Years	Average Annual Investment, € mn
Urban water supply	1,500	2010–2007 = 4	375
Rural water supply	3,000	2015–2007 = 9	425
Urban wastewater	4,500	2013–2007 = 7	640
Rural wastewater	5,500	2018–2007 = 12	460
Urban solid waste	6,000	2018–2007 = 12	500
Total	20,500		

The highest pace of project implementation would occur in the early years following accession, precisely when Romania is the least experienced and prepared to tackle the implementation difficulties. In these early years the simple calculation shows that the country would have to invest as much as €2,400 million per year. This disbursement rate is about ten times as high as the combined ISPA annual level of commitments of €230 million and about 100 times as high as the reported level of disbursements. The conclusion is stark: at the present rate of project preparation and implementation it is excluded that Romania will be able to avail itself of all available EU grant funding. The likely outcome is that Romania may have to be provided the necessary level of grant funding over a much longer period in order to be able to utilize the funding efficiently.

that consumers could benefit from allocations. Protracted implementation periods could be the result of many factors, including poor sector governance and accountability, or inadequate procurement and contract administration.

The limited absorptive capacity in the sector is at times compounded by a mismatch between investment projects started and available financing. Frequently there is a much heavier demand for starting the construction of projects than funding available for a speedy implementation. It might be that many projects are started in response to political pressure. Over time the insufficient financing and the tendency to start up construction even in the absence of secure construction financing will create a situation of excessively long implementation periods.

In Nepal, the average implementation periods for investment project financed by government budget funds have slowly been edging upwards. The total value of all investment projects under implementation reached Rs. 21 billion in the budget year 2010/11 whereas the average annual disbursements were only Rs. 2.1 billion, indicating an average implementation period of 10 years, or double or triple the average implementation period for projects that were financed by external donors. The table shows how the percentage of completed projects as compared to the total number of projects under implementation. The proportion of ongoing projects that were completed in a given budget year decreased from 38% in the budget year 2006/07 to 7% in the budget year 2010/11. The worsening of the share of projects

EXHIBIT 5: **Nepal—Evidence of Mismatch between Started and Completed Projects**

Fiscal Year	Ongoing Projects	Completed Projects	Completed/Ongoing
2006/07	455	171	38%
2007/08	527	115	22%
2008/09	742	100	13%
2009/10	819	85	10%
2010/11	1,134	80	7%

Source: Department of Water Supply and Sanitation, Ministry of Physical Planning and Works

EXHIBIT 6: Effect on Economic Returns from Protracted Project Completion (US$ millions)

Period of Execution	Annual Investment Costs	Present Value Costs	Annual Benefits	Present Value Benefits	Benefit/Cost Ratio	Economic Rate-of-Return
5 years	20 in each of years 1–5	75	20 in each of years 6–35	117	1.54	14.7%
10 years	10 in each of years 1–10	61	20 in each of years 11–40	73	1.18	11.3%

completed indicates weak investment planning, difficulties of the government budget to finance CAPEX, and investment scheduling that suffers from political pressure to start more projects than is prudent from the budget perspective. (See Exhibit 5.)

EXAMPLE THREE: IRAN—THE LOSS OF EFFICIENCY FROM PROTRACTED IMPLEMENTATION

The third example-again from sector work in Iran-estimates the reduced economic returns of protracted implementation periods. Economic returns are sharply reduced, and consumers are frustrated when schemes are started but not finished within ten years or longer.

Where investments are financed by artificially cheap financing the result is an excessive use of capital, i.e., excessively large or even unnecessary investments. There is no penalty for a water company or a municipality to invest in unnecessary work as long as there is no debt service. But the cost to the sector is high: it is the cost of not being able to satisfy the needs of unserved populations for safe water and proper wastewater management. Conversely, where municipalities have access to grants for investment they will find it easier to build new capacity rather than making the effort of maintaining the already existing systems. Another proof of the artificially cheap investment financing in Iran is the imbalance between demand for funding and its availability. The consequence is that investment projects frequently require very long implementation periods since many more projects are under execution than there is funding for. Such slow project execution reduces the economic rates-of-return of projects. (See Exhibit 6.)

Figure 6 assumes that a project costing $ 100 million should normally be executed during 5 years and will thereafter generate annual net benefits of $ 20 million that will produce an economic rate-of-return of 14.7%. Such a rate-of-return is typical for many water supply and wastewater projects. If instead, due to undependable financing the project is executed during 10 years the benefits will be delayed and the rate-of-return will drop to 11.3%. Similarly, the benefit/cost ratio drops from 1.54 to 1.18, being barely economically justified (assuming an opportunity cost of capital in the country of 10%). This simple example illustrates the substantial costs of the undependable investment financing. Economic rates-of-return are substantially reduced. In practice, of course, the effect is much more serious given that the country's high inflation rates that will make the financing of long-term investments a perennial catch-up exercise where a year's budget allocation for a project proves insufficient if the inflation rate turns out to be higher than forecast. Contractors and equipment suppliers try to protect themselves against this uncertainty by charging excessive costs since they have the experience of not getting paid on time. The end result is a further reduction of the economic rates-of-return.

EXAMPLE FOUR: TURKEY—DIFFERENCES IN INVESTMENT EFFICIENCY

The fourth example from sector work shows the wide variations in investment productivity between different service providers. Such wide differences can be explained by differences in hydrology, and geography but they can also point to inadequate governance and accountability and public procurement systems.

It is generally understood that the purpose of investment is to provide water and sanitation services to previously unserved or poorly served population. Different utilities go about meeting this objective in sharply different ways. One utility might prefer to invest relatively more in the upstream works of capturing and conveying water to its service area. This approach might be termed "supply-driven". Another utility might make a conscious effort to connect households and stretch already installed supply capac-

ity through programs of selective (and inexpensive) increases in supply by removing bottlenecks in the system, and through demand management where consumption is tightly managed through metering and pricing policies designed to ensure prudent consumption levels. This approach can be called "demand-driven" since it focuses on the consumer end of the system and on their demand.

The differences in investment efficiency, or the productivity of CAPEX, can be much different whether "supply-driven" or "demand-driven" approaches are pursued. The differences can be remarkably large if subsidies of headworks provide incentives to make their capacity uneconomically large. In contrast, utilities do not find the same ready subsidized funding for making connections and may therefore hold back on such works. Investments can therefore be inefficient, partly because the financing is heavily subsidized. In Turkey, the headworks are financed and built by The General Directorate of State Hydraulic Works (DSI) that finance works over 30 years without interest.

The financial policies of local government-owned Iller Bank for distribution and wastewater treatment works have also been strongly concessionary in the past although this may belatedly be changing. Cheap financing reduces the pressure on either institution and on the municipalities to invest as efficiently as they could. The variations in investment productivity, as measured by the average cost of connecting one person to piped water and sewerage, are quite large. The most efficient utilities, such as the Bursa Water Supply and Sewerage Administration in Bursa and the Istanbul Metropolitan Water and Sewerage Company in Istanbul, have managed to provide service at costs one third of the average for all utilities, testimony to the potential productivity gains that would be possible with more rigorous screening of investment projects.

ANNEX 1: List of Public Expenditure Reviews from 2003–2010

Project ID	Fiscal year*	Country	Region	Type of PER	% Water
P080698	FY03	Mozambique	AFR	National PER with chapter/volume on water	25%
P078637	FY03	Tanzania	AFR	National PER with chapter/volume on water	10%
P078600	FY03	Uganda	AFR	National PER with chapter/volume on water	15%
P074788	FY03	Dominican Republic	LAC	National PER with chapter/volume on water	10%
P079434	FY03	Pakistan	SAR	National PER with chapter/volume on water	25%
P085235	FY04	Benin	AFR	National PER with chapter/volume on water	33%
P077409	FY04	Ethiopia	AFR	National PER with chapter/volume on water	25%
P083314	FY04	Tanzania	AFR	National PER with chapter/volume on water	15%
P078900	FY04	Ecuador	LAC	National PER with chapter/volume on water	10%
P083947	FY04	El Salvador	LAC	National PER with chapter/volume on water	25%
P083582	FY04	Mexico	LAC	National PER with chapter/volume on water	10%
P089103	FY05	Mexico	LAC	National PER with chapter/volume on water	25%
P079240	FY05	Jordan	MNA	National PER with chapter/volume on water	25%
P091725	FY06	Cape Verde	AFR	National PER with chapter/volume on water	15%
P094806	FY06	Bulgaria	ECA	National PER with chapter/volume on water	20%
P095895	FY06	Mexico	LAC	Water PER	100%
P094882	FY06	Panama	LAC	National PER with chapter/volume on water	25%
P095753	FY06	Egypt	MNA	Water PER	100%
P096137	FY07	Madagascar	AFR	RWSS PER	100%
P089205	FY07	Indonesia	EAP	National PER with chapter/volume on water	10%
P099261	FY07	Indonesia	EAP	National PER with chapter/volume on water	10%
P103079	FY07	Philippines	EAP	National PER with chapter/volume on water	10%
P088834	FY07	Albania	ECA	National PER with chapter/volume on water	25%
P096939	FY07	Armenia	ECA	National PER with chapter/volume on water	10%
P094881	FY07	Nicaragua	LAC	National PER with chapter/volume on water	15%
	FY07	Romania	ECA	National PER with chapter/volume on water	4%
P096894	FY07	Algeria	MNA	National PER with chapter/volume on water	25%
P102039	FY08	Cape Verde	AFR	National PER with chapter/volume on water	10%
P101236	FY08	Ethiopia	AFR	National PER with chapter/volume on water	10%
P106488	FY08	Burkina Faso	AFR	RWSS PER	100%
P106488	FY08	Ghana	AFR	RWSS PER	100%
P106488	FY08	Mali	AFR	RWSS PER	100%
P104232	FY08	Albania	ECA	National PER with chapter/volume on water	10%
P101237	FY09	Ethiopia	AFR	RWSS PER	80%
P114586	FY09	Tanzania	AFR	Water PER	100%
P117713	FY09	Mozambique	AFR	Water PER	100%
P112273	FY09	Cameron	AFR	RWSS PER	100%
P112273	FY09	Cote d'Ivoire	AFR	RWSS PER	100%
P112273	FY09	Cross River	AFR	RWSS PER	100%

Project ID	Fiscal year*	Country	Region	Type of PER	% Water
P112273	FY09	Niger	AFR	RWSS PER	100%
P107244	FY09	Libya	MNA	National PER with chapter/volume on water	25%
P110556	FY10	Lebanon	MNA	Water PER	100%

*World Bank fiscal year runs from July 1–June 30.

ANNEX 2: Data and Methodological Factors in Water Public Expenditure Reviews

Since 2003, the World Bank has undertaken 42 PERs that include analysis of the WSS sector. Most of these PERs discuss the water sector alongside other sectors, with varying scope and depth of analysis of WSS sector issues accordingly. Most focus on urban water supply services and sanitation. A few of the water PERs focus on rural water supply and sanitation and some focus on water resource management and irrigation.

Out of the 42 PERs, 20 are from the Africa region, 8 are from the Latin America region, 5 are from the Middle East—North Africa region, 5 are from the Europe—Central Asia region, 3 are from the East Asia—Pacific region and 1 is from the South Asia region. 28 of the 42 PERs conducted are national PERs with a short chapter or section on water. The 14 stand alone PERs, mostly from the Africa region are primarily focused on rural water supply and sanitation with 5 (Mexico, Tanzania, Mozambique, Egypt and Lebanon) addressing both urban and rural.

The PERs vary in objectives and assessments depending on the particular context. In Tanzania, the PER aims to gain insight into how budgeted allocations for the water sector translate into actual water and sanitation service delivery and to understand what impacts the links between the two. In Mexico, the report examines the sub-sectoral themes of water supply and sanitation and irrigation and drainage, as well as the overall water resource and fiscal management issues for the sector. In Lebanon, the state of WSS in Lebanon is not in line with the level of economic development reached by the country. Despite the relatively high coverage rate in the water sector (78 percent), continuity of supply is extremely low. In Egypt, the PER assesses the trends of public expenditures in the water sector with a particular focus on the irrigation and WSS subsectors, the two major recipients of public financing in the water sector and also investigates different sources of fiscal stress and finance, and explores efficiency and equity implications of the current arrangements. In Mozambique, water supply and sanitation are of prime importance in the PER because of their complementary role in preventing disease.

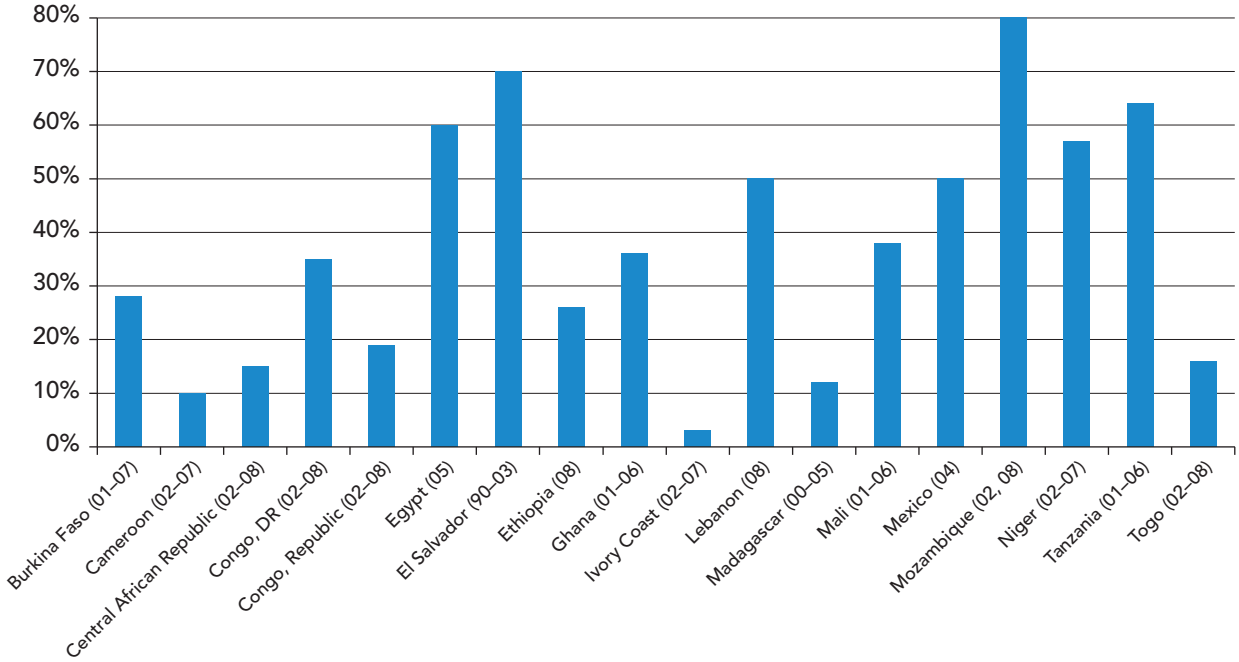
VARIATIONS IN DEFINITION OF THE SECTOR AND ITS SIGNIFICANCE

The definition of the sector differs considerably from one PER study to the next. Indeed, in accordance with classification systems, it is important to consider which sector expenditures are included and which are not: for example, is expenditure on sector training or on state water and sanitation companies included in the definition of the sector. One ministry may be responsible for the bulk of sector expenditure, although other public bodies, as well as private bodies and NGOs, may also be important players in the sector. While data on the annual spending of these other organisations needs to be included, so also does expenditure at sub-national (as well as national) level, if a complete picture of sector expenditure in the country is to be obtained. In addition, in some countries, some sector-related spending is not recorded in the total expenditure of the sector.

A major problem that the review discovered was the fact that the definition of what 'water and sanitation' actually constitutes differs considerably between the studies. The definition often adopted for convenience covers spending on the sector through core sector institutions—the water and sanitation ministry and those which also feature some water expenditure. What should be included under sector spending here is of great relevance: should spending incurred by research and training institutions, and by other ministries, be included if this is related to water and sanitation?

Not surprisingly, in order for comparisons of the principal features and patterns of public expenditure on the sector to be made between countries, the term needs to be clearly defined. Indeed, the reason why no international comparisons are made in any of the PERs reviewed may be due in part to these inconsistencies. Data problems are also likely to have hindered such an exercise.

EXHIBIT A: Water Supply & Sanitation Expenditure (% of GDP)



Source: Respective countries' WSS PERs. Figures are from available years within PER data.

VARIATIONS IN INSTITUTIONAL 'HOMES' FOR WATER AND SANITATION

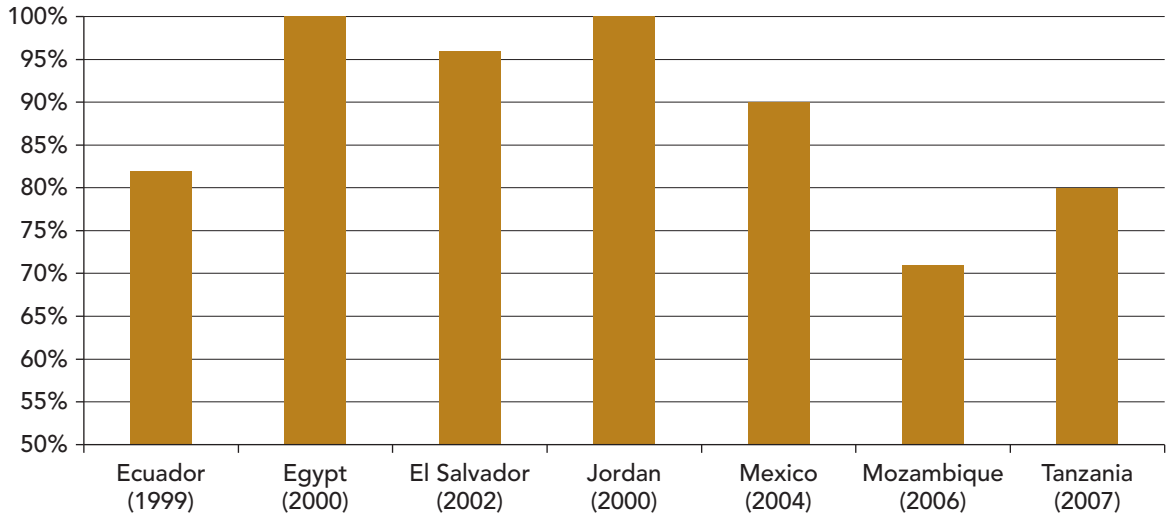
There are a wide variety of different institutional homes (such as the Ministry of Water, the Ministry of Infrastructure) for the water and sanitation portfolios in the governments of a sample of countries looked at in detail during the review of PERs. There appears to be no consistent pattern and this applies as much in countries with decentralisation as in those where responsibility for the sector rests with central institutions.

The review of Africa PERs showed that water sector institutions follow no consistent pattern. In Sub Saharan Africa, with respect to decentralisation, some countries (mainly francophone) have chosen a single water utility while the remaining ones (mainly anglophone), have undergone some decentralisation with powers allocated to local jurisdiction. Where services were centralised, a significant monitory have chosen to combine power and water services in a single national multi utility. (See above.)

VARIATIONS IN THE AMOUNT ACTUALLY SPENT ON WSS

Similarly, there is no consistency among countries as to amount of public expenditure on water & sanitation. If a typology were developed for the amount of total public funds actually spent on WSS then, in the majority of cases, it could be shown that expenditure on water supply services and sanitation comprises only a small part of total public expenditure (an average of 0.3-0.5% of GDP, between 2000-2008, in the reviewed countries). Mexico, Lebanon and Jordan report slightly higher spending (of 0.5–0.6% GDP), which includes irrigation and water resource management. This still falls short of the figure recommended in the UN Human Development Report (2006), of 1% of annual GDP, and the estimated 2.6% of GDP required annually by SSA countries to meet water MDGs. In some SSA countries, such as Tanzania for example, comparatively high amounts (1.2% of GDP) have been spent on the sector. Thus, it is difficult to provide guidance on the percentage that should be allocated to the sector from total public funds

EXHIBIT B: Urban Access to Clean Water



Source: Data collected from respective countries PERs.

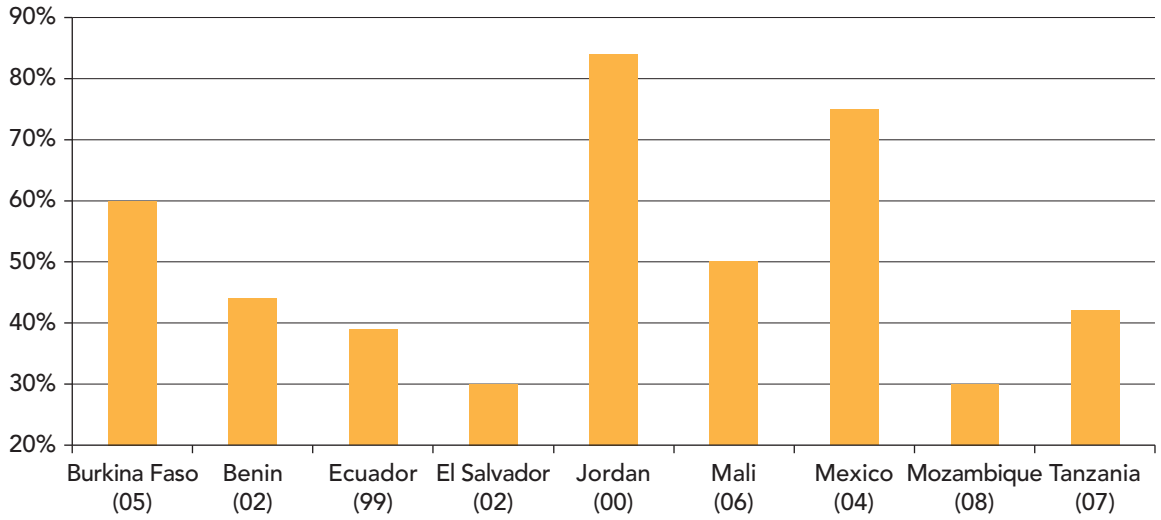
ANALYSIS OF COMPLETED PUBLIC EXPENDITURE REVIEWS

The lack of comprehensiveness and the apparent definitional uncertainties restrict the use of PER data which is often, therefore seen as a first step in analysis of the WSS sector prompting additional questions and additional data gathering and validation. Despite these uncertainties, some tentative findings emerge from WSS PERs.

- Most expenditure for water supply services and sanitation is only a small part of public expenditure. Overall, average actual expenditure in the WSS sector was in the region of 0.3–0.5% of GDP between 2000 and 2008 in the reviewed countries. Mexico, Lebanon and Jordan, for example, report to be spending 0.5–0.6% of GDP on the WSS sector (including irrigation and water resources management). This compares with the 1% of GDP suggested by the Human Development Report, 2006, and the estimated 2.6% of GDP required annually by SSA countries to meet water MDGs.[17] Some SSA countries appear to be spending relatively high amount on the WSS sector, such as Tanzania where expenditure was 1.2% of GDP in 2006/07. (See Exhibit A.)
- Access rates to improved drinking water in urban areas vary widely between countries, from 100% in Jordan (2000), 96% in El Salvador (2002), and 90% in Mexico (2004) to 80% in Tanzania (2007) (taking in account service level differences). The access varies due to population growth and the inability of utilities to keep pace with the rapid growth of urbanization. (See Exhibit B.)
- Rural access to safe drinking water is everywhere lower than in urban areas and varies significantly between countries from 84% in Jordan (2000) and 75% in Mexico (2004) to 30% in El Salvador (2002) and 42% in Tanzania (2007). Investment in rural water supply in most Sub Saharan Africa countries has only just kept up with population growth rates. A significant factor in rural areas is the high rate of non-functional water supply facilities, a statistic that is not always reported. (See Exhibit C.)
- The gap in access to improved sanitation services between urban and rural areas is similar to the variation observed in access to improved water supply. For example, in Mexico 95% of the urban population have access to improved sanitation services compared to 75% in rural areas (2004). Similarly, in El Salvador 90% of the urban population have access to improved sanitation services compared to 51% in rural areas (2002). In some countries, the proportion of the rural population with access to improved sanitation services can be very low. In Ghana, Ethiopia and Mozambique access to improved sanitation in rural areas was

17 Brinceno-Garmendia, Smits and Foster, *Africa's Infrastructure: A Time for Transformation*, World Bank, 2010.

EXHIBIT C: Access to Rural Water

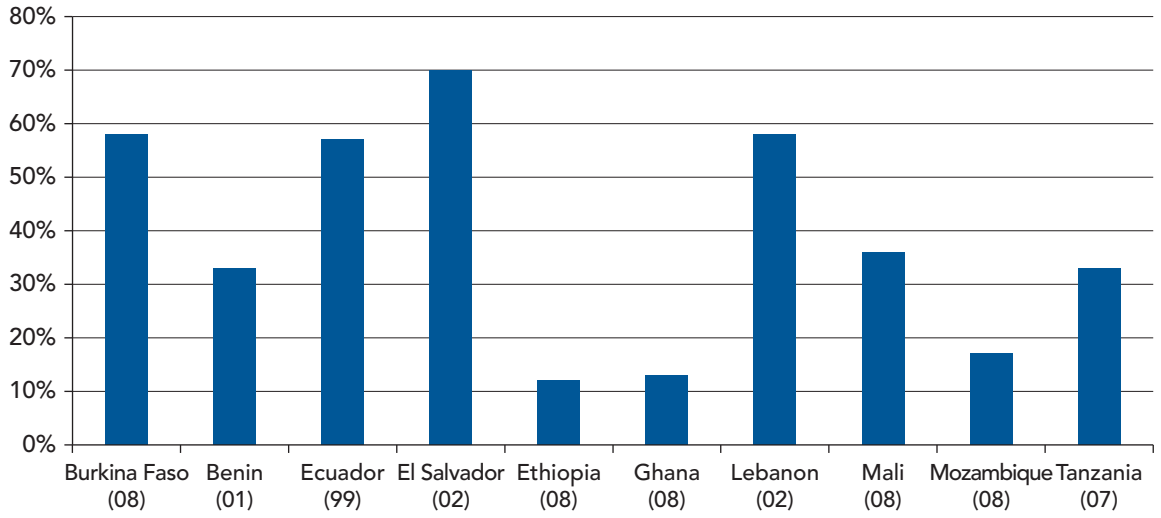


Source: Data collected from respective countries PERs.

below 10% in all three countries (2008) compared to urban access (18%, 29% and 38% respectively). (See Exhibit D.)

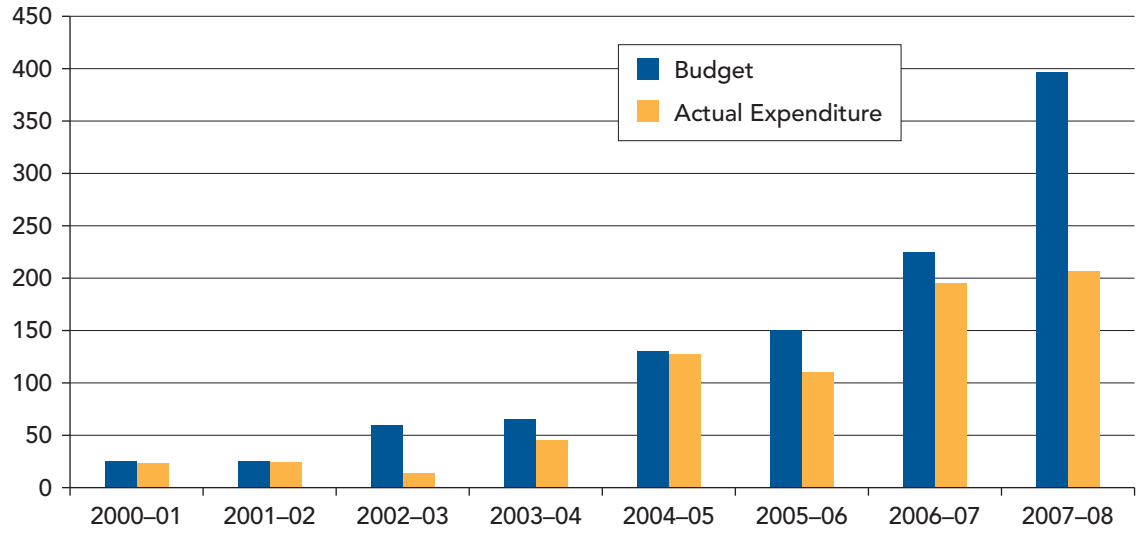
- The water sector budget is heavily skewed towards capital development. For example, the Tanzania review noted that whereas in general 55% of the total government budget is allocated to the development budget, in the water sector 85% of the sector budget is dedicated to development expenditure. Similar figures were recorded for Jordan and Benin. This high dependence on development expenditure mirrors that of the energy sector. The explanation could be that the accounting of CAPEX is more complete in many countries, particularly when much of it is financed by external aid. Conversely, the preventive maintenance part of OPEX may be underestimated when consolidated sector accounts do not exist which might be the case when water supply and wastewater services have been decentralized to a large number of local operators and utilities.

EXHIBIT D: Access to Improved Sanitation (Urban/Rural)



Source: Data collected from respective countries PERs.

EXHIBIT E: Tanzania—Water Budget Allocation and Expenditure (TzS billions)



Source: Tanzania Public Expenditure Review of the Water Sector, September 2009.

- In Mexico, about half of the expenditure of the National Water Commissions (CONAGUA) is spent on water supply and sanitation infrastructure, a quarter in the irrigation sub-sector and another quarter on central administration and overall water resources management, including flood control. The relationship between recurrent and development expenditure need to be treated with caution. In most of the countries reviewed capital expenditures are often heavily supported by external partners and in other cases dips in external funding flows can make recurrent expenditure look abnormally high. (See Exhibit E.)

The Africa PERs report that water sector institutions generally follow no consistent pattern. In Sub Saharan Africa, one important dichotomy is with respect to decentralisation, with some countries (primarily francophone) retaining a single national water utility, and the remaining (primarily anglophone) having undergone some process of decentralisation to local jurisdictions. Where service is centralised, a significant minority have chosen to combine power and water services into a single, national multi-utility.

SPECIFIC ANALYSIS IN RURAL WATER PUBLIC EXPENDITURE REVIEWS

Several PERs suggest that the performance and financing of 'rural' WSS services exhibit some particular features:

- More so than with urban WSS services, it is not always possible to identify total public expenditure on rural water supply services. Rural water supply services may depend of rudimentary accounts as compared to larger, urban utilities which skews comparisons. Local government and community-based organizations tend to manage rural water supplies (e.g. Tanzania, Mexico) and their reporting of expenditure and performance data and its collation at national level may be inadequate. Third, a significant share of expenditure on rural water supply services may be off-budget (see below). Fourth, wide discrepancies between budget allocations and actual disbursements and a lack of predictability in the release of funds to local levels means approved budgets are not a good guide to actual expenditures on rural WSS services.
- A significant share of total expenditure on rural WSS (as can be the case for urban) may be provided by NGOs, donors and CBOs. This poses challenges for data collection; difficulty in sourcing rural WSS expenditure is mentioned in several of the reviews. The Tanzania PER cites surveys by WaterAid in three districts in Tanzania which illustrate the significance of non-governmental financing of rural water services:

> "The surveys collected information on reported funding sources for the water points. The results show that a large amount of funding for new water point construction has come from

sources other than Government of Tanzania or donor funds (the latter are presumably not reflected in the Government of Tanzania budget).From 1995–2005, 35 percent of rural water points in these regions were funded by public entities or donors, while 57 percent were funded by NGOs or churches, and 4 percent were funded by private donors. Whether the substantial amounts of non-government funding of new water points in other regions is as pronounced as it is in these four regions needs to be determined."

- The efficiency of rural WSS facilities is often low due to the large proportion of non-functional facilities. In part this is due to high breakdown rates of rural water supply infrastructure. Contributory factors include a wide dispersion of technologies deployed and lack of capacity at local levels, particularly for water engineers and water technicians. Hydrological conditions can also play an important role (due to the more complex technologies needed to supply water in arid areas). Functionality levels, although reported in most rural PERs, reviews, are often not quantified. Those PERs that do estimate levels of non-functionality of rural water supplies include Rwanda (29% non-functional) and Tanzania (22%, with a range of 16% to 41% non-functional depending on type of facility).

The following provides an indication of how the PERs may be divided according to the seven classifications:

i. Water & sanitation sectors (6)

Sector	Country	Date
Water & sanitation sector	Uganda	2003
Water supply & sanitation sector	El Salvador	
Water supply & sanitation	Mozambique	
sector assessment to monitor whether protracted implementation due to insufficient financing	Nepal	
sector assessment—(protracted implementation)	Iran	
sector assessment—variations in investment returns due to different service providers	Turkey	

ii. Rural water & sanitation sectors (8)

Country	Date
Madagascar	2007
Burkina Faso	2008
Ghana	2008
Mali	2008
Cross River State	2009
Cameroon	2009
Cote d'Ivoire	2009
Niger	2009

iii. Water sector (7)

Country	Date
Benin	2004
Jordan	2005
Egypt	2006
Mexico	2006
Mozambique	2009
Tanzania	2009
Lebanon	2010

iv. Rural water (supply) (1)

Review type	Sector	Country	Date
Public Finance Review	Rural Water Supply	Ethiopia	2009

v. Another sector that includes water (Infrastructure; environment) (4)

Type of Review	Sector	Country	Date
PER	Infrastructure	Armenia	2007
PER	Water one of 6 sectors*	Indonesia	2007
PER	Environment (water)	Romania	2007
PER	Water infrastructure	Libya	2009

*The 5 other areas are: fiscal space, education, health, infrastructure, PFM and de-centralisation.

vi. National PERs with chapter/section on water and sanitation

% PER devoted to water & sanitation	Country	Date
25	Mozambique	2003
10	Tanzania	2003
15	Uganda	2003
10	Dominican Republic	2003
25	Pakistan	2003
33	Benin	2004
25	Ethiopia	2004
15	Tanzania	2004
10	Ecuador	2004
25	El Salvador	2004
10	Mexico	2004
25	Mexico	2005
25	Jordan	2005
15	Cape Verde	2006
20	Bulgaria	2006
25	Panama	2006
N/A	Aceh	2007
N/A	D R Congo	2007
10	Indonesia	2007
10	Philippines	2007
25	Albania	2007
10	Armenia	2007
15	Nicaragua	2007
4	Romania	2007
25	Algeria	2007
10	Cape Verde	2008
10	Ethiopia	2008

vii. PER of Country Development Strategy (includes drinking water & sanitation) (2)

Type of Review	Purpose of Review	Country	Date
PER	New Development Strategy & Action Plan (MAP) where goals include drinking water and sanitation (one of countries with lowest access rate to drinking water)	Ethiopia	2007
PER	Monitor sector capacity to assess whether investment funding from EU concessionary financing to help EU member states comply with EU water acquis can be absorbed	Romania	2006

ANNEX 3: Financing the Water and Sanitation Sector Glossary of Terms

LEVELS OF PUBLIC SPENDING

Because of its eminently local nature the water supply and sanitation sector poses special challenges for estimating levels of public funding and spending. The paradigm up to the late 1980s in many countries for organizing the sector was the creation of national water supply and sanitation agencies that were publicly funded and managed. The levels of public subsidies to operate and maintain services became onerous and triggered a decentralization of services to local government that was better attuned to consumer needs and that was expected to take decisions to assure the sustainability and quality of services. At times, the responsibility and right of service delivery to local government was even enshrined in constitutional reforms, in practice, however their implementation has not always been fully consistent.

NATIONAL AND LOCAL PUBLIC SPENDING

The preference for local service provision introduced difficulties for estimating levels of total public funding in the water sector. However to the extent that municipal service providers were successful in becoming financially independent from the national budget they also gained de facto freedom from reporting how much they spent in capital expenditure and operational expenditure. It therefore becomes necessary to make a special effort to map how much local utilities and municipalities invested. Whenever local utilities borrow with the guarantee of central government this difficulty does not apply since investments can be derived from the level of government guarantees.

OTHER PUBLIC SPENDING

The rural water supply and sanitation sector is particularly challenging for estimating total public spending. Public spending may comprise a wide range of categories such as rural roads, social services, and water and sanitation. The agencies responsible for implementing such programs do not always break down spending by sub-sector and a special effort to map spending by category becomes necessary.

The growth of the private sector, mostly in the urban sector creates another kind of difficulty for estimating public spending. To the degree that investments are financed by the government, as is the case under management and lease contracts, spending is recorded but this will not be the case for concessions. In the rural sector, the private sector may rely on public subsidies to cover deficits and again public spending can be accurately tracked.

For similar reasons, the level of spending by NGOs runs the risk of being underestimated. NGO spending is typically not recorded in central government budgets since no guarantee is necessary and is therefore largely unknown.

SOURCES OF PUBLIC SPENDING

The sources of public spending vary with institutional arrangements. Where there are national or statewide public water supply and sanitation agencies, public spending will be funded by national or state budgets that in turn may originate from the national budget through revenue-sharing agreements. Urban water supply and sanitation services, however, are often a municipal responsibility which makes it necessary to make an additional effort to understand the portion of local government funding and expenditure that is for water supply and sanitation services.

EFFICIENCY OF SPENDING

The efficiency of public spending is a key concern in public expenditure reviews. Efficiency of investments may be measured by the average level of investment per capita to connect incremental population. In practice, it is not obvious what per capita investment costs should be. The numerator, i.e. the level of investment costs, poses little difficulty but the denominator-incremental population served-is more of a challenge since service levels vary so much and service levels estimates are notoriously prone to errors. Service access can comprise a range from access to public standpipes within say 150 meters to individual service connections. The most precise estimate of service access is the share of the population that receives

individual connections but this level of service may not be affordable in low-income countries with a large proportion residing in rural areas.

Investments in rehabilitation create other challenges. Rehabilitation may appear more efficient when measured by the number of households whose service is restored but this apparent efficiency may mask neglect of investing sufficiently in maintenance. The conclusion is that efficiency of spending can only be reliably measured over longer time periods and where the functionality of systems does not vary excessively.

BUDGETED VERSUS ACTUAL EXPENDITURES

The ability to implement the budgeted expenditure is an important factor in supporting the government's ability to deliver the public services for the year as expressed in policy statements, output commitments and work plans. The indicator used to reflect this is the ratio of actual total expenditure compared to the originally budgeted total expenditure (as defined in government budget documentation and fiscal reports). In order to understand the reasons behind a deviation from the budgeted expenditure, it is important that a PER seeks to describe any the external factors that may have led to the deviation (e.g. the impact of deviations from budgeted revenue). Underlying causes for expenditure deviation can be general, affecting government as a whole, or sector specific and related to particular issues, processes and/or institutions at sector level. Possible causes for differences between budgeted and actual expenditures include:

- Lack of costing of sector strategies and programs, leading to budget decisions based on past history rather than specific planned objectives
- Delays in disbursements from the ministry of finance to sector ministries and agencies;
- Reallocation of funds during budget execution to other sectors and institutions; and
- Delays in expenditure due to procurement processes.

FLOW OF BUDGET FUNDS—RELIABILITY AND PREDICTABILITY

The flows of funds from the central budget to the implementing agencies can sometimes slow implementation when they are unnecessarily cumbersome. Delayed release of budgeted funds may require a detailed examination of where delays occur and should prompt a streamlining of procedures. Inexplicable delays may in some instances raise questions as to problems in governance of public funds.

The flow of funds to the sector should be mapped. It makes a good deal of difference if funding from the Ministry of Finance is transferred straight to local or regional service providers, or whether funds are transferred via sectoral ministries that allocate funds according to criteria that are not always fully transparent.

TRACKING THE FUNDS

Tracking of budget funds should if possible be automated and prompt to avoid the risk that unreliable or unpredictable funding will slow the annual implementation program. Government budgeting is often done on an annual basis in spite of the fact that investment implementation can span a number of years. A quick feedback is necessary to warn in time of any possible delays in the availability of budgets to enable implementation to adapt to changes in funding.

ANNEX 4A: Sample TORs for Water-Related Public Expenditure Reviews

BACKGROUND

The purpose of Public Expenditure Reviews (PERs) is to track public expenditure at both national and sub-national levels of Government to answer the key question: did public funding go to where it was supposed to go, and did it promote efficiency and sustainability in the public sector. In addition, PERs are sometimes used to provide data and analysis of specific sectors, such as the water supply and sanitation sector.

OBJECTIVE

The planned PER for Country X [insert] will gather the necessary data for subsequent analysis of how well the water supply and sanitation sector is meeting the country's sector development objective of providing efficient, sustainable service for the entire population.

BACKGROUND

This section should provide a summary of the water and sanitation sector in the country under review. It should describe recent and current levels of access, the policy and strategy framework. It should identify the main institutions at central, regional and local levels responsible for WSS service delivery and main trends in recent years in budgetary allocations to the WSS sector through these institutions. It should identify the main issues affecting service delivery and achievement of policy objectives (i.e. issues relating to service, investment and efficiency levels).

OBJECTIVES

A common objective of a PER is to assist the government (and its development partners) to achieve its social and economic objectives in relation to the WSS sector by supporting the design and delivery of effective WSS services.

The specific objectives are to assist the government identify strategic programs and activities in the WSS sector, consistent with its other objectives (particularly those related to macroeconomic stability and public financial management), that may hasten the achievement of sector goals and objectives.

To this end, the PER will:

- Identify the nature and scale of public expenditure in the WSS sector, and the channels through which expenditures flow to help achieve sector objectives;
- Assemble and comment on information related to the impact of these expenditures, in terms of services and beneficiaries, in relation to sector policy objectives;
- Summarise the policy framework and objectives for WSS services and comment on the targets set for future delivery of services in relation to recent trends and current levels of expenditure and service delivery;
- Estimate the distribution of expenditure by major target group and geographic region location and comment on any variances in expenditures and/or services by location;
- Estimate the efficiency of expenditures by type service facility and comment on the variation in efficiency between different service providers and by beneficiary group, identifying wherever possible the underlying causes for any observed differences; and
- Systematically seek to make recommendations on how the issues identified can be addressed in order to improve the coverage, efficiency, effectiveness, consistency and sustainability of WSS services—ensuring that any recommendations are compatible with foreseeable levels of public expenditure, institutional reform, organizational improvement, and capacity enhancement

SPECIFIC TASKS AND SCOPE OF WORK

Identify and document:

- Ministries, agencies and departments responsible for the delivery of WSS services and expenditures.
- Local providers of W&WW (representative sample)

- For each MDA and/or program, identify:
  - The legislative basis for its involvement
  - Objectives and programs for which it is responsible
  - Expenditures and target beneficiaries
  - Planned, budgeted, allocated, and actual expenditures by MDAs for the last three years and planned expenditures for the next three years, where data is available
  - Quantitative and qualitative performance information in relations to the expenditure programs
  - Distribution of expenditures and services by target group
- Document sources and methods used sufficiently to enable future updates to take place

METHODOLOGY

The methodology is expected to involve

- Literature review of academic, regional and country-level publications on approaches to the delivery of WSS services in low/middle income countries and benchmark levels of access, expenditure and outcomes for rural and urban WSS services
- Analysis of household and other survey data to identify trends in WSS service provision, to determine levels of performance in relation to investments
- Consulting with relevant ministries, departments and agencies to understand sector background responsibilities, policies and programs, identify any performance data and understand current challenges and issues
- Consulting extensively with the Ministry of Finance about PFM issues in general which may affect sector performance and appropriations, allocations and expenditures for all relevant WSS programs, with a particular focus on
  - Budgeted versus actual allocations
  - Horizontal and vertical allocations of expenditure
  - Recurrent versus development, salary versus non-salary expenditure
  - On-budget versus off-budget expenditure
  - Expenditure by spatial distribution
- Consulting with WSS service providers (or provider associations) to understand current levels of facility performance and efficiency and enable comparison between providers and with regional and international benchmarks
- Consulting with non-governmental organizations and donor agencies involved in the funding, delivery and analysis of WSS services that could provide information on the impact of WSS services and current performance issues, to triangulate data and gather views of sector performance.

OUTPUTS/DELIVERABLES

Outputs should include:

- An initial short report within [insert] of the start of the assignment focusing on any difficulties with the data gathering or access to key stakeholders;
- An interim report within [insert] after the start of the assignment identifying sector institutions and expenditures. The interim report focuses on the assessment of performance to date. It should provide initial estimates of total sector expenditure and performance against key indicators and benchmarks. It should identify those forward looking issues which provide the focus for the final report;
- A final report, within [insert] of the start of the assignment, addressing all matters referred to under scope of work above. The final report shall identify the main policy, expenditure and performance issues which, in its view, should be addressed to improve the likelihood of reaching sector policy targets and maximising efficiency. It should include tables showing expenditures and impact by different categories of beneficiary;
- The final report should include an executive summary presenting in no more than 5 pages the main findings of the study, as well as a list of concrete recommendations on how the identified issues could be addressed; and
- Language skills as appropriate.

SCOPE OF PUBLIC EXPENDITURE REVIEW

The PER should cover both the urban and rural population. It should collect, as a minimum, the following data:

- Urban and rural population, of the latest census and projected to the year 2015;
- Population served with water supply and sanitation, respectively, discriminated by the share served with individual connections and the share with access to other types of water and sanitation infrastructure as specified by the Joint Monitoring Programme (JMP);
- The levels of capital expenditure (CAPEX) in water supply and sanitation, respectively, for the following agencies and institutions:
  - Central government ministries;
  - Regional governments
  - Local governments;
  - Utilities with separate financial statements;
  - Other agencies with investment programs in water and sanitation;
- The levels of operations and maintenance expenditure, as budgeted and spent by the same agencies and institutions listed immediately above. If possible the maintenance expenditure should be separated from other OPEX. All CAPEX and OPEX data should be expressed in constant prices and in current prices for the time period analyzed. As a minimum, data for three historical years should be collected;
- If ready data on CAPEX are not available cost data from project feasibility studies should be collected;
- The ownership of fixed assets in the water supply and sanitation sector should be specified;
- Financial policies for financing of CAPEX, by level of interest rate; and maturity;
- Pricing policies for water supply and sanitation services, respectively and an indication how such policies are regulated;
- The approximate value of ongoing projects should be estimated; and
- Procurement rules in the public water and sanitation sector.

SCOPE OF ANALYSIS

The scope of analysis will vary with the objective in each specific country. As a minimum, it could be expected that the analysis would attempt to analyze and answer the following questions:

- What is the coverage of water supply and sanitation services?
  - Water Supply (house connection; public tap; private well or source, street vendor, other)
  - Sanitation (Sewerage connection; septic tanks or latrines; other)
  - Wastewater treatment (primary, secondary)
- What is the quality of such services in terms of safety and convenient water?
  - Hours of service
  - Water quality (water treatment and disinfection?)
  - Minimum/maximum pressure
- What is the efficiency of use of resources in capital expenditure (CAPEX)?
  - Investment per capita (water; sanitation; wastewater treatment) in urban and rural areas
  - Procurement rules
- What is the efficiency of use of resources in operational expenditure (OPEX)?
  - Pipes breaks/100 km/year
    - Sewerage stoppages (#/100 km/year)
    - Non-revenue water (as a percentage and as m3/day/km of distribution pipes)
- What is the sustainability of services?
  - Governance (policy, price/quality regulation, operational responsibilities)
  - Cost recovery
- What is the effect on social equity from the pattern of CAPEX and OPEX?
  - Improving access (water and sanitation) to poor people
  - Cost of services for the poor (as a percentage of family income)
    - Affordability of services provided
    - Cost of new connection (water/sewerage)
- What is the fiscal impact from the policies of CAPEX and OPEX?
- Subsidies to the sector as a percentage of total government deficits.

RECOMMENDATIONS, DISSEMINATION AND ACTION PLANNING

The findings of the PER will be summarized in the form of recommendations. The dissemination pro-

cess for the PER will include a review workshop including representatives of the key stakeholders. The participants would engage in action planning for subsequent follow-up.

TIMETABLE

The task is expected to take an elapsed period of [insert] working days [insert] by a skilled team of WSS and public finance specialists, with the majority of this time being spend in-country.

REPORTING

The assignment will be managed by [insert], which will be responsible for agreeing the Terms of Reference, facilitating access to relevant institutions and data sources, receiving outputs and approving deliverables. A suggested structure for the interim and final reports will be developed in collaboration with the [insert] at the start of the assignment.

The consultant(s) will work closely with sector institutions [insert] under the auspices of the [World Bank]. Logistical support will be provided by [insert].

QUALIFICATIONS AND COMPETENCIES

Core competencies for this assignment are:

- Advanced understanding of WSS sector issues and program design issues in low and middle income countries
- Skills and experience in analysing public expenditures and associated research and informational issues
- Demonstrable team management and organizational skills

Excellent communication and interpersonal skills and experience of working with and reporting to multi-stakeholder groups.

ANNEX 4B: Sample TOR for Rural Water—and Sanitation-Related Public Expenditure Reviews

1. BACKGROUND

Improving access to and quality of rural water supply and sanitation (WSS) helps to reduce poverty. The importance of access to improved water supply and sanitation has been recognized in the Millennium Development Goals (MDGs). In many countries, the achievement of the MDGs will require a large investment to increase access to safe and sustainable water and sanitation services. However, anecdotal evidence has shown that "pumping up the investment volume" is often not enough to ensure safe and sustainable access to WSS services. The size of the required investments can be substantially reduced if the efficacy, efficiency and quality of public expenditures in the water and sanitation (WSS) sector can be increased. Poor targeting of public expenditure is another major concern that may affect the efficiency of public expenditure programs in the WSS sector, and especially affect the access for the poor to improved WSS services. Gaps in achieving outcomes can be due to:

- Sub-optimal spending, due to inefficient allocation of resources (delays and lack of predictability), discretionary reallocation of resources (lack of transparency in allocation of resources), inappropriate policies and institutional incentives;
- Low quality of service delivery due to inefficiencies in service delivery
- Poor targeting of public expenditure

2. OBJECTIVES

The overall objective of the rural Water Supply and Sanitation Public Expenditure Review (PER) is

i. To provide a context of the Water Supply and Sanitation (WSS) sector and its performance that will help to put into perspective of how public expenditure translates into actual water and sanitation service delivery;

ii. To gain an understanding of the financial framework in which expenditures are made in the rural water supply and sanitation sub-sector, and assess the quantity and quality of the transfers of public funds to the water and sanitation. This will include :

   a. Description of the institutions and processes involved in the allocation of resources to the rural water and sanitation sector, including programs of hygiene education;

   b. The quantity and quality of expenditures in the rural water and sanitation sector;

   c. The factors that determine the efficient and equitable allocation and disbursements of these expenditures;

   d. The extent to which expenditures are aligned with sector priorities; and

   e. The extent to which expenditures benefit the poor (social impact of public spending, the issues of subsidies, the regressive potential nature of the spending)

iii. To make recommendations about the need to (i) increase the volume, (ii) improve the composition and (iii) improve the effectiveness of public expenditures and determine what reform elements need to be introduced or enhanced in the WSS sub-sector in order to help these countries meet the MDG.

Specifically the PER will:

- *Describe the framework in which public expenditures are made.* This includes institutional mapping of responsibilities, budget allocation and disbursement processes.
- *Assess the efficiency and effectiveness of public expenditures in the rural WSS*. This element of the work includes a quantitative analysis of the allocation of funds by government at the national and sub-national level. It will also look behind the numbers to understand what affects the expenditure patterns and address the legal and policy framework by emphasizing the cross-cutting issues such as competence building of institutions, decentralization and efficiency of resource allocation and utilization.

- *Contribute to enhance the quality of rural WSS programs by providing tools to better target their interventions* and achieve value-for-money in WSS delivery. Stakeholder consultations and engagement with various donors and relevant Ministries on the PER process will sensitize decision-makers and planners to the need for more efficient and effective ways of doing business if scaling up of WSS delivery is to be achieved in a sustainable manner.
- *Determine the need for public funds* to the rural WSS if the poverty reduction goals are to be achieved especially in improving the human development indicators. The PER will provide investment scenarios based on different combinations of efficiency improvements while applying sensitivity analysis.

3. METHODOLOGY

The methodology consists of several phases:

Scoping phase

- Consultation with country teams
- Preliminary data collection (desk study) to determine country characteristics and data availability.
- Customization of ToRs, including data collection and analysis methodology.
- Identification of consultants
- Launching of the study

Data collection and analysis phase

- Data collection including data quality control and data organization in a standard database with proper documentation of the sources of the data. Data collection will focus on secondary data collection from government and donor sources. Data collection will include:
- An overview of the rural WSS sector including access, performance, and institutional data to provide the context in which the Sector Public Expenditure Review is being analyzed
- A basic Sector Public Expenditure Review for the last three years for which data are available on:
  - How much is spent—and how much the government is spending?
  - How does Government finance operational expenditure (OPEX) and capital expenditure (CAPEX) in the rural water supply and sanitation sub-sector?
  - Does public spending help the poor?
  - Are public resources being used efficiently and effectively?
  - How much public funds will be needed to achieve the MDGs using different scenarios that trade-off between investments and efficiency improvements?
- Charting budget flows through the various government levels, when funding is provided at both the central and local level. Specific attention will be paid to the following aspects:
  - water supply and sanitation are often funded through different government agencies, and hence the need to check the budgets of all ministries that might fund water and sanitation expenditures;
  - within each sub-sector, different government agencies at different levels may fund the sector;
  - the role of Overseas Development Assistance (ODA), including distinctions between development and humanitarian aid, geographical spread of ODA, and on/off budget status of aid flows.
- Data analysis.

Drafting and consultation phase

- Write up of first draft PER
- WSS Stakeholders Final workshop; incorporating outcomes into final PER report
- PER review meeting
- Incorporation of peer review comments
- Editing and formatting of PERs

Dissemination phase

- Publication of PERs
- Dissemination of PERs in countries, Bank and beyond

4. DELIVERABLES

Deliverables will include a PER for the rural water supply and sanitation sector.

Deliverables for each phase include:

- **A scoping report** that discusses the proposed scope of the PER, data gathering methods, the sampling methodology, sample size and/or survey instruments for World Bank approval.
- **A PER report** with a maximum of 30 pages plus annexes. The report should summarize the quantitative and qualitative data and discuss the implications of the data analysis for public expenditure analysis. The report should include:
  - a concise executive summary.
  - a description of the methodology (including the process followed, survey instrument, clean dataset including a data code book and documentation on the quality, reliability of data)
  - full documentation of the analyses made and conclusions
    - descriptive statistical analysis of the major data areas in the questionnaires, including basic statistical data to understand averages, medians and variability between different administrative areas, and between service providers
    - detailed analysis which will explore the issue of the flow of funds and the level of service delivery, including background on the processes of budgeting, administration, institutional context, etc. that affect the flow of funds
  - an action plan that proposes a limited number (up to three) key measures that will be most effective in helping those countries to meet the MDG targets—with a specific time calendar and responsibility chart.
- **A power point presentation presenting the main messages of the PER report** (20 slides maximum) to be used for workshop dissemination.
- **Participation in at least one dissemination efforts** (possibly a workshops) that will ensure that the results of the study are transmitted

5. QUALIFICATIONS OF CONSULTANTS

Core competencies for this assignment are:

- Knowledge of and relevant experience of public sector management
- Knowledge of and relevant experience of the rural water and sanitation sector
- Experience of quantitative research design, implementation and analysis; in particular survey design and implementation in areas where data sources are not or only scarcely available as is the case in many of the Bank's client countries
- Excellent analytical and numerical skills able to look behind the numbers
- Excellent reporting writing skills

ANNEX 4C: Standard Outline of a Public Expenditure Review—Rural Water Supply and Sanitation Sector

I. SETTING OF THE RURAL WATER SUPPLY AND SANITATION SECTOR

- Introduction
- Delimitation between Rural/Semi-Urban/Urban Areas
  - Definition of the Rural, Semi-urban/Urban Areas
  - Technology Options and Standards
- Sector Strategy and Institutional Framework
  - National Strategy for Water Supply and Sanitation, including finance and cost recovery strategies
  - The Legal Framework of the Sector WSS
  - Roles and Responsibilities of Different Stakeholders

For more details—see Checklist for the Sector Review.

II. WATER AND SANITATION SECTOR PERFORMANCE

- Use of Improved Water Supply and Sanitation Services (at national and regional level, distribution over households, and over time)—using existing household surveys
- Access to Improved Water Supply Services (at national and regional level) and over time) as measured in terms of number of rural water and sanitation facilities by technology and service level
- Sector Performance data as measured in other reports or monitoring systems
- Water quality performance
- Water resource management (basic issues in access to water sources)

III. ANALYSIS OF PUBLIC EXPENDITURES IN THE WATER AND SANITATION SECTOR

- Detailed data and analysis on public expenditure for the water and sanitation sector
  - Allocation through central, provincial, local governments and/or other public agencies (state-owned enterprises, water boards, social funds) and special funds:
  - Allocation through different types of expenditures
    - Economic allocation across expenditure categories (detailed capital and recurrent expenditure)
    - Functional allocation : how are expenditures allocated over rural and urban water supply and sanitation service delivery
  - An analysis of stated government priorities and resource allocation over time
- Detailed data and analysis of budget forecasting and execution (or actual versus planned expenditure to the sector), including
  - efficiency of the expenditure program in terms of availability and reliability
  - reasons behind deviations between planned and actual expenditures with a special emphasis on how budget and procurement systems and procedures affect budget preparation and implementation
  - look into budget arrears and in what expenditure categories they occur and why they occur; and how they are dealt with
- An analysis of the source of government expenditure and the sustainability of the sources over time (donor funding, internal funding, etc.):
  - What is the composition of how public funding is provided
    - What is the size and allocation of national (including local) funding in the sector?
    - What is the size and allocation of donor funding in the sector?
    - What is the structure of the funding (loan, grant, debt relief assistance)
  - What is the size and allocation of private funding in the sector?

  - What is the scope for cost recovery in the rural water and sanitation sector?

- An analysis of public expenditure and the outcomes/performance indicators of the sector to determine the efficiency of the public expenditure program
  - What is the ability in the country/state to judge whether inputs are efficiently used?
  - What criteria are being used to decide when to invest in rural water supply and sanitation?
  - What standards, norms are used in the sector?
  - How are public works being procured and implemented?
  - How do rural unit costs compare against efficient benchmarks?
  - How progressive or regressive is the state's financing of rural water supply and sanitation?
- An analysis of how much public spending is needed to achieve MDGs under different scenarios

IV. CONCLUSIONS AND RECOMMENDATIONS

V. ACTION PLAN

- Determine a set of actions that will help to reduce or eliminate the major impediments in using public funds more efficiently, including timetable and responsibilities
- Determine the key priorities in this set of actions (not more than three key actions) that will have the highest impact on improving expenditure efficiency

ANNEX 4D: Checklist for Assessing Public Expenditure Review of the Water Supply and Sanitation Sector

- A detailed analysis of the public expenditure program for the water and sanitation sector:
  - Allocation through central, provincial, local governments and/or other public agencies (state-owned enterprises, water boards, social funds) and special funds:
    - Size and evolution compared to national budget
    - Real and nominal expenditure
    - Check for off-budget expenditures
    - If local government is important source of funding, describe also the mechanisms through which this funding is provided
  - Allocation through different types of expenditures
    - Allocation across expenditure categories:
      - operation, maintenance of services for rural water and sanitation services,
      - capacity building, training, and hygiene education/awareness programs for water and sanitation services
      - different types of investment for water supply and sanitation (expansion, rehabilitation)
    - Spatial allocation:
      - Regional allocation for the different types of expenditures
- An analysis of stated government priorities and resource allocation over time
- An analysis of budget forecasting and execution (or actual versus planned expenditure to the sector), including
  - efficiency of the expenditure program in terms of availability and reliability
  - reasons behind deviations between planned and actual expenditures with a special emphasis on how budget and procurement systems and procedures affect budget preparation and implementation
  - look into budget arrears and in what expenditure categories they occur and why they occur; and how they are dealt with
- An analysis of the source of government expenditure and the sustainability of the sources over time (donor funding, internal funding, etc.):
  - What is the composition of how public funding is provided
    - What is the size and allocation of national (including local) funding in the sector?
    - What is the size and allocation of donor funding in the sector?
    - What is the structure of the funding (loan, grant, debt relief assistance)
  - What is the size and allocation of private funding in the sector?
  - What is the scope for cost recovery in the water and sanitation sector?
- An analysis of public expenditure and the outcomes/performance indicators of the sector to determine the efficiency of the public expenditure program
  - What is the ability in the country/state to judge whether inputs are efficiently used? Does the Government monitor inputs, outputs and outcomes in the water and sanitation sector; and what reporting systems are available?
  - What criteria are being used to decide when to invest in rural water supply and sanitation? Is there a mechanism to screen investment projects? Provide details on the administrative procedures being used
  - What standards, norms are used in the sector (with regard to service levels, water quality, etc.)?
  - How are public works being procured and implemented? (see section on analysis of budget planning and implementation)
  - How do rural water and sanitation unit costs compare against efficient benchmarks?

  - How progressive or regressive is the state's financing of water supply and sanitation?
- An analysis of whether public spending is adequate and sustainable?
  - Determine the investment needs for the water and sanitation sector with a detailed list of the assumptions made underlying the calculation? While undertaking the calculation, consider
    - How can the government re-allocate its resources to use them more efficiently?
    - The costs of the Governments' medium-term plans for the sector?
    - Arrears in the sector
    - The projected macro-economic framework

ANNEX 5: Water and Sanitation Sector Public Expenditure Reviews—Selected Case Studies

Republic of Uganda Public Expenditure Review (FY03)

Objective

This Public Expenditure Review (PER) Report for Uganda is the outcome of the budget related activities carried out during the budget process for fiscal year 2003/04. Specifically, this report captures the details of the budget reforms designed and implemented at the central and local government levels, analytical work carried out on specific budget-related themes, and outcome of the consultations between the various stakeholders during the budget process.

Findings

In both the Poverty Status Report (PSR) 2003 and Uganda Participating Poverty Assessment Project (UPPAP) 2002 reports, water and sanitation are noted with concern as essential for improving the quality of life of the poor, especially given recent reports about lack o f improvement in several important mortality indicators-infant, child, and maternal mortality. Access to safe water and sanitary conditions is a proximate determinant of infant mortality and as such the water and sanitation sector is one o f three sectors (including health and education) that are key to improving the performance of mortality indicators. Increasing poor communities' access to safe water and their sanitary environment has positive linkages to the reduction of high infant and maternal mortality rates.

There has been increased government investment in the water and sanitation sector over the last three years. The sector's share of the budget continued to rise in fiscal year 2001/02 to 2.59 percent o f total expenditures, up from 1.44 percent o f total expenditures in fiscal year 1999/00. Despite this increase, budget expenditure outturns declined for the first time in two years, from the sector's 100 percent rate to 91 percent, and this was attributed to nonwage releases at the center and underuse of resources by the Water for Production Project.

In short, the water and sanitation sector could be described as "having breadth but lacking depth." Despite the apparent acceleration in coverage, reports indicate that the water quality does not measure up and resource allocation is not efficiently targeted. There is a need for better analytical work to inform the subsequent choices o f the sector and ensure that resources are targeted where they will generate the most value.

Operational efficiency in the water and sanitation sector has been difficult to evaluate in the past, mostly because o f the lack o f thorough analytical work in the form of efficiency studies. A culture of expenditure tracking and efficiency analysis is slowly developing in the water and sanitation sector. Although the sector has frequently carried out financial audits in the past, these were not always concerned with value-for-money issues until recently.

Conclusion

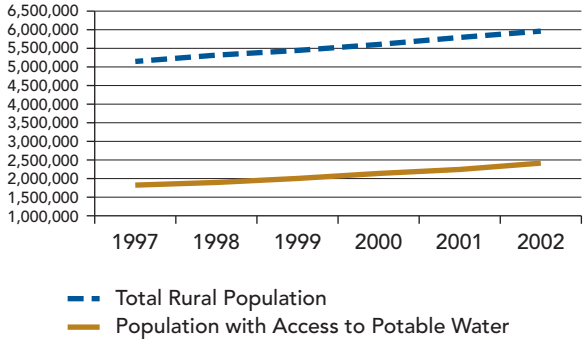
The DWD has a responsibility to address these issues, first, by increasing support to districts through the TSUs, to which a significant amount o f funding has been committed. It is not yet clear how well the TSUs have been able to fulfil their functions. Second, the DWD can increase the effectiveness o f the M&E structures in place, which should enable a continuous assessment of district performance. Ad hoc M&E activities are currently taking place and need to become better systematized.

Benin Enhancing the Effectiveness of Public Spending (FY04)

Background

Despite a long period of public investment in this sector, there has been no review of sectoral expenditures. This first review of public expenditures on Benin's water sector examines the trends and composition of public spending and suggests ways to improve efficiency, equity and poverty targeting. It also presents options and mechanisms to complement public funding, which may be insufficient to attain the MDG in this sector.

FIGURE 5.1: Evolution in the Access to Potable Water in Rural Areas



Findings

Access to potable water constitutes one of the main priorities of the Government of Benin in its strategy for poverty reduction. The objective of the Government, consistent with achieving the MDGs is to halve by 2015 the share of the population that currently has no access to potable water. This constitutes a major challenge for Benin and substantial financial resources will have to be allocated to the priority sectors. Although drinking water and sanitation facilities are private goods, positive externalities on health outcomes associated with consuming safe water and improved sanitation provide a strong rationale for public intervention. There can also be negative externalities with respect to environmental degradation, through pollution or excessive depletion of groundwater resources, although these do not appear important in Benin at this time. Estimates of the population covered by potable water supplies have undergone downward revision after the 2002 census, which showed that the rural population had grown much faster than earlier projected. Hence, the revised indicators presented here are not consistent with data used until now, which were both based on the projection of population using the 1992 census. The Government finances virtually all sector investments. The financial contribution to initial investment costs made by the beneficiaries represents approximately 5 percent of the total cost of construction. The level of contribution in the water sector is relatively modest in comparison with other sectors. The user contribution to the construction of secondary roads, for instance, amounts to CFAF 0.9 million per kilometer, equivalent to 10 percent of the total investment cost.

Recommendations

In order to achieve the MDGs, the pace of annual implementation will have to be more than doubled compared to the period under review. About 17,500 new water points need to be constructed in the course of the period 2003–2015. The annual investment expenditure will have to increase by 2–3 times over the present level. Based on the unit costs used in the DH's *Budget Program* 2004–2006, it is estimated that achieving the MDGs will require between CFAF 120 and 140 billion or approximately 9to 14billion per year for investments alone. Current political trends are rather favourable towards the water sector. The improvement of access to potable water constitutes a priority for Benin as clearly stated in the Government's Poverty Reduction Strategy Document adopted in 2003.

El Salvador Public Expenditure Review (FY04)

Objective

The analysis of public expenditure on the water supply and sanitation sector focuses on the National Administration of Water Supply and Sewage Systems, ANDA, the Social Investment Fund for Local Development, FISDL, and the Ministry of Public Health and Social Assistance, MSPAS. These institutions execute water and sanitation projects in urban and rural areas. The chapter contains a review of the sector organization and the analysis of the government's strategic objectives and the process of resource allocation in the sector, the trend and structure of expenditures and sector outcomes. It concludes with the identification of the sector's public expenditure principal challenges and recommendations.

Findings

The water supply and sanitation sector in El Salvador comprises ANDA, self—supplied communities, municipalities, FISDL, MSPAS, non-governmental organizations, licensed water systems, and private water-bottling companies. ANDA is the main water supplier. In 2002, it attended through its water supply systems 153 municipalities, 93 percent of the urban population and 100 percent of the rural population with these services. Through its sanitation systems in 70 municipalities and latrines, it attended 96 percent of the urban population and 100 percent of the rural population with this service. Total public expenditure (current and capital) for water supply and sanitation grew from 0.4 percent of GDP in 1990 to 1 percent of GDP in 2001, falling thereafter in 2003 to 1992-1995 levels (Table 5.3). Approximately 89 percent of total expenditure for period 1990–2003 belongs to ANDA, 6 percent to FISDL, and 5 percent to MSPAS. Investment grew by 0.1 percent of GDP in 1990 to a maximum of 0.4 percent of GOP in 2001, falling in 2003 to 1990 levels. Seventy percent of investment was used for rehabilitating, improving and building water systems (aqueducts and public water wells) and the remaining 29 percent for sanitation (sewerage, septic tanks, and latrines).

Recommendations

The sector key challenge is to achieve universal coverage of water supply and sanitation by 2015. Coverage of water and sanitation services increased significantly in the last several years, particularly in rural areas. Nonetheless, El Salvador coverage through piped water networks and sanitation is still low compared to its neighbours. New investment should not be in detriment of the need to maintaining the existing infrastructure and improving the quality of services. The qualitative aspects, such as improving water quality, continuity of service, and promoting adequate use of latrines built are as important as increasing the coverage of the services. The quality of ANDA services needs to improve substantially. There is large disruption of ANDA water service, the quality of water at the national level is poor, and sewage is dumped into rivers, creeks, and lakes without treatment. The pricing of water and sanitation services is inefficient and should be revised. Despite the tariff adjustments in 1994 and the elimination of subsidy for all consumers, except those that consume up to 20 m3 of water per month beginning January 2002, there remains an implicit subsidy in the water tariff of 43 percent. Balance the amount of resources dedicated to extend the coverage of service with the need to maintain and improve existing infrastructure and increase service quality.

TABLE 5.1: Water and Sanitation Coverage, by Institution, 2002 (% of population)

Institution	Piped Waste a/		Sanitation b/	
	Urban	Rural	Urban	Rural
ANDA	92.6	43.6	73.7	2.4
ANDA Ex-PLANSABAR	0.2	56.4	22.2	97.6
Self-supplied communities	4.9	0	4.1	0
Municipalities	2.3	0	0	20
Total	100	100	100	100

Jordan Public Expenditure Review (FY05)

Background

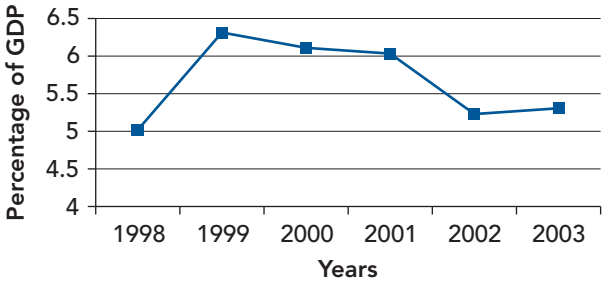
Jordan is one of the most water—stressed countries in the world. When compared to other countries with similar GDP per capita and with its neighbours, Jordan has lower availability of renewable fresh water per capita than nearly all the others. The performance of the water sector in Jordan is comparatively good, but can still be improved. Despite the scarcity of water, Jordan provides a higher percentage of its population with water than do comparator countries. For both of these reasons—scarcity and high rate of access to population—Jordan's public spending on water is high reaching between 5–6% of GDP.

Findings

The household survey indicates that richer deciles in Jordan have relatively better availability of water compared to the poorer deciles (39% compared to 32%) Also, poorer deciles report a higher percentage of "rarely available" compared to the richer deciles. Although access to improved water sources is very high in Jordan, there are seasonal problems, with households in some governorates such as Mafraq, Zarqa and Ajloun receiving water less frequently as is evidenced by their reporting "often available" for only 3, 16 & 22% of households respectively. On the other hand, in Aqaba, Maan, and Balqa a much higher percentage reporting that water is available.

The efficiency of the system compares very poorly with most other lower middle-income countries. In comparison with other countries in the region, Jordan has the second highest rate water unaccounted for. Although the percentage of water lost has declined in recent years, thanks to an increased emphasis on maintenance, at 46 percent in 2003, it is still very high. For drinking water, 48% wastage was found for 2003. For irrigation water, the average is 32%.

FIGURE 5.2: Public Expenditures of Water as % of GDP



Recommendations

Given the high cost of electricity in Jordan, the feasibility of technical improvements to decrease the Water Authority's electricity consumption should be investigated. Water for industry, commerce, tourism and agriculture should be priced based on the actual cost. Of course, any increase in tariffs would have to be carefully designed to ensure affordability by the poor of the water necessary to maintain their health status. Multi-tiered water tariffs, with higher income groups subsidizing lower income groups, may be useful if the administrative costs of this system can be kept low. Consideration of this option, including the performance of a willingness to pay study, should be begun immediately. Reducing subsidies would also have a beneficial effect in increasing water conservation.

On the technical side, the highest priority policy issue for water is the sector's high rate of inefficiency. The extent to which losses are due to technical wastage (e.g. broken pipes) versus administrative wastage (illegal use of water, non-functioning water meters) needs to be clarified so the problem can be remedied at its source.

Egypt Public Expenditure Review, Cost Effectiveness and Equity in Egypt's Water Sector (FY06)

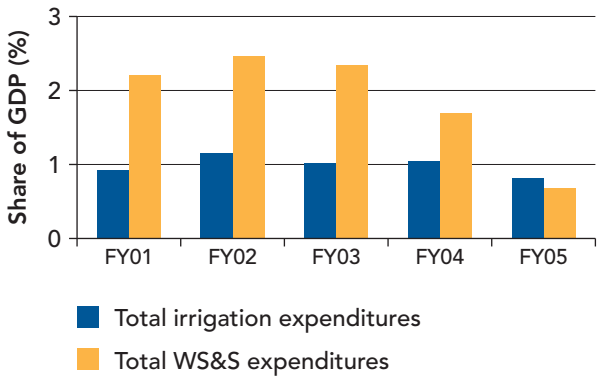
Objective

In 2003–2004, LE 4.087 billion was spent on water infrastructure by the irrigation and agriculture subsectors, and LE 6.697 billion by the water supply and sanitation (WS&S) subsector from the Egyptian government budget. Of this, about 79 percent and 61 percent respectively were allocated for new investments, with the balances for recurrent costs. The outcomes of such significant public outlays have been mixed. This note assesses the recent trends of public expenditures in the water sector with a particular focus on the irrigation and WS&S subsectors, the two major recipients of public financing in the water sector. This note also investigates different sources of fiscal stress and finance, and explores efficiency and equity implications of the current arrangements.

Findings

- Most investment and operation and maintenance (O&M) costs of water services in Egypt are funded from the national budget. However, cost recovery levels are still below international comparators.
- During the last two decades the com—position of water-related public expenditures has changed, with a higher proportion being allocated to new investments at the expense of recur—rent expenditures and debt repayments, thereby increasing the long-term contingent liabilities.
- Water service coverage (in relation to both drinking water and irrigation) is adequate in terms of coverage in the Nile delta area and is generally lacking in the rural or southern areas

FIGURE 5.3: Irrigation and WSAS Expenditures



Source: Mof annual data on expenditures of the two outcomes.

- Reallocating budget appropriations through different budget chapters of water agencies, departments within agencies, and water user groups requires a fundamental rearrangement from current practices of budget planning and management processes.

Recommendations

- Focus on cost-effective public expenditure interventions.
- Revisit national policies toward recurrent costs.
- Use a part of recurrent cost savings to leverage investments focusing on low-income communities and urgent environmental expenditures.
- Establish criteria for ensuring that new public investments are not substituting for the maintenance of existing hydraulic infra structure assets.
- Operationalize national policies that en courage full cost recovery for irrigation infrastructure to support reclamation of new agricultural lands.

Mexico Water Public Expenditure Review (FY06)

Objective

In 2004, Mexico passed a major modification to the Water Law, calling for a new water financing system (*sistema financiero del agua*) and the creation and empowerment of Basin Agencies (*organismos de cuenca*), but the government has not yet implemented the law, including the issuance of regulations. The purpose of this AAA, therefore, as agreed with the government, is to analyze the allocation of resources—hydrologic and financial—in order to understand how best to implement the new law. To do this, the report examines the sub-sectoral themes of water supply and sanitation and irrigation and drainage, as well as the overall water resource and fiscal management issues for the sector.

Key Observations

- Household needs for water follow an equity rationale—access for everyone. Mexico has done well in getting at least minimal access for almost everyone, but the quality of service, especially to the poor, is usually well below the OECD average.
- Overall expenditure in the water sector approached MxP40 billion in 2004, or 0.5 percent of GDP. Of this amount, the public sector spends over MxP33 billion, which is close to 2.5 percent of Mexico's budget and the private sector about MxP 4 billion. About half of CONAGUA resources are spent on water supply and sanitation infrastructure, a quarter in the irrigation sub-sector and another quarter on central administration and overall water resources management, including flood control. CONAGUA fiscal resources totaled MxP13.5 billion in 2004. About 60 percent of this came from fees and charges recovered from water users and polluters (channelled through SHCP), and the balance, 40 per cent, came from the general federal tax resources (below 0.1 per cent of GDP).
- **Water supply and sanitation service** (WSS) is primarily a municipal issue, although federal, state, and eventually basin-level policy also plays a role. Municipalities compete with other users for scarce water resources, and untreated urban wastewater is a major source of pollution to the nation's water bodies.
- **Irrigation.** The main challenge facing the agriculture sector is *to increase its competitiveness* in the context of the 15-year phase out of tariffs and quotas (ending in 2008) with the USA and Canada and the multiplication of Free Trade Agreements between the USA and regional competitors, which erodes Mexico's preferential treatment.

Recommendations

- **Making water rights marketable.** There is a water rights registry in Mexico that covers 95 percent of all water users, which is an impressive accomplishment. Eventually it could help address the water use efficiency problem, letting the market rather than government fees push up the perceived marginal value.
- **Improving water governance** will be important to achieve the nation's objectives of economic development and social justice. If there is no change in the strategy of water management, Mexico may expect worsening problems with over—exploitation of water, waste and pollution.
- **Decentralized and deconcentrated IWRM** will require intensive cooperative planning in the areas of the basins and aquifers with the direct participation of water users, local stakeholders and government at all levels.

TABLE 5.2: CONAGUA Revenues by Sources

(2004 MxP Million)	1994–96	1997–99	2000–02	2003	2004
Federal Revenue					
Total Fees for Water Use	5,417.6	5,279.0	5,941.8	6,637.3	6,286.6
Water Operators	265.6	400.4	634.0	1,535.4	1,502.9
Industry and Commerce	4,809.6	4,515.2	4,850.3	4,774.4	4,422.2
Hydroelectric Plants	308.9	335.0	414.9	292.2	330.1
Acuaculture	0.1	0.1	0.3	0.8	0.5
Leisure	33.4	28.3	42.3	34.5	30.8
Total Fees for other water related activities	1,538.2	1,369.3	1,162.1	1,289.9	1,221.7
Usage of water inf. For bulk water prov to urban centers and firms	1,214.1	1,203.6	1,013.3	1,147.8	1,076.9
Usage of water inf. For water districts	324.1	165.8	148.8	142.1	144.9
Other revenue	1,062.3	590.7	398.3	266.5	243.5
Total Federal Revenue	8,018.2	7,239.0	7,502.2	8,193.7	7,751.7

Source: CONAGUA

Panama Public Expenditure Review (FY06)

Background

Panama is an upper middle-income developing country with a per-capita gross national income (GNI) of US$4,450 in 2004. It has a population of around 3 million inhabitants. Panama has been characterized as a dual economy, consisting of a dynamic service exports sector that is very competitive at the global level and a more rigid, domestically oriented sector with low productivity and a protected agricultural market. Concerns have emerged about the continued viability of the dual economy model as a basis for future development. An apparent failing of the dual economy model in recent years has been its limited ability to combat poverty.

Findings

- Panama made substantial progress in increasing its water and sanitation coverage between 1990 and 1997. These total coverage indicators, moreover, compare favourably to the averages observed elsewhere in the region. Since the late 1990s, however, the expansion in sector coverage appears to have decelerated and may even have declined slightly. Furthermore, the fairly favourable overall coverage indicators mask significant differences in access across rural and urban areas, as well as across income groups, especially in the case of sanitation. To address the problems of stagnation in sector indicators and to improve the distribution of access to sector services will require more resources devoted to the sector, better targeting of those resources and a more efficient management of those resources.
- The first of these remedial actions is already being taken, as investments in the water and sanitation sector have increased sharply as of 2004, from an average annual spending level of under B./ 20 million during 1995–2003, to around B./ 50 million in 2004–05 and projected for the medium term. Nevertheless, there still remains much to be done to improve the targeting of these resources and manage them more efficiently.
- In need of remedial actions: (i) the lack of adequate sector planning and coordination, (ii) an inadequate allocation of sector resources, which pays insufficient attention to sanitation and infrastructure maintenance in rural areas, (iii) the deteriorating balance sheet and low operating efficiency of the water and sanitation utility (IDAAN), (iv) a distorted pricing structure and inadequate cost recovery, (v) the mix of badly targeted and fiscally costly subsidies, and (vi) problems of environmental degradation and pollution.

Recommendations

- Preparing a sector policy document that includes a multi-year investment program, with clear performance targets and an effort to link sector outcomes to the measures taken.
- Allocating a higher share of sector resources toward (i) investments in the sanitation sub—sector, especially in rural areas, (ii) the maintenance of rural water and sanitation infrastructure, and (iii) increased wastewater treatment.
- Reforming the sector pricing structure and improve cost recovery by: Adjusting the water tariff structure through (i) reductions in the minimum monthly consumption level for which a flat rate is charged to under 10 cubic meters, and (ii) increases in the nominal water tariff rates to compensate for the inflationary erosion that has taken place over the last two decades.
- Reducing the number and amount of subsidies granted in the sector, and target the remaining ones on the poor and marginalized members of society.

Aceh Public Expenditure Analysis (FY07)

Background

Since 1999, Aceh's fiscal resources have increased dramatically. After decentralization and the Special Autonomy Status, the amount managed directly by the Acehnese province and local governments increased several-fold. In addition, following the December 2004 tsunami, Aceh received an unprecedented amount of assistance from the Indonesian government and the international community. In 2006 total funds flowing into Aceh are estimated at Rp. 28.5 trillion (US$3.1 billion). Most of these resources come from the reconstruction program (Rp. 16.4 trillion). Regular financing also is increasing rapidly and is expected to reach Rp. 12.2 trillion in 2006.

Findings

- Prior to the tsunami, Aceh had approximately 465,000 ha of arable land62 of which almost 267,000 ha (60 percent) was incorporated in irrigation schemes. Seventy percent of irrigation projects are medium to large scale. Only 25 percent are covered by small to medium schemes (150–500 ha), and five percent small to very small schemes (< 150 ha). The ratio of irrigated land to arable land in Aceh is slightly higher than the nation-wide average. Irrigation networks and water sources were destroyed by the fighting.
- Local governments play a major role in infrastructure spending in Aceh. After decentralization and the special autonomy, responsibility for most public infrastructure services was transferred to local government. Nevertheless, total infrastructure spending by regional government has been decreasing.
- Prior to the tsunami, access to formal water and sanitation services in Aceh was low. Only 9 percent of households were connected to PDAM's (local water supply enterprise) piped water supply, compared to the national average of 17 percent. Most people obtained water from wells constructed either with their own funds, or by communities/villages with access to project financing. During the conflict years, many households obtained water from military tankers. All urban and rural sanitation in Aceh is on-site, mainly in the form of septic tanks and pit latrines, which often are constructed adjacent to wells. Prior to the tsunami, Aceh had limited sludge collection, no waste water treatment, and no urban sewerage in Aceh. This is consistent with the rest of Indonesia, in which only an estimated 1 percent of the population is connected to a sewerage system.
- Aceh's already inadequate water and sanitation network, including treatment installations, the piping network, water tankers, and water wells were extensively damaged by the tsunami and earthquake. The tsunami alone destroyed almost 17,000 of the 28,000 pipe connections available in Banda Aceh district. The only sludge treatment plant of Banda Aceh was destroyed. The local level drainage was rendered ineffective because of earthquake-induced land settlement. The majority of the shallow wells and aquifers which were the main source of water to the local population became contaminated and saline.
- Following decentralization and special autonomy, regional development spending on infrastructure increased substantially to almost Rp. 1.5 trillion in 2002 but has decreased in the last few years. Infrastructure spending increased in constant prices from an average of Rp. 596 billion before 1999 to a post-decentralization average of almost Rp. 1,150 billion. Development spending on public works (water and irrigation, roads) accounts for three-fourths of total infrastructure development spending, worth over Rp. 700 billion in 2005.
- Provincial and local governments seem not to be prioritizing infrastructure spending based on local needs. Capacity varies between local government units. Staff numbers were generally adequate, but skills mix and motivation were inadequate. Lack of technical expertise to perform project planning, implementation, supervision, and maintenance needs to be addressed.

Recommendations

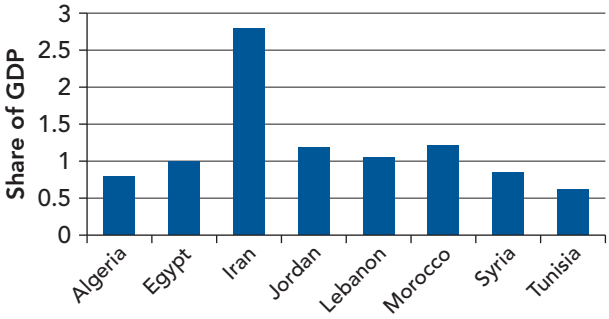
- The different government levels (central, provincial and local) should promote a favourable investment climate to attract private sector investments in infrastructure.
- Local governments' technical and institutional absorptive capacity constraints must be improved.
- Maintenance of existing infrastructure assets and those under construction must be guaranteed

People's Democratic Republic of Algeria: A Public Expenditure Review (FY07)

Background

Algeria faces critical challenges in dealing with one of its most vital natural resources. Though the arithmetic of water might not seem so bleak in the country context, the situation is nevertheless serious and worrisome. The cause for concern is reported in several strategic assessments on the future of water, including the National Economic and Social Council (2000) and the World Bank (2003c). Algeria is a country with relatively adequate renewable water at the national level, but extreme geographic and year-on-year variations. It depends heavily on nonrenewable groundwater and augments its supplies by seawater desalination.

FIGURE 5.4: Cost of Environmental Degradation of Water



Source: World Bank (2005c) for Iran and Sarraf (2004) for other MENA countries.

Findings

- With groundwater over-exploited in many areas, water quality is deteriorating and serious environmental problems related to water are a drain on the economy. Current extraction level from Mitidja aquifer doubless the sustainable yield. Overexploitation of groundwater, such as is happening in the Mitidja Aquifer, results in decreased water levels.
- Many water infrastructures are in poor repair or is unusable. Because of age, faulty initial design, or limited maintenance, much of the mobilization and conveyance infrastructure needs to be rehabilitated.
- A large share of the Algerian population has now access to improved water and basic sanitation services, but rural coverage continues to lag far behind. Ninety-two percent of the urban population now has access to improved water sources, and almost everyone in the country has access to improved sanitation.

Recommendations

- Improve its investment strategy, not only in how much new water supply to develop but in which strategic problems to prioritize through a well-defined, long-term sequence of investments.
- Develop policies that affect incentives to use water more efficiently and productively, while achieving sustainable and effective O&M.
- Slow down investing in new large-scale irrigation infrastructure until an irrigation strategy is adopted by all stakeholders in the near term.
- When rehabilitating or constructing new irrigation schemes, go straight to pressurized systems suitable for high-efficiency irrigation.

Armenia: Programmatic Public Expenditure Review (FY07)

RAISING EFFICIENCY IN INFRASTRUCTURE SERVICES

Objective

A multi-year programmatic public expenditure review (PER) is being prepared for Armenia with an initial focus on health and infrastructure, within the framework of an integrated public sector financial management reform program. Consistent with implementation of the Government's growth and poverty alleviation strategy and related policy settings supportive of the continuation of rapid economic growth including high rates of private investment, we suggest that the overarching objective in respect of physical infrastructure is the delivery of cost-effective infrastructure services that users and/or customers value, now and in the future. This is inherently a national strategic economic objective. Government infrastructure policy including market structure, fiscal, ownership and regulatory aspects should be seen within a broad national economic framework.

Findings

In respect of drinking water and sanitation the critical issues are improving the efficiency of current systems, pre-dominantly urban, their rehabilitation and the challenge of improving services to poorly covered areas. Yerevan Water and Sanitation supplies water to Yerevan and some 30 adjacent communities. Armenian Water and

Sanitation supplies services to some 300 communities in total. These two entities have been subject of World Bank projects. The underlying assets are owned by JSCs, the shares in each owned on behalf of the government by the SWC.

Over the medium term, pricing for full cost recovery, again, is key and the main institution in this respect is, again, the PSRC which sets the main drinking water charges. A range of service provision options exist or are evolving in Armenia including private participation, for example, Yerevan Water and Sanitation where a ten year lease arrangement has been negotiated following an initial period of operation under a management contract. Price adjustment provisions are incorporated in the lease agreement with the PSRC having been given responsibility for managing the lease on behalf of the government. This has and is generating useful experience with private sector governance norms and the effect/importance of incentives.

Our analysis suggests that the incentives on the other water and sanitation system managers to improve performance are not strong and corporate governance is weak relative to the levels achieved in Yerevan. Generally, performance indicators such as leakage rates indicate poor performance with only slow improvement achieved and expected.

Conclusion

Longer term ultimate ownership of the assets lies with the government and/or communities. Managing the significant government "ownership" interest in these areas to ensure efficient and effective operation and development of infrastructure assets over the medium to long term is the challenge. Of particular concern with concessions/leases is ensuring that the concessionaire/lease is appropriately incentivized to take a long term view. Privatization or devolution of the systems to the relevant communities is an option. This would allow government focus and resources to shift to the less well served areas.

Indonesia Public Expenditure Review (FY07)

Objective

This Public Expenditure Review (PER) 2007 examines and explains the constraints facing the government in public resource management, especially in allocative and operational efficiency. This PER was first launched in Jakarta in February 2007. This new version includes additional budget data for national and subnational expenditures, which have helped to validate the initial findings and projections. The PER offers recommendations for improvements in six critical areas: fiscal space, education, health, infrastructure, public financial management and decentralization.

TABLE 5.3: Access to Piped Water (2003)

Country	Urban (%)	Nationwide Rural (%)	Total (%)	Capital City only (%)
Malaysia	95	64	84	100
Philippines	60	22	44	58
Thailand	80	12	34	83
Vietnam	51	1	14	84
Indonesia	31	5	17	51
Indonesia (2005)	32	8	19	47
Cambodia	31	1	6	84

Source: UNDP: 2004, ADB, 2004.

Findings

Access to piped water is very limited and water utilities (PDAMs) are in crisis. Piped water provided by utilities is the most sustainable, safest and, in the long term, least costly solution for the provision of water in urban centers. Despite this, only 31 percent of the urban population and 17 percent of the total population have access to piped water—both very low levels by regional standards. Water quality and regularity of service delivery are declining, and few if any utilities supply potable water. Water losses, both physical and administrative, account for 50 and sometimes up to 60 percent of PDAM production. Indonesia lacks adequate sanitation and wastewater treatment systems. Official statistics suggest that 71 percent of the urban population and 38 percent of the rural population have access to "improved sanitation", but these statistics include a high proportion of connections to septic tanks. In practice, these are almost never pumped and simply leak untreated sewage into the surrounding soil and groundwater. Just 1.3 percent of the population is connected to a sewerage system—a small system operating in Jakarta.

Expenditure data for the water and sanitation sector are scarce and unreliable. Nonetheless, there is virtually no PDAM investment, and operations and maintenance expenditure is inconsistent with service quality. With tariffs typically well below full cost, PDAMs are unable to finance new investment from their own revenues, and most PDAMs are not sufficiently credit-worthy to borrow. Central government spending by the Ministry of Public Works was historically the main source of new investment but, since decentralization in 2001, local governments have been expected to take responsibility for water supply investment. Previously, long-term lending provided by international financial institutions such as the World Bank and the ADB was also an important source of investment. However, not a single such loan has been approved by the Ministry of Finance since 2000, with the result that there has been virtually no PDAM investment in the past seven years.

Recommendations

Private sector investment will be slow to mobilize, implying that greater attention should be paid to increasing public sector investment in order to meet Indonesia's immediate infrastructure needs. Given the difficulties inherent in designing private infrastructure transactions, it makes sense for the government to focus its efforts on the careful preparation of a few "model" transactions across different infrastructure sectors. Even where private investment is mobilized, substantial public support will be required. In addition to increasing the volume of infrastructure investment, improving the effectiveness of spending is a key issue. Greater efforts should be made to tackle corruption in public infrastructure projects.

Madagascar Public Expenditure Review (FY07)

Background

The drinking water and sanitation sector is facing serious challenges in achieving the Madagascar Action Plan (MAP) goals. Over the last six years, water services provided to rural populations in Madagascar have improved, and government interventions have begun to reduce the disparities among the six provinces. Moreover, promotion of hygiene education through the "Water, Sanitation and Hygiene" (WASH) initiative has substantially increased the impact of access to drinking water on the health sector. Owing to a number of problems that persist to this day, Madagascar still ranks among African countries with the lowest access rate to drinking water.

Findings

Achieving the MAP goals requires significant investments in infrastructure and institutional capacity-building. While these goals pose a formidable challenge, they also present an excellent opportunity to build capacity through institutional reforms, and to develop new types of partnerships. To move closer toward achieving the MAP goals, the drinking water and sanitation sector should: (i) improve programming; (ii) increase its absorptive capacity; (iii) increase public expenditure efficiency; and (iv) secure sufficient resources for the sector.

In 2005, 70 percent of people living in rural areas still did not have access to drinking water. The challenge for the MAP is to significantly increase access to drinking water and improve hygiene. According to the MAP, by 2012, 53 percent of the rural population will have access to drinking water.

Limited access to sanitation. In 2005, more than 50 percent of the rural population still did not have access to basic sanitation facilities, and were exposed to illnesses (i.e, diarrhea) associated with poor sanitation. This is why the MAP has set the target of a 68.5 percent access rate in the rural areas by 2012, which requires the construction of 27,000 latrines.

Despite increased government budgetary commitment since 2004, a financing shortfall exists vis-a-vis the funding needs of the MAP. Financing for the water and sanitation sector grew five-fold between 2000 and 2006, amounting to US$18 million in 2006. The budgetary envelope in 2007 is only US$14 million, although, beginning in 2007, MAP activities would need an annual allocation of US$34 million.

Very low level of financing of the sanitation sector. Based on DEPA estimates, the budgetary envelope for financing activities in the sanitation sector increased to around two percent of the total DEPA budget (approximately US$360,000) in 2006, while the financing outlined in the MAP required to achieve the goals of the sector is estimated at US$3.7 million annually between 2007 and 2011.

Private sector involvement is an asset for the sector but requires capacity-building. The MAP focuses on the promotion of the private-public partnership (PPP). The involvement of private operators in the management of drinking water systems has already proved to be effective and is one of the solutions to the problem of limited maintenance actions, owing to the low level of cost recovery.

Conclusion

The Public Expenditure Review has analyzed a small but essential part of the challenges the Government faces to implement its new development strategy, the MAP, in particular in the areas of macro-economic management, public finance and service delivery in selected sectors. It confirms that the MAP is very ambitious and that the achievement of its objectives requires a "quantum leap" mobilization of both public and private sectors. The findings of this Public Expenditure Review expand and further deepen existing knowledge about the public finance system in Madagascar and its contribution to the delivery of services in specific sectors. The findings acknowledge government efforts to improve the system of public finance, but at the same time confirm significant weaknesses in allocating and executing public resources at the sectoral and cross-sectoral levels.

Romania Public Expenditure and Institutional Review (FY07)

Background

Since the late 1990s Romania has instituted a successful stabilization policy and an active program of structural reforms. On the stabilization side the authorities tightened fiscal policies, largely through a succession of expenditure cuts amounting to more than 5 percentage points of GDP starting in 2001 and continuing to present. Monetary policy has shifted from exchange rate targeting to inflation targeting, and inflation has declined steadily from more than 50 percent at the end of the 1990s to around 9 percent as of end 2005. Structural reforms have included extensive privatizations, termination of directed lending, a steady withdrawal of the government from banking sector, and a general shift towards use of market prices. There remain some structural issues such as those related to remaining subsidies and arrears. But there has been progress in bringing these down to more manageable levels, and firm transitional plans for them and for restructuring in energy, rail, district heating and mining have been put in place.

Findings

In concluding accession negotiations for the environment chapter of the acquis in 2004, the Government of Romania made commitments for substantial increases in environment investments. Despite the relatively long implementation period, these commitments will strain the financial capacity of the country. Other acceding countries having income levels below those of the pre-existing EU member states, have also found it challenging to meet EU environmental standards. Between 2007 and 2013, Romania is expected to receive € 3.96 billion in grants from the EU, but this is not nearly enough to cover the total estimated costs of compliance. The implementation plan drawn up for meeting the terms of the environmental directives has a cost of approximately €17 billion. Some of the costs of compliance will fall on the private sector but a large portion will fall on public sector budgets—particularly those of local governments. The SOP spending has not been adequately factored into the MTEF. The EU grants require co financing from national sources and these amounts are not currently visible in the MTEF. In summary the cost of the implementation plan exceeds what is included in the SOP, and the national component of what is in the SOP exceeds what has been provided for in the MTEF.

Recommendations

In view of the financial and implementation constraints the government should construct a sequence for environmental project implementation based on economic merit. More comprehensive analysis of utility tariff regulation and subsidization cost consequences for the budget and MTEF is needed, especially with respect to water and district heating. Appropriate tariff adjustments and assistance to vulnerable groups should help with private participation (including privatization) and minimization of delays in the implementation of the program agreed with the EU. The Ministry of Water and Environment budget framework should be further improved to introduce a clearer budget structure linked to performance and key program functions.

Burkina Faso Public Expenditures Review Rural Water and Sanitation Sector (FY08)

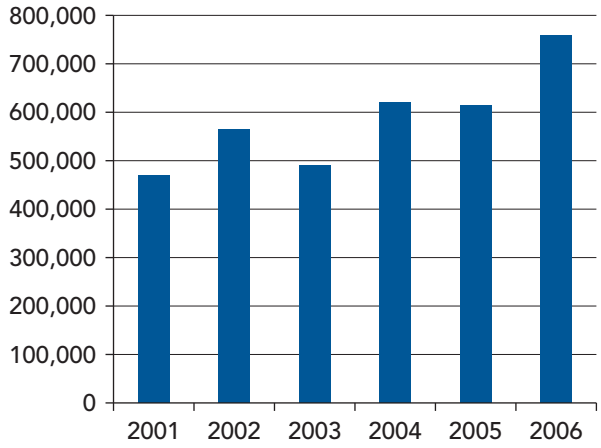
Objective

The present review aims at supporting efforts of the government in water and sanitation sector in rural and semi-urban areas. It carries out analysis of sector expenditures evolution during the period 2001–2006 and proposes recommendations likely to help better cope with the current and future challenges.

Findings

- The review of public expenditure in RWSS shows that RWSS sector has experienced dramatic development and that performance in terms of creation of water points is relatively satisfactory during the 2001–2006 periods in Burkina Faso.
- Objectives of the Strategic Framework of Fight against Poverty (CSPL-*Cadre Stratégique contre la Pauvreté*) and of the Millennium Development Goals (MDGs) aim at passing from an access rate to potable water of 60% to a rate of 80% in 2015. These objectives seem to be realistic.
- A gradual Implementation of an approach-program indicates the possibility of achieving expected objectives. The roadmap of the DGRE (*Direction Générale des Ressources en Eau*) constitutes an important stage towards this approach. Many tools are being improved, notably in the realm of planning, follow-up and activities evaluation.
- Sanitation has become a priority of the government but much has to be done in order to reach the MDGs. The coverage rate in improved latrines varies from 1 to 20%, according to some sources. RWS sector has been for long time marginalized. It is only in 2007 that the government has integrated sanitation in the PN-AEPA (*Programme National d'Approvisionnement en Eau Potable et d'Assainissement*) and adopted a National Policy and Strategy of Sanitation (PSNA—*Politique et Stratégie Nationale d'Aissinissement*).

FIGURE 5.5: Population served annually in potable water 2001–2006



Source: Data generated on the basis of national inventory of water points. 2005.

Recommendations

- It is desirable that the DRGE be given the responsibility of centralizing periodic collection (for example, quarterly or semi-annually) of data necessary to analysis of the physical and financial evolution of AEPA (*Approvisionnement en Eau potable et Assainissement*) sector.
- A fiercer competition between suppliers of goods and services in Burkina Faso should contribute to a reduction, if not a stabilization of unit costs.
- The government should reinforce human capacities of the DGRE and the MAHRH with regard to sectoral and budgetary programming.

Cape Verde: Enhancing Planning to Increase Efficiency of Public Spending Public Expenditure Review (FY08)

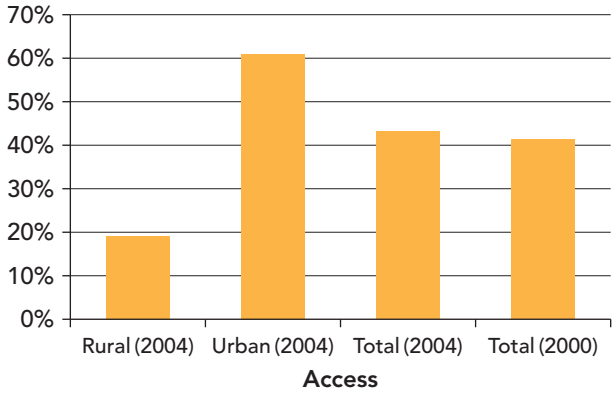
Findings

Tariffs for electricity and water in Cape Verde are among the highest for African countries. According to the Investment Climate Survey (2006), firms in Cape Verde perceive the poor performance of the power sector as the greatest constraint on their operations and growth.72 Over 60 percent of firms say that the power sector is a major or very severe obstacle to operate and grow. Furthermore, the number of power outages and losses due to power outages in Cape Verde are high compared with its peers.

Water production and access (connections) increased in the recent years. In total, from 2001 to 2006, connections increased approximately 50 percent. The increase in connections has contributed to raise the percentage of population with access to improved water sources to 80 percent (World Bank Indicators 2006). However, the increase of production and connections was accompanied by an increase in network losses. As with electricity, prices are the same across all islands, regardless of the provider, ELECTRA, or municipalities.

Overall sanitation services increased only from 41 percent in 2000 to 43 percent in 2004 (World Bank Indicators). Cape Verde's percentage of population with improved sanitation facilities is higher than Sub-Saharan Africa's (36.5 percent), but lower than those of Senegal (57 percent) and all the other comparator countries. The difference between the rural and urban is very acute. Approximately three times more population in the urban areas has access to improved sanitation facilities. These indicators are expected to have improved in the recent past due to the recent investments in treatment plants and solid waste treatments.

FIGURE 5.6: Sanitation Services



Source: World Bank Indicators.

TABLE 5.4: Water Supply in Cape Verde

	Island	Capacity M3/day		Production x000 M3		Losses		Connections	
		2002	2006	2002	2006	2002	2006	2002	2006
Electra	S. Vicente	3,500	6,320	1,145	1,379	23.0%	32.8%	nd	nd
	Prata	11,532	6,913	1,908	2,124	33.5%	31.1%	nd	nd
	Sal Palmeria	1,477	2,880	519	744	19.5%	21.0%	nd	nd
	Sal Rel Boaviata	320	230	67	63	1.9%	35.0%	nd	nd
	Total	16,929	16,343	3,699	4,310	27.6%	30.0%	19,585	29,038
Municipalities	Fogo and Brava	nd	nd	848	nd	nd	nd	3,534	nd
	Maio	nd	nd	73	nd	nd	nd	900	nd
	San Antão	nd	nd	189	nd	nd	nd	3,029	nd
	Total	nd	nd	1,037	nd	nd	nd	6,563	nd

Source: Electra—Relatorio e Contas and municipality studies.

Ghana Public Expenditure Review Rural Water and Sanitation Sector (FY08)

Objective

The Public Sector Review aims at supporting the Government of Ghana in enhancing effectiveness and efficiency in the rural and semi-urban water and sanitation sub-sectors on the basis of an analysis of trends in sector development over the period 2001 to 2006. It aims at supporting the government of Ghana in meeting its objectives laid down within the Strategic Framework of Fight against Poverty and the Millennium Development Goals by 2015.

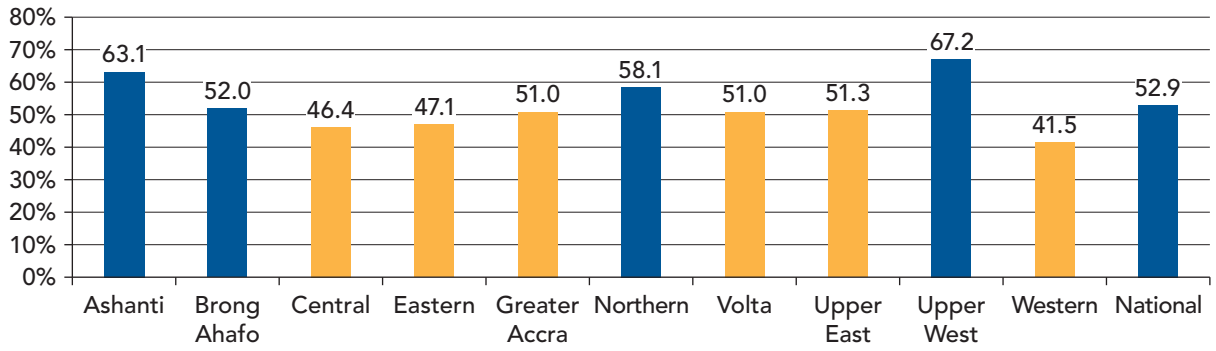
Key Observations

- Access to potable water in rural and semi-urban areas in Ghana has evolved at a pace of approximately 2% by year over the period 2001–2006. Coverage at the end of 2006 is estimated at 53%. Ghana is relatively well endowed with water resources except in the coastal zone.
- To achieve the MDGs by 2015 for the water sector (76% coverage), the effectiveness of the sub-sector has to be improved substantially. The Strategic Investment Plan developed by the Community Water and Sanitation Agency (CWSA) implies that the yield of the sub-sector (expressed in terms of facilities delivered) has to be increased by 70% compared to the period 2001 to 2006. The average number of people being annually provided with safe water will thus have to increase from 437,000 to 850,000.
- The total cost of achieving the targets of the Sector investment Plan by 2015 is estimated at approximately 400 million US$. The funding gap of the SIP amounts to approximately 233 million US$ (140 million US$ in a 2012 perspective).
- Achieving the objectives for the sub-sector requires that organizational strengthening and capacity building be implemented within sector institutions (e.g. the Water Directorate and CWSA), but especially at the District Assembly level.

Recommendations

- Meeting the sector objectives set out in the GPRS and the MDGs by 2015 will require a substantial effort in terms of mobilizing additional funding. However, the study also clearly points to current institutional and structural weaknesses which need to be addressed in order to enhance the ability to consume existing available funding and to absorb additional ones.
- Strengthen the Water Directorate: An institutional assessment of staffing profiles needed in the WD should be carried out as soon as possible and recruitment of staff positions should start immediately. Furthermore, GOG should provide adequate operational resources that will enable the WD to function adequately.
- Increase the Government's Support to the Sector: In view of the agency's urgent need to increase its supervision and control activities while facing inadequate funding of its budget, it would be important for the Government to increase the appropriations for administrative expenditures and to ensure its timely releases.
- Align Sector Approaches to the Decentralization Process: With a view to mainstreaming sector activities into the decentralization process, the development of District Water and Sanitation Plans in all districts should be given high priority and these plans should form the basis on which all facility investments are approved.

FIGURE 5.7: Water Supply Coverage in Rural and Semi-urban Areas (2006)



Mali Public Expenditure Review Rural Water and Sanitation Sector (FY08)

Objective

The present review of public expenditure in the sector of potable water and sanitation in rural and semi urban areas aims at supporting the government of Mali in meeting its objectives laid down within the Strategic Framework of Fight against Poverty and the Millennium Development Goals by 2015. The review analyzes the sector evolution during the period 2001–2006 with the aim of highlighting the institutional and financial framework in which investments of the sector were made. On the basis of this analysis and an estimate of challenges in terms of meeting sector's objectives, the review will have to suggest in a participatory way, actions likely to increase the absorptive capacity of investments and make the sector more efficient.

Key Observations

The estimated objectives of the Government to pass from a rate 50 to 82% of access to potable water will be difficult but remains probable. That requires increasing the volume of water facilities constructed from 750 water points to 2.200 per year on average from now to 2015; that is to say an increase in the output of the sector of approximately 250%.

The development of the sector is limited by a weak budget performance and not by a lack of financing. The rate of total implementation of the sector budget was 63% on average over the period 2001–2006. While the execution of expenditures on own resources saw a very positive evolution, problems remain in the execution of external resources.

Mobilization of the resources beyond the State is essential to an accelerated growth of RWSS sector development. The State alone will not be able to handle the challenge of development and sustainability of the sector. It must mobilize and stimulate the participation of other actors, such as private individuals, communes, the civil society, ONGs and the local private sector.

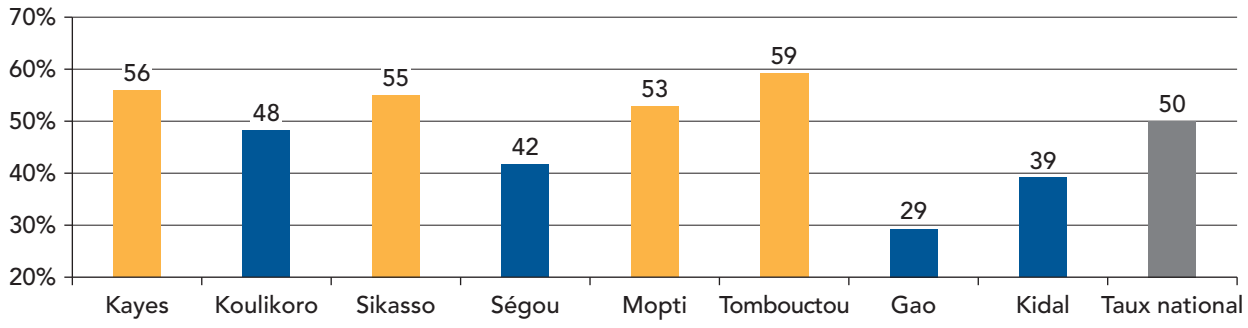
Recommendations

Reinforcement of RWSS key institutions: A training plan should be put in place specifically with regard to the development and post-construction agenda of the DNH's budget programs. This plan should include not only executives of the DNH at the national and regional level but also the DAF and the CPS of the MMEE.

Reinforcement of the management tools for a greater effectiveness in the sector: Developing a budget programming tool of the DNH's activities at the national level with a view to reinforce the DNH in the budgeting of resources necessary for operations (in particular the post-construction activities).

Reflections should engage with aim of stimulating other partners to invest in the RWSS sector. For the effective implementation of the PN-AEPA and the achievement of sectoral objectives, it was proposed to create an agency of drinking water and sanitation (this intention is supported by a political declaration of December 31, 2004). This proposal still remains in study and it is not possible to come to a conclusion about the coherence of such a structure.

FIGURE 5.8: Access Rate to Drink Water by Area (2006)



Cross River State Public Expenditure Review Rural Water and Sanitation Sector (FY09)

Objectives

The need to assess the present progress in the improvement of rural water supply in Nigeria has become increasingly necessary, especially with regard to public expenditure patterns, as we draw closer to the Millennium Development Goals' (MDG) target year (2015). This is especially so because data on the current state of Rural Water Supply and Sanitation (RWSS) in most states is either limited or completely unknown.

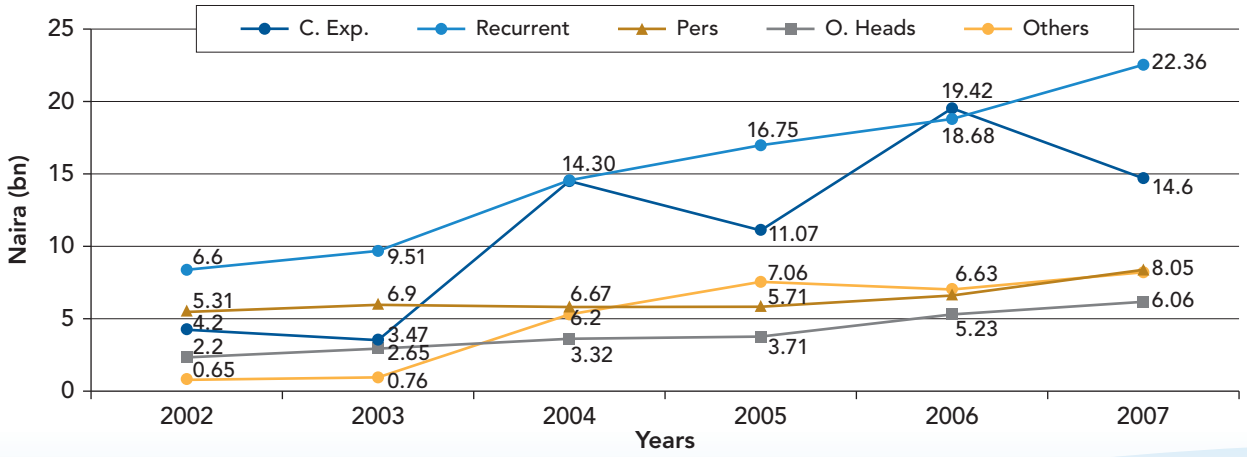
Findings

- The state has eight surface urban water supply schemes with a total installed capacity of 172,570m3/day operating at 19,500m3/day, reflecting capacity utilization of only 12 percent. The population served by the schemes is estimated to be 804,200 people. Total customer connections number 5,110, of which 4,543 are house connections and 356 are public standpipes or kiosks.
- It is estimated that to meet the MDG for rural water supply in the Cross River State, there will a need to provide 10,098 hand pump boreholes and 2,525 motorised boreholes across the state at the cost of N8.58 billion and N2.27 billion, respectively, from now to the year 2015.
- Improved and safe sanitation services currently cover only 31.5 percent of the state population. A budget of N356, 408,703 is required to meet the MDG target, serving the state's 1.97 million people currently without access to improved safe sanitation.
- During the period 2002–2007, the Cross River State Government budgeted a total of approximately N104 million for capital and N135 million for recurrent expenses, and of that, expended N67 million and N90 million, respectively. Total State capital expenditures for the period represent only 43 percent of State funding while recurrent expenditures were 57 percent.

Recommendations

- The State Government needs to declare the water sector an emergency sector and drastically increase its present low level of funding in water supply and sanitation.
- Budget and expenditure profiles should be prepared and implemented, and in accordance with the Government establish strategies, priorities, and action plans as set out in the Cross River State Economic Empowerment and Development Strategy (CR SEEDS).
- CRS needs to create a Ministry for Water Resources and Rural Development to be fully in charge of water supply development and other related matters in the state.
- Of the main State Water Agencies (SWA), CRSWBL should have more autonomy over urban and semi-urban service, while RUWASSA should be vested with the implementation of all rural water supply and sanitation services, and they should both be well-funded.

FIGURE 5.9: CRS Functional Expenditure Trend, 2002–2007



Ethiopia Public Finance Review (FY09)

Introduction

Rural water supply in Ethiopia is about setting up thousands of community run and managed schemes. Identifying where they are needed, designing an appropriate water scheme for the local economic and hydro-geological context, supervising the construction, building community capacity, and giving communities backstopping support on maintenance are all functions that lend themselves to a highly decentralized form of government service delivery. The challenge for Ethiopia has been to develop that decentralized service delivery capacity. The challenge for Ethiopia's development partners is to externally finance and strengthen that decentralized service delivery capacity.

Objective

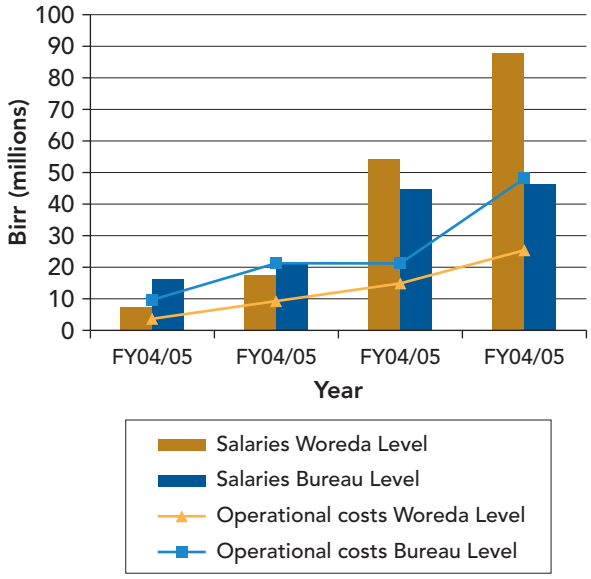
The objective of the study is to identify procedural factors that promote or inhibit the efficacy of financing modalities for rural water supply development and its sustainability. The trade-offs between procedural oversight and sustainability of resulting water schemes is of particular interest. Very little procedural oversight may enable rapid implementation but, it is contended, is likely to end in poor quality output. Too much procedural oversight may slow implementation to a point that the procedures themselves are a break on the financing modality.

Findings

Ethiopia has made steady progress in improving rural water supply access albeit from a very low base of just under 15 percent in 1994.31 According to the FY08 PASDEP progress report—based on sector administrative data—water supply coverage in rural areas has increased to 53.9%. Estimates based on household surveys report more modest gains. The most recent issue of the WHO/UNICEF Joint Monitoring Programme (2008) reports that 31 percent of the rural population use water from improved sources (protected wells and springs or piped systems) as their main source of drinking water. This progress has been driven by a combination of Government, donor and NGO interventions. Initial post-war rehabilitation in the north of Ethiopia was carried out by the multi-donor funded Ethiopia Relief and Rehabilitation Program. This was replaced by the Ethiopia Social Rehabilitation and Development Fund (ESRDF), a nationwide program which ran from 1996–2004. In the late 1990s and early 2000s the ESRDF program built up capacity in regional offices which were largely responsible for the construction of the 2,492 water supply sub-projects built through the program, benefiting over 3 million people.

Both as result of increasing the numbers of woreda and the number of staff deployed on the water desks in the second wave of decentralization the allocation to salaries at woreda level has increased 10-fold in nominal terms between FY05 and FY08. During the same time period operational costs have increased 6-fold in nominal terms but have dropped as a percentage of water desk spend from 33% to 22% of recurrent budget.

FIGURE 5.10: Recurrent Water Sector Budget for Regions and Woredas



Socialist People's Libyan Arab Jamahiriya, Public Expenditure Review (FY09)

Background

Libya's water infrastructure is at the beginning of a transformation. The sector is emerging from a period characterized by low performance in urban service delivery, poor quality, and limited ability to valorize the large Great Man Made River (GMMR) investment that was intended for irrigation. Utility revenues are low owing to low tariffs, poor collection, and high operating costs. Losses are increasing because of inefficient management and poor demand management. The water sector absorbed approximately 1.4 percent of GDP in subsidies in 2006. About 90 percent of these subsidies went to urban water supply and sanitation. These subsidies are likely to expand as access to urban water and sanitation grows and as substantially more water is made available to farmers. A comprehensive strategy and action plan is needed for irrigation, water supply and sanitation, and water management

Findings

- Libya is a water-stressed country. With no perennial rivers, it is among the driest and most water scarce regions in the world. Overall, the country obtains its water from four sources—surface water that flows intermittently along wadis, groundwater from shallow deposits, groundwater from deep aquifers, and desalinated seawater. The first two of these sources yield about 600 million cubic meters (MCM) of renewable water out of 5 billion cubic meters overall.
- Increasing domestic and industrial demand for water has given rise to major investments since the early 1980s. The Great Man-Made River (GMMR) Project has been designed to deliver fossil groundwater from areas of abundance in the south to areas in need in the north. Water pumped from the deep reserves in the Sahara and made available through GMMR is the largest and most exploited source (around 53 percent of total supply); however, Libya's groundwater resources, like petroleum, cannot be replenished. Desalination now accounts for less than 1 percent of water supply. An additional 600 MCM of wastewater is available annually of which only 40 MCM are being presently treated for reuse on fodder crops, ornamental trees, and lawns.
- Total water use has risen rapidly in recent years—by more than 1,000 MCM from 1998 to 2005, with domestic use increasing by more than 150 MCM during this period. As shown in Table 1, total water use is high—an estimated 4,922 MCM (2005). Of this amount, 79 percent is used for local agriculture, 14.9 percent is for local domestic and industrial use, and 6.1 percent is used for GMMR transfer to the Eastern and Western regions.
- The average coverage rate for water supply is 63 percent. The total water volume allocated to urban water supply reached about 593 MCM in 2006, distributed between 282 MCM withdrawn from local wells, 284 from GMMR, and 27 MCM provided by desalination plants.
- The Government of Libya plans to raise the water to population coverage ratio from 62 percent (2006) to 72 percent (2012) under its new development plan for water and wastewater services. The final aim is to reach 95 percent coverage by 2025.
- The overall water expenditure (capital investment + O&M) would nearly double under the new water development plan from about LD 8.7 billion in 2002–06 to about LD 15.0 billion projected for 2008–12.

Recommendations

- Given the scarcity of water resources and the much higher value of water in domestic use than in agriculture, the priority should go to meeting the needs for potable water for the whole population, Libya cannot reach food self-sufficiency in the foreseeable future and the pursuit of this objective will only result in increasing waste of valuable resources.
- Increase collection rates (currently at 20 percent). Introduce universal metering (currently at 14 percent of residential customers).
- Raise tariffs for water—from LD 0.22 per cubic meter to at least LD 0.65 per cubic meter—to recover at least O&M costs

Mozambique Public Expenditure Review (FY09)

Background

Water supply and sanitation are of prime importance in the PER because of their complementary role" in preventing disease. Access to improved water supply and sanitation, accompanied by effective hygiene education, can be expected to improve both health and productivity, reduce drudgery, improve quality of life and provide increased opportunities for education and employment, especially for women and girls. As o f 1992, around ten percent o f rural dwellers had regular access to safe water. In 1997 about 12 percent of rural people had safe water according to the household survey. Although the PER o f 1992 enunciated the ambitious goal o f raising access to 35 percent by 1995, this target was in fact reached only in 2001, when there were 12,490 water points, of which 8,098 were functioning, serving a rural population of 12.6 million. Mozambique's coverage still lags behind Malawi (44 percent), Zambia (48 percent), Tanzania (42 percent) and Uganda (46 percent).

Findings

The most urgent sector issue is the inadequacy of rural and urban water supplies, in terms o f both coverage and quality of service, despite the decade o f economic growth since the end of the war in 1992. The lack of regular supplies of safe water is particularly acute in urban areas, on account of the health risks involved.

Water supply expenditures are mostly donor-funded. In the last "normal" year for which data were available, 1999, total expenditures in the water sector, including both water resource management and water supply, were some $15 million, o f which the Government funded $4.9 million and donors the remainder. There was a large increase in donor-funded expenditure (though not o f Government—funded expenditure) in 2000 and 2001 on account o f the floods: in 2001 total expenditure on water rose to $24.5 million, of which donors contributed $19.7 million. Nearly 90 percent o f water sector expenditures in Mozambique go to water supply and sanitation, and the remainder to water resource management.

TABLE 5.5: Water Supply and Sanitation Spending in Relation to the Budget

	Percentage of Government budget
Mozambique (1999–01)	2.4
Tanzania	2.5
Uganda	5.0
Zambia	2.6

Note: The denominator is *Government-funded* spending only. Donor spending numbers were not available for the countries other than Mozambique.

Recommendations

A key requirement is full-cost pricing for urban piped water, coupled with a major improvement in the present low service standards which should arise from improved management in the context of the contracting-out procedures presently under way.

The authorities should forge ahead with the Demand-responsive Approach to rural water so as to reduce the 35 percent water point breakdown rate.

More attention needs to be given to urban sanitation. The present approach by DNA, based o n the Low-Cost Sanitation Program in the peri-urban and urban areas and health promotion and other 'soft' measures in both urban and rural areas, is sound and should be continued.

Tanzania Public Expenditure Review of the Water Sector (FY09)

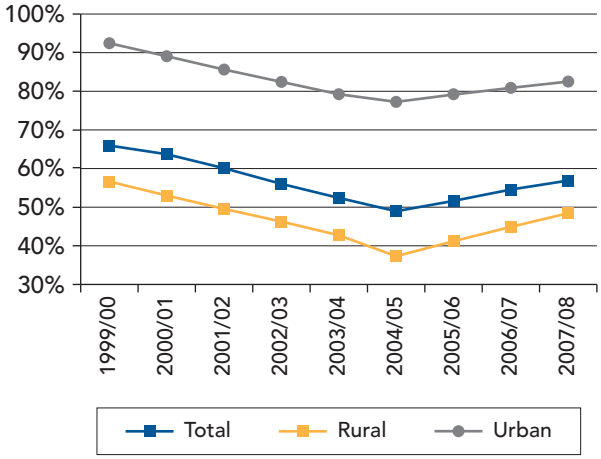
Objective

The objective of the PER is to assess the quantity and quality of the transfers of public funds to the water and sanitation sector from the top of the chain (central government) to the bottom of the chain (water users) and the quality and quantity of service delivery with a basis hypothesis being that the finance link may be sub-optimal. The current study aims to gain insight into how budgeted allocations for the water sector translate into actual water and sanitation service delivery, and to understand what impacts the links between the two. It has a bias towards water supply and sewerage that are mostly funded through the water sec—tor agencies. Yet, basic sanitation has not been given much emphasis mostly because it does not receive much attention in the budgets of the different water agencies.

Findings

Reform is under way in the Tanzania water sector. Many developments see the sector moving into a positive direction. The Government of Tanzania has embarked on a major reform process and made significant strides in its water sector policy environment over the last decade. As a result of this transformation, the role of MoWI is changing. Because of the government's policy of decentralization and devolvement, an increasingly larger share of the government's budget is now channelled through local and regional governments The increase in funding is starting to have an impact on the access to improved water sources. Preliminary data from household surveys conducted in FY2007/08 show that the access to improved water sources has been increasing since FY2004/05. Nevertheless, the recent progress shows that increasing resources in itself is not enough. Progress has been slow. Water utility operators are still heavily dependent on budgetary sup—port with a significant part of the budget allocated for operating support, maintenance and rehabilitation.

FIGURE 5.11: Access to Improved Water Sources



Source: DHS and AIS surveys, various years.

Recommendations

Improve Sector Investment Planning. The slow pace of project preparation contrasts with the resource envelope allocated through the sector, especially with the SWAP in place. In the absence of a project pipeline. *Improve the predictability of release of funds in terms of timeliness and amounts.* The lack of predictability of funds is a serious obstacle for implementation in the sector. This lack of predictability is a major cause of delays in implementation and results in additional costs. *A sharper focus on including incentives in the allocation of funding.* In the design of infrastructure programs, the Government could put more focus on how to improve the efficiency of its investment programs through: (i) performance based transfers; (ii) better poverty targeting in water allocation formulas; and (ii) better poverty targeting in water allocation formulas.

Republic of Lebanon, Water Sector Public Expenditure Review (FY10)

Background

The state of the water supply and sanitation (WSS) sector in Lebanon is not in line with the level of economic development reached by the country. Despite the relatively high coverage rate in the water sector (78 percent), continuity of supply is extremely low. The Beirut Mount Lebanon (BML) region, which accounts for 60 percent of total connected households, receives only three hours of daily water supply during the summer season. Tripoli is the only urban area which benefits from 24 hours of water supply.

Findings

The Regional Water Authorities suffer from inadequate technical, financial and commercial performance. Despite its relative good endowment of water resources, Lebanon is poised to face chronic water shortages by 2020 unless actions are taken to reform the sector.

Lebanon's water public expenditure has been inadequate to meet the development needs of the sector. In Lebanon, public investment in the water and wastewater sector amounts to about 0.5 percent of GDP, below the optimal level.

The cost of inaction in the water sector is estimated at about 1.8 percent of GDP or 2.8 percent of GDP if the cost of environmental degradation is added. Households bear most of the costs. The opportunity costs of inadequate public water supply provision amount to 1.3 percent of GDP.

Improving continuity of water supply to achieve 24/7 provision across the country should be the top priority for the water sector, alongside increased levels of waste water collection and treatment.

Improving efficiency in the water sector can generate sufficient resources to close the investment gaps in the sector, within a framework of fiscal responsibility.

Recommendations

Improving continuity of water supply to achieve 24/7 provision across the country is the priority for the water sector. In parallel to the increase in water supply, it is crucial to increase volumes of wastewater collected and treated. The costs of environmental degradation caused by the discharge of non treated wastewater are estimated of 1 percent of GDP. Improving efficiency in the water sector can generate sufficient resources to close the investment gaps in the WSS sector.

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