REPUBLIC OF MOZAMBIQUE

WASHCost Mozambique

ASSESSMENT OF THE WATER AND SANITATION

Sector of Mozambique



FINAL REPORT

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List of Abbreviations

	Portuguese	English		
AdM	Aguas de Moçambique	Mozambique Water Supply		
AfDB	Banco Africano de Desenvolvimento	African Development Bank		
ARA	Administração Regional de Águas	Regional Water Authority		
ASAS	Apoio Sectorial ao Sector de Águas	Sectoral Support to the Water Sector		
ASNANI	Projecto Integrado de Abastecimento	Integrated Water Supply and Sanitation		
AOIVAIVI	de Água e Saneamento para Nampula	Project for Nampula and Niassa		
	e Niassa	1 Toject for Nampula and Niassa		
AT	Tribunal Administrativo	Administrative Tribunal		
BM		Bank of Mozambique		
	Banco de Moçambique	•		
CapEX	Investimentos de capital em actives	Capital investments in fixed assets		
CanManEV	fixos	Canital maintananaa aynanditura		
CapManEX	Depesas de capital de manutenção	Capital maintenance expenditure		
CBO	Organização de Base Comunitária	Community-Based Organization		
CEDESA	Centro de Estudos de	Strategic Study Centre for the Water Sector		
05040	Desenvolvimento do Sector de Águas	T :: 0 : (W : 10 % :		
CFPAS	Centro de Formação de Agua e	Training Centre for Water and Sanitation		
0.004	Saneamento			
CIDA	Agência Canadiana de	Canadian International Development		
	Desenvolvimento Internacional	Agency		
CRA	Conselho de Regulação do	Water Regulatory Board		
	Abasteçimento de Agua			
CUT	Conta Unica do Tesouro	Treasure Single Account		
DAF	Departamento de Administração e	Department of Administration and Finance		
	Finanças			
DAR	Departamento de Água Rural	Rural Water Department		
DAS	Departamento de Água e Saneamento	Water and Sanitation Department		
DES	Departamento de Saneamento	Sanitation Department		
DNA	Direcção Nacional de Águas	National Directorate of Water		
DNT	Direcção Nacional do Tesouro	National Directorate of the Treasury		
DPFP	Programa de Planificação e Finanças	Decentralization of Planning and Finance Program		
	Descentralizadas	ů ů		
DPOPH	Direcção Provincial de Obras Públicas	Provincial Directorate of Public Works and Housing		
	e Habitação	•		
DRA	Enfoque Centrado na Procura	Demand-Responsive Approach		
DRH	Departamento de Recursos Humanos	Department of Human Resources		
EPAR	Estaleiros Provinciais de Água Rural	Provincial state companies for rural water supply		
FCGD	Fórum Coordenador da Gestão	Delegated Management Framework		
	Delegada	3.3		
FIPAG	Fundo de Investimento e Património do	Investment and Assets Fund for Water Supply		
	Abastecimento de Agua	can and receive and receive and received		
FRELIMO	Frente de Libertação de Moçambique	Mozambican Liberation Front		
GBS	Apoio Geral ao Orçamento	General Budget Support		
GOM	Governo de Moçambique	Government of Mozambique		
GON	Governo do Reino dos Países Baixos	Government of The Netherlands		
GPC	Gabinete de Plannificação e Controle.	Division of Planning and Control		
IAF	Inquérito aos Agregados Familiares	National Household Budget Survey		
IWRM	Gestão Integrada dos Recursos	Integrated Water Resources Management		
IVVIXIVI	Hídricos	integrated Water Resources Management		
JMP	Programa de Monitorização Conjunta	Joint Monitoring Programme		
LOLE	Lei dos Órgãos Locais do Estado	Law of Local State Authorities		
MAE	Ministério da Administração Estatal	Ministry of State Administration		
MCC	Corporação do Desafio do Milénio	Millennium Challenge Corporation		
MDG		Millennium Development Goal		
MDG	•	Willerinium Development Goal		
MEC	Milénio	Ministry of Education and Cultura		
MEC	Ministério da Educação e Cultura	Ministry of Agriculture		
MINAG MIPAAR	Ministério da Agricultura Manual de Implementação dos	Ministry of Agriculture Manual for Implementation of Rural Water Projects		
WIIFAAK		manual for implementation of Kufal Water Projects		
	Projectos de Abastecimento de Água			
MICALL	Rural	NA: nickey of I I a also		
MISAU	Ministério da Saúde	Ministry of Health		
MOPH	Ministério das Obras Públicas e	Ministry of Public Works and Housing		
MDD	Habitação	Michael Display and D		
MPD	Ministério da Planificação e	Ministry of Planning and Development		
MEEE	Desenvolvimento	Madian Tana Farandian F		
MFEF	Cenário Fiscal de Médio Prazo	Medium Term Expenditure Framework		

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	D. of contract	For all also	
MEED	Portuguese	English	
MFEP	Plano Fiscal de Médio Prazo	Medium Term Expenditure Plan	
MOF	Ministério das Finanças	Ministry of Finance	
NCA NRWSSP	Conselho Nacional de Água Programa Nacional de Abastecimento	National Water Council	
	de Água e Saneamento Rural	National Rural Water Supply and Sanitation Program	
NWDP	Programa Nacional de Desenvolvimento de Águas	National Water Development Programme	
NWP	Política Nacional de Águas	National Water Policy	
NWSSP	Programa Nacional de Abastecimento de Água e Saneamento	National Water Supply and Sanitation	
OE	Orçamento do Estado	State Budget	
OPEX	Pequenas despesas de funcionamento e de Manutenção	Operating and minor maintenance expenditures	
PAF	Quadro de Avaliação do Desempenho	Performance Assessment Framework	
PAP	Parceiros de Ajuda ao Programa Programme Aid Partners		
PARPA	Plano de Acção para a Redução da Pobreza Absoluta	Plan for the Reduction of Absolute Poverty	
PDO	Plano de Desenvolvimento Distrital	District Development Plan	
PEM	Gestão da Despesa Pública	Public Expenditure Management	
PES	Plano Económico e Social	Sector Annual Socio-Economic Plan	
PFM	Gestão das Finanças Públicas	Public Finance Management	
PPP	Parceria Público Privada	Public Private Partnership	
PRSC	Crédito de Apoio à Redução da	Poverty Reduction Support Credit	
	Pobreza	•	
RENAMO	Resistência Nacional de Moçambique	Mozambican National Resistance	
RNE	Embaixada do Reino dos Países Baixos	Royal Netherlands Embassy	
RWSSP	Programa de Abastecimento e Água e Saneamento Rural	Rural Water Supply and Sanitation Program	
SBS	Apoio ao Orçamento Sectorial	Sector Budget Support	
SDMAS	Serviços Distritais da Mulher e da Acção Social	District Services of Women and Social Affairs	
SDPI	Serviços Distritais de Planificação e Infra-estruturas	District Services of Planning and Infrastructures	
SINAS	Sistema Nacional de Informação em Água e Saneamento	National Water and Sanitation Information System	
SISTAFE	Sistema de Administração Financeira	State Financial Administration System	
SWAp	do Estado Abordagem Sectorial Programática	Sector-wide Approach	
TA	Assistência Técnica	Technical Assistance	
TOR	Termos de Referência	Terms of Reference	
UNICEF	Organização das Nações Unidas para	United Nations Children's Fund	
	a Infância		
VLOM	Funcionamento e Manutenção ao Nível da Aldeia	Village Level Operation and Maintenance	
WASH	Água, Saneamento e Higiene	Water, Sanitation and Hygiene	
WASHCost	Projecto de Custos de Água,	Water, Sanitation and Hygiene Cost Project	
WD	Saneamento e Higiene	World Donle	
WB WSS	Banco Munidial	World Bank Water Supply and Sapitation	
	Abastecimento de Agua e Saneamento	Water Supply and Sanitation	
ZAMWAT	Gestão Integrada dos Recursos Hídricos e do Abastecimento de Água Rural na Bacia do Rio Zambeze	Integrated Water Resources Management and Rural Water Supply in the Zambezi River Basin	
	. G.G. Ha Baola do Filo Zambozo		

EXECUTIVE SUMMARY

Provision of potable and reliable water supply as well as adequate sanitation are critical elements of infrastructure expansion and poverty alleviation in Mozambique, particularly in rural areas where around 70% of the population resides under extreme poverty.

Since independence, the country has carried out several initiatives, in different forms, to address the limitations in rural water supply and sanitation subsector but the levels of coverage are still far from desirable. A series of factors have interfered negatively in the expansion of rural water and sanitation facilities and services, which is in dire contradiction with the central position of this subsector in achieving sustainable development in line with all the internationally agreed development goals, including the MDGs.

Lack of accurate data, especially in rural and peri-urban areas, makes it impossible to estimate the true cost of extending sustainable and good quality water, sanitation and hygiene services to the poor. Among other aspects, lack of transparency can be an open door to corruption and can obstruct comparisons of efficiency and value for money. It is believed that reversing these aspects will lend important elements to the process of building a sound rural water supply and sanitation system in which several actors are active.

The International Water and Sanitation Centre (IRC) in the Netherlands is implementing a program aiming at "QUANTIFYING THE COST OF DELIVERING SAFE WATER, SANITATION AND HYGIENE SERVICES" (WASHCost). WASHCost Project is designed as a five-year action research project to build Learning Alliances with key stakeholders in four partner countries to identify the real and disaggregated costs of water, sanitation and hygiene (WASH) services in rural and peri-urban areas, and the range of physical, social, economic and political factors that influence those costs.

This report is the first product of a series of studies and exercises that, in the course of the next five years, will be deciphering the actual costs of sustainable WASH services to the poor, and assist the global community to meet the MDGs sustainably

The report presents a comprehensive subsector analysis from its institutional, policy and regulatory perspective as well as a brief discussion of technological options and makes an initial description and assessment of costs related to the provision of sustainable WASH services. Information provided by different players in the sector and extensive review of secondary data and reports gathered from several sources, including findings from visits to two provinces (Sofala and Nampula) were the main methodologies used to compile this

report.

The most important legal and regulatory provisions informing water and sanitation services in Mozambique are divided into two major categories, namely national and international.

At the international level the main provisions are: (i) United Nations Millennium Development Goals (2000), which in Mozambique have been translated into the goal of achieving rural water coverage to 70% and rural sanitation coverage to 50%, by 2015; (ii) Rome Agreement on Harmonization (2003), which is relevant given the commitment to all interested parties to align their contribution to RWSS to country-led Sector-Wide Approaches (SWAPs); (iii) Paris Declaration on Aid Effectiveness (2005); and Accra Agenda for Action (2008), that also insist on the need for the alignment of international aid by responding to long-term country priorities and in-country systems to avoid parallel implementation structures; and (iv) World Health Organization (WHO) and UNICEF (United Nations Children's Fund), who have formed the Joint Monitoring Programme for Water Supply and Sanitation (JMP), to conduct regular assessments and evaluations of water supply and sanitation worldwide using information available from a diversity of sources.

At the national level the most important provisions are: (i) The National Constitution, in terms of defining the way in which the country is organized and the importance of public health and involvement of all in the pursuit of adequate health and sanitation; (ii) Water Law and National Water Policy that define important principles in water supply and sanitation such as that these services should be provided in accordance with the demand and economic capacity of the users, that tariffs should permit the recovery of operational and maintenance costs, and later contribute to investment and sustainability of the systems; and that in as far as possible water supply and sanitation services should be decentralized to autonomous local agencies; (iii) PARPA II (Absolute Poverty Alleviation Action Plan) and the Government Five Year Plan (2005-2009). The Government of Mozambique (GoM)'s action plan for poverty reduction in the past decade - PARPA I (2001-2005) and PARPA II (2006-2009) are based on the premise that broad based economic growth is critical to poverty reduction. PARPA II highlights that investing in water and sanitation services contributes to meeting not only the short-term objectives of the MDGs, but also Mozambique's long-term growth and poverty reduction plans; (iv) The Rural Water Supply and Sanitation Strategy and Program that translates PARPA and the GoM's Five Year Plan into specific objectives, targets and activities for the RWSS subsector.

Other laws and regulations relevant to Rural Water and Sanitation, include: (i) Planning

and Financial Instruments, i.e. the Economic and Social Plan/State Budget, which translates PARPA and the Government Five Year Plan into specific annual plans of activities (PES) and respective resource allocation (OE); (ii) Management Instruments, mainly SISTAFE (Public Financial Administration System) aimed at regulating public finances by integrating its five subsystems: State Budget, Public Accounts, Treasure, State Patrimony and Internal Control; (iii) Procurement: Decree 54/2005 which introduces greater transparency into public procurement of goods and services by making it mandatory to advertise and to publicly open bids and announce bid results; (iv) Decentralization policies in general translated into a series of decrees aimed at decentralizing, deconcentrating and devolving power to and strengthening local entities, mainly the districts and the entities below the district such as administrative posts and localities.

RWSS programs, projects and interventions in general are financed by the Government of Mozambique supported by a number of development partners and involve a multitude of actors, mainly:

- (i) The Government itself with its Ministry of Public Works and Housing (MOPH) and its four main technical areas of operation, including water (DNA), which in its turn includes a department for rural water supply (DAR) and another department for sanitation (DES), at the central level. At provincial level MOPH is represented by DPOPH, with its department for water and sanitation (DAS). At district level, by the District Services of Planning and Infrastructure and Health, Women and Social Affairs Services. Beyond the district, the government's water and sanitation sector is not directly represented;
- (ii) Donors: The most important donors in the water and sanitation sector are the Netherlands, DFID, UNICEF, AfDB, MCC, CIDA, Irish Aid, SDC, EU, Water Aid, CARE and the World Bank. In 2006, AfDB and the WB provided 40% and 35% of the total aid support to the water sector, respectively;
- (iii) NGOs/CBOs, which complement government and donor interventions in rural water supply and sanitation by designing and implementing their own projects and programs and by being subcontracted by the government and/or the donors to implement programs and projects on their behalf;
- (iv) Beneficiaries, estimated to represent around 14.1 people living in rural areas (INE, 2005). In general, beneficiaries are organized in Water and Sanitation Committees, which focus mainly on water supply and have limited intervention on sanitation. They

interact with the water and sanitation development entities and organize consumers to use water sources appropriately and to participate in operation and maintenance;

(v) The private sector is responsible for providing goods and services to the subsector. It is concentrated in Maputo and the provincial capitals in the form of contractors (drilling, construction, etc.), consultants (studies, works supervision, facilitation, etc.), and suppliers (water, equipment, parts, consumables, etc.). So far, the scale of procurement of goods and services in rural water supply and sanitation is not conducive to the proliferation of business operators in the subsector and less so to their establishment below the provincial level.

Since the end of the civil war in 1992, rural water supply and sanitation is planned, implemented, monitored, evaluated and reported as part of an overall government reform process. This was then formalized in 2001. The main objectives of the public sector reform (2001-2011) are to: 1) make the sector more effective and efficient, 2) ensure the creation of an enabling environment for the private sector, 3) curb corruption, 4) deliver goods and services to the population at large with a particular emphasis on the poor, thus contributing to the reduction of poverty and therefore the attainment of PARPA objectives.

And after many years of focusing on a project approach whereby, based on their inclination, each agency would take responsibility for specific areas of the sector/sub-sector in specific regions of the country on a project by project basis, the subsector is now shifting to embrace a sector wide approach (SWAP) to water supply and sanitation, including its rural subsector. To that effect the National Rural Water Supply and Sanitation Program (NRWSSP) for the period 2009-2015 has been formulated and is in the process of preparation to start its pilot year in 2009. It is envisaged that there will be a Common Fund for the subsector which is expected to be used as a means of gaining the experience necessary for making informed decisions regarding transition to budget support in the sub-sector, in the years to come.

The cost of water and sanitation is a sum of several cost categories, mainly (i) Capital investments in fixed assets (CapEX); (ii) Operating and minor maintenance expenditures (OPEX); (iii) Capital maintenance expenditure (CAPManEX); (iv) Support costs (direct and indirect); (v) Cost of capital (WASHCost, 2008). To these other costs such as time spent to access the goods and services due to distance, competition between the various basic needs at the household and family level (food, health, education, etc.), and other obstacles that may force people to be prevented and/or prevent themselves from having and/or facilitating access to those goods and services, can be added.

Under the existing planning, budgeting and budget execution and reporting systems and mechanisms most of the costs are aggregated and as such are of limited use for decision making processes.

Delivering value for money by efficient and effective use of resources requires that all cost categories and sub categories be known and applied to meet the pro poor water and sanitation in the implementation of strategic priorities. This requires cognisance of (i) implementation structure of each program; (ii) range of technological options that are available and can be used in a specific setting; (iii) socio-economic environment; (iv) market size or work continuity; (v) specifications in use; (vi) environmental settings or hydro geological settings.

DNA/DAR/DES is in the process of developing standardized designs of water supply and sanitation infrastructures. At present most of these standards do not differentiate between different geological conditions.

The concept of standardization is based on compromise. Its positive aspects are related to objectives such as lowering costs, facilitating quality control, improving implementation rates, and facilitating private sector involvement. Typical negative aspects include aspects such as the design not always being the most appropriate for local conditions, not being conducive to technological development, limiting "client" involvement in design. In an environment of weak institutions for proper supervision and follow-up this serves the purpose of protecting the investment and reducing the risk of poor construction works.

The existing financial planning, implementation, monitoring and reporting that characterize most of the role players in rural water and sanitation results in poor consistency of financial data. The country is still in an early stage of adopting a more consistent system of planning and budgeting as well as monitoring and reporting. The systems and procedures in the process of being improved aim at:

- (a) **Maintaining fiscal discipline**: by keeping spending within limits created by the ability to raise revenue and keep debt within levels that are not prohibitively expensive to service.
- (b) **Promote strategic priorities**: by allocating and spending resources in those areas that make the greatest contribution to the government's objectives.
- (c) **Deliver value for money**: by efficient and effective use of resources in the implementation of strategic priorities.

The planning and budgeting that is being developed and the process covers the following main stages:

- Policy review: This consists mainly of an annual evaluation of the results of public planning and expenditure to inform the updating of policies and plans.
- Strategic planning: Based on PARPA and the Government's Five Year Plan this
 consists in setting expenditure and deficit targets, on the basis of macroeconomic
 projections and financial commitments made by the various budget actors, over 3
 years (CFMP).
- Budget preparation: submission and negotiation of the ministries and other state institutions of expenditure bids within plan and budget guidelines and expenditure limits circulated by the MPD and the Ministry of Finance (MF).
- Budget execution: after the approval of the budget appropriations, the resources are released to the spending agencies (state organs (government departments, parliament, courts, etc.) public companies), to implement expenditure programmes. At present DAS and SDPI and SDMAS are not budget executing entities, which means that they do not receive funds to cover their expenses directly. This makes it difficult to track water and sanitation expenses at the provincial and district levels, where most of the interventions take place.
- Accounting and monitoring of expenditures and revenues: tracking the composition and level of revenue and expenditure over the year and monitoring the outputs of expenditure. It is generally acknowledged that weak elements remain in the overall public expenditure management system in the country, and consequently, implementation often diverges noticeably from plans. In a situation where DAS and SDPI/SDMAS do not have direct budget execution responsibilities they tend to ignore the financial component in their monitoring systems.
- Reporting and audit: the Administrative Tribunal (TA) reviews compliance with the budget, reporting in detail to Parliament and initiates corrective actions as necessary.

Six principles are at the core of the process, namely: (i) political engagement and commitment to the budget; (ii) policy clarity, consistency and affordability; (iii) predictability; (iv) transparency; (v) comprehensiveness and integration; and (vi) accountability. These principles and their combination evoke harmonization and strengthening of planning and budgeting instruments and to a great extent they call for the pooling of funds from the

various sources to finance unified strategies, plans and a budget steered by one single entity, in this case the government, assisted by other stakeholders. This has not been the case in the last few years.

The various actors follow different forms of planning and budgeting, monitoring and reporting, namely (i) donors that use a combination of funding mechanisms that range from fully non-aligned to fully aligned with the government procedures. A considerable number of big donors have been moving towards alignment and harmonization and increased adoption of budget support but there are still two-thirds of the country's aid that stays outside the system and is channelled directly to line ministries, provinces and districts as sector funds or under traditional project modalities; (ii) NGOs have been the most difficult to characterize in terms of their budget planning, including budget forecast for themselves and for other stakeholders; (iii) beneficiaries characterized by unreliable and difficult to characterize systems to make financial contributions and keep adequate records; (iv) the private sector is marked by several types of variations that range from technologies used to cost structures informed by regional discrepancies in a somewhat unregulated environment.

The National Rural Water Supply and Sanitation Program (NRWSSP) for the period 2009-2015 offers a series of opportunities and challenges for a better structured WASHCost analysis. The program is divided into two phases where the first Phase (2009-2011) is estimated to absorb USD 196.7 million coming from four main sources. There is still a funding gap of USD 26.8 million (14%) which is expected to be a subject of negotiation between the Government and its current and potential development partners.

Under the NRWSSP the five main actors (government, donors, NGO/CBO, private sector and the beneficiaries) are expected to work together in order to achieve:

- a) far-reaching capacity building to support decentralized planning, management and monitoring of RWSS facilities;
- b) promoting and supporting common planning, reporting and monitoring systems; and
- c) promoting the increased use of national planning, budgeting, financial management, procurement and monitoring systems in the sub-sector.

WASHCost will be supporting the accomplishment of the various RWSSP targets, systems and procedures and will try to derive maximum benefit from the planned developments, which if materialized, will constitute a great opportunity for meeting the RWSS strategic objectives and particularly the pro poor and "value for money" approaches to the provision of RWSS related goods and services.

However, there seems to be enough evidence to the effect that a significant number of the planned developments will require more time to reach the desirable level of stability and maturity that will go beyond the lifespan of the WASHCost Project. This would recommend that WASHCost project considers a few alternative ways of fostering its objectives at the same time that it supports and uses the developments that will be coming out as the RWSS Program evolves. Separate studies, such as a comprehensive Rural Water Sector Expenditure Review and other, should be conducted by WASHCost Project and where relevant these would feed into the various pro poor and "value for money" measures considered under RWSS Program.

In order to overcome existing capacity weaknesses RWSS Program foresees a combination of training modalities ranging from: formal training; non-formal training; and informal training.

It is recommended that WASHCost Project espouses and supports these capacity building plans and activities but it is also suggested that the project should develop a few parallel lines of action to meet its specific objectives at the same time that it insists on the adoption of a few more practical elements to capacity building than what seems to be covered under the existing program. Focus would be on the production and making available "user friendly" tools (forms, templates, etc.) for planning, budgeting, monitoring and reporting and tutoring the various actors to be integral part of better cost analysis systems and procedures. These include measures such as:

- (a) Conducting a water and sanitation sector expenditure analysis including the analysis of its rural subsector. This would assist in establishing a solid baseline to be used throughout the WASHCost Project and RWSSP lifespan to monitor and evaluate progress;
- (b) Making available forms and templates for the personnel at the DNA/DAR/DES, DAS, SDPI, SDMAS to conduct planning, budgeting, monitoring and reporting of their activities. This would be aimed at providing a number of standard forms and templates to carry out these tasks and consequently to make it easier to harmonize information at the various levels.;
- (c) Provide community book keepers with easy to use forms to record monetary contributions and other contributions from community members.;
- (d) Provide local artisans and other goods and service providers with simple forms to

record and report on the links between their work and financial transactions, etc.

In summary in addition to recommending a close collaboration between WASHCost and NWSSP it is also recommended that the two sides find creative ways of complementing each other and avoid duplication in areas of common interest, particularly cost disaggregation

The GPC initiative National Water and Sanitation Information System (SINAS) provides a concrete venue to embedding some of the WASHCost project initiatives and actions foreseen in the coming years.

Based on the review presented in this documents the team has devised key aspects to be taken into consideration during the development of the research protocol that will guide the future work of WASHCost project in the coming 5 years. The following suggestions are very preliminary and should be further detailed in specific project research protocols.

- 1. Collection and analysis of CAPex data is relatively ease, therefore the project should initially focus on collecting and analysing these costs;
- 2. Cost analyses of rural water supply needs to focus initially on the main technologies. These are: Mechanically drilled borehole equipped with Afridev and hand dug wells. Other technologies such as springs, rain water harvesting, very deep wells are relatively marginal in the country and have little impact in strategic budgeting and long term expenditure planning.
- 3. There is need to arrive at a consensual definition of Peri-urban in order to start the work of collecting and analysing pertinent data at this important level.
- 4. Cost analyses for sanitation could initially concentrate on slab latrines, and to a lesser margin, VIP latrines
- 5. The problematic issues related to the cost of hygiene can best be tackled by disaggregation of PEC costs and activities. However, this will not answer the issue in full since some of the activities are carried out in the health sector and not directly linked to water supply provision.
- 6. Knowledge of Support Cost (direct and indirect) requires a lot of work for example to detail government expenditure (salary, per diems, communication). This requires development of better planning, budgeting and reporting tools that should be analysis based on the existing framework guiding the operations at various levels including

- the interdependences between departments. Initial information on Support Cost in probable available at program level e.g. ASNANI and UNICEF.
- 7. Collect data on the usage and fee collection methods, rates of water vendors and public tap stands in order to help develop national or provincial procedures to deal with this component of water supply in peri-urban areas.

The research protocols to be developed for data collection and analysis for different components can include the methods identified in the table below:

Terminology	Recommended best source and methods
Capital investments in fixed assets (CapEX)	Existing literature of proposals and evaluations at Provincial and national level and NGOs, request quotations and price lists. This costs can also be obtained from running programs
Operating and minor maintenance	Existing Community books, PSAA operators, provincial evaluations.
expenditures (OPEX)	Interviews with Water committees, spare part vendors or Pilot Studies.
Capital maintenance expenditure (CAPManEX)	Identify units and request quotations and price list. Verify existing rehabilitation plans at national and regional levels of PSAA. Extensive survey at different department of bid documents. The study could also select few departments and follow-up closely the different stages of the process of procuring and implementing projects for service provision.
Support costs (direct and indirect)	Interviews with district, provincial and national government agencies. Ideally, sector expenditure study. Develop and monitor implementation of data collection tools including tutoring.
Cost of capital	Interview with private operators, private sectors, banks and finance institutions. Review the BoQ and the invoices approved for payment against field technical reports.