



WASHCost's theory of change: reforms in the water sector and what they mean for the use of unit costs

Patrick Moriarty with Arjen Naafs, Christelle Pezon, Catarina Fonseca, Andre Uandela, Alana Potter, Charles Batchelor, Ratna Reddy, Snehalatha Mekala

IRC International Water and Sanitation Centre

November 2010

Abstract

The WASHCost project is undertaking action research into the availability and use of cost information in rural and small-town WASH service delivery in Burkina Faso, Ghana, India (Andhra Pradesh) and Mozambique. This working paper presents initial findings from a series of country sector scans carried out during the inception phase of WASHCost. The scans looked at how the sector was evolving in terms of harmonisation, decentralisation of WASH, and the current and potential use of unit-cost data in decentralised planning and decision making. It provides a comparative overview of the decentralised institutional structures, the types and levels of services being provided, and the use of unit-cost information in decision making. All of these are related to the theory of change being used by WASHCost, and that relates to how (and in what form) improved access to unit cost information will lead to sector change and improved service delivery. Based on this, recommendations are made for further research work under WASHCost.

Contact details Author

Patrick Moriarty	moriarty@irc.nl
Arjen Naafs	arjen.washcost@gmail.com
Christelle Pezon	pezon@irc.nl
Catarina Fonseca	fonseca@irc.nl
Andre Uandela	andre.washcost@gmail.com
Alana Potter	potter@irc.nl
Charles Batchelor	batchelor@irc.nl
Ratna Reddy	vratnareddy@lnrmi.ac.in
Snehalatha Mekala	snehalathasreedhar@gmail.com

Front page photo

IRC International Water and Sanitation Centre



Copyright © 2010 IRC International Water and Sanitation Centre
This work is licensed under a Creative Commons license.

WASHCost is a five year action research project investigating the costs of providing water, sanitation and hygiene services to rural and peri-urban communities in Ghana, Burkina-Faso, Mozambique and India (Andhra Pradesh). The objectives of collecting and disaggregating cost data over the full life-cycle of WASH services are to be able to analyse costs per infrastructure and by service level, and to better understand the cost drivers and through this understanding to enable more cost effective and equitable service delivery. WASHCost is focused on exploring and sharing an understanding of the true costs of sustainable services (see www.washcost.info).

Table of Contents

1 Introduction	1
2 Cost information and WASH services	3
2.1 WASHCost's theory of change: how access to better cost data will lead to improved WASH services	3
2.2 What is a service and what does it cost to provide it?	5
2.2.1 Service delivery and service level	5
2.2.2 Service delivery roles and functions	7
2.2.3 Lifecycle costs	8
2.3 Sector governance and decision making, and the use of cost data	10
2.3.1 Use of cost information in national policy formulation and budgeting	10
2.3.2 Use of WASHCost information in operational decision making	11
2.4 Summing up	12
3 Rapid assessment of sector structure and unit cost use in WASHCost countries	13
3.1 Introduction to the country case studies	13
3.2 Country sector sketches	14
3.2.1 Ghana, sector sketch	14
3.2.2 Burkina Faso sector sketch	17
3.2.3 Mozambique sector sketch	19
3.2.4 India and Andhra Pradesh, sector sketch	23
4 Emerging sector trends and opportunities for WASHCost	29
4.1 Harmonisation and co-ordination	29
4.2 Decentralisation and the division of roles and responsibilities within the sector	30
4.3 Planning and decision making in the WASH sector	31
4.4 Differentiation of service levels between rural and small towns	32
4.5 Citizen's voice and the use of costs in holding service providers accountable	32
4.6 Summary	33
5 Conclusions and directions for further work	35
5.1 Trends in sector development in the WASHCost countries	35
5.2 Challenges to and opportunities for improving sector governance through improved access to WASH unit costs under decentralisation	36

List of tables

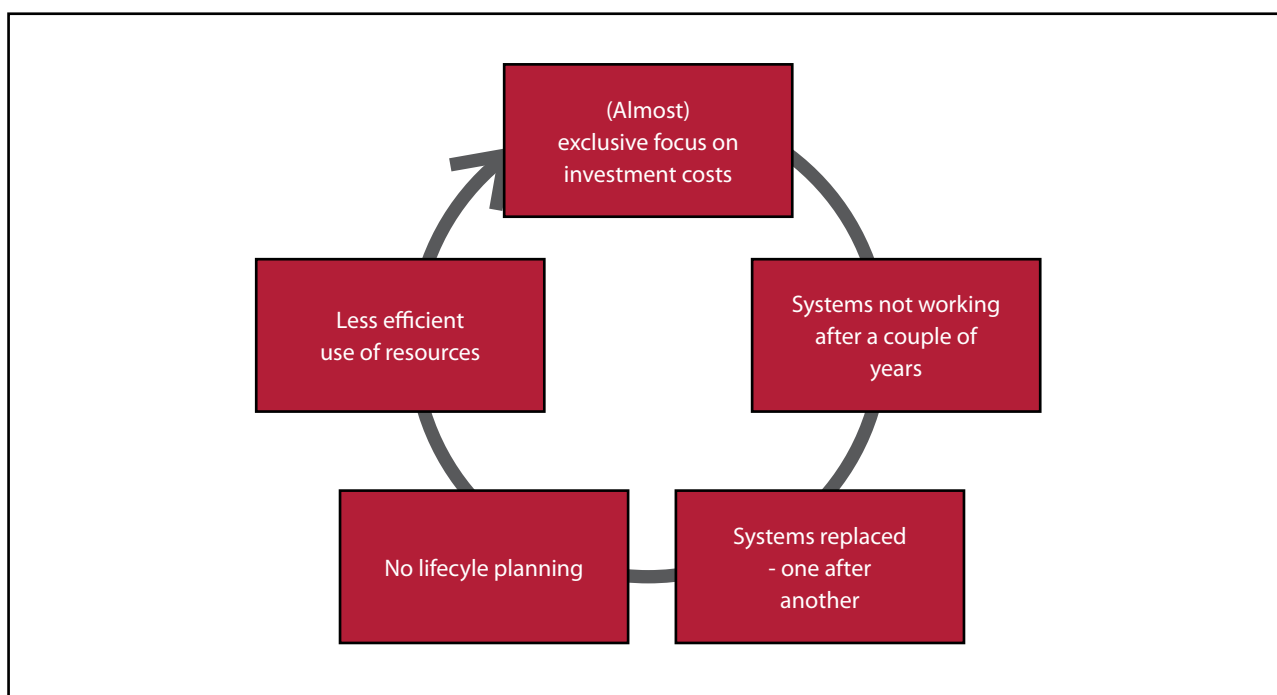
Figure 1: Business as Usual - Exclusive Focus on New Investments	1
Figure 2: A more nuanced version of the WASHCost theory of change	4
Figure 3: WASHCost ideal theory of change	5
Figure 4: WASHCost water service ladder (Moriarty et al, 2010)	6
Figure 5: WASHCost sanitation service ladder (Potter, Klutse et al, 2010)	7
Figure 6: The Service Delivery Approach	8
Illustration 1: Life Cycle Cost Components	9
Table 1: Development Indicators	13
Table 2: Burkina Faso water supply service norms	18
Table 3: Critères d'équipement en infrastructures d'eau potable/ Recommended infrastructure for different rural settings	19
Table 4: Key steps in planning for rural water service delivery	26

1 Introduction

In many countries around the world, several decades of effort are leading to a situation where the majority of people in rural areas and small towns have been provided, at least once in their lives, with some form of improved water supply service. Sanitation services, however, lag far behind. Additionally, as headline coverage rates rise, so too do (less-reported) levels of system breakdown and failure¹. High rates of breakdown and sub-standard functioning are the rule rather than the exception, with the result that, despite high levels of investment, many water users' experience is one of poor and unreliable services. (Evans, 1992; WSP, 2003; Taylor, 2009; Skinner, 2009).

Despite the important sums of money being spent on the roll-out of new WASH services, surprisingly little is known about the costs of providing different types or levels of service in different contexts. What little is known relates largely to the costs of capital investment in new water supply systems – the initial capital costs of providing system hardware, and the software costs associated with training their users to operate and maintain them under community management. There is little systematic collection of information as to what these operation and maintenance costs are; the costs of maintaining systems of post-construction support; or of system rehabilitation and replacement (Figure 1).

Figure 1: Business as Usual - Exclusive Focus on New Investments



The WASHCost action research project seeks to address the lack of information on what it costs to provide WASH services. In particular, it seeks to look at all the costs related to a sustainable service over the entire lifecycle of the service. It goes beyond the capital costs of constructing new systems, to investigate the operation and maintenance costs related to keeping systems functioning; the rehabilitation costs related to major repairs; and the direct support costs related to post-construction support. In addition, WASHCost seeks to examine the indirect costs related to regulation and management of the WASH sector itself.

The reason that an action research approach is adopted is that WASHCost's overall goal is to lead to more sustainable, affordable and appropriate services. This in turn means changing the way in which planning, budgeting and spend-

¹ Increasingly referred to as WASH slippage (Reddy et al 2010). WASH slippage can be defined as the falling back of a certain level of WASH services to a lower level over a defined period of time.

ing on services takes place. To achieve this, it is essential that unit cost information, once collected, is used within the planning and decision-making processes within countries. Additionally, because cost information dates rapidly, it is equally important that its collection, management and analysis become part of the normal architecture of sector governance and monitoring.

WASHCost is taking place in four countries: Mozambique, Ghana, Burkina Faso and India (State of Andhra Pradesh). It also has a global component based in The Netherlands. It is a five-year programme that started in early 2008. During its inception period, a number of global and national scoping studies were carried out to examine issues relating to the development of the sector in the four countries, and the use of unit costs within them. These 'rapid assessments' were complemented by global-level studies on the use of unit costs within sector decision making (WASHCost India 2008; WASHCost Burkina Faso 2008; WASHCost Mozambique 2009; WASHCost Ghana 2009). This working paper draws on these studies to help set the background to the WASHCost project; to share a number of key concepts underpinning the approach used in the project; and to place within the public domain the early thinking in the project. The working papers are part of WASHCost's commitment to 'short cycles of dissemination'. Their objective is to put early thinking and results in the public domain for comment, discussion and criticism.

Following this introduction, *Chapter 1*, the paper is divided into four main sections. *Chapter 2* introduces key concepts around lifecycle costs, WASH service delivery, and the theory of change used by WASHCost to anchor and justify the project approach. *Chapter 3* presents the main results from the rapid assessments in the four countries. *Chapter 4* discusses major trends with reference to WASHCost's theory of change. *Chapter 5* summarizes, and poses a number of research questions critical for the next steps in the WASHCost project.

2 Cost information and WASH services

The WASHCost project is, at its heart, about the use of information in decision making in the WASH sector. The focus of WASHCost is on information relating to costs; and its **objective** is to improve the way in which decisions are made about investments in service delivery to rural and small-town water users. The project's main hypothesis is that, by improving the availability and quality of information about what it costs to provide services, the quality and cost-effectiveness of those services can be improved.

Bundled within this hypothesis are a number of important concepts, of which the most important are as follows:

- **Service delivery and service levels:** What is a service, and how can different types of service be described and compared?
- **Service lifecycle:** Services are reliant on physical hardware and management systems. These need to be maintained over, and beyond, the natural design life of the various service components.
- **Disaggregated costs of service delivery:** What are the costs of providing different levels of service over the service lifecycle?
- **Planning and decision making for service delivery:** Within the governance of service delivery, what opportunity is there to use cost information?

This chapter briefly discusses these concepts. Section 2.1 spells out the 'theory of change' at the heart of WASHCost, and the assumptions that underlie the approach adopted by WASHCost on the ways in which access to improved unit-cost information can lead to improved services. Section 2.2 deals with the concept of service delivery in WASH, and the related concept of a service lifecycle. Section 2.3 looks at planning and decision making under decentralisation, and at the use of cost information in sector governance (planning, budgeting and spending). Finally, Section 2.4 briefly summarises the main points presented.

2.1 WASHCost's theory of change: how access to better cost data will lead to improved WASH services

WASHCost is about what it costs to provide sustainable WASH services – but that is not all. It is also about improving the quality and sustainability of services to users *through the use of cost information*. However, to achieve improved service delivery, those involved in delivering and using services must both desire, and be able to use, such cost information. Sector actors using cost information to provide sustainable services are at the heart of what WASHCost defines as its theory of change.

Why a theory of change? Presently, services are in general neither reliable nor sustained, and nor are costs a major factor in decision making around service delivery. To alter this situation, and bring costs into the equation, something has to change: the behaviour of the different sector stakeholders.

Extrapolating this reasoning a little further, it is worth posing a critical question. Why should having access to cost information that relates to different types of service, at different stages of the service delivery cycle, lead to better service? The only answer that supports WASHCost's theory of change is that sector actors involved in service delivery are motivated by the desire to use resources rationally, to provide the best service level possible for a given context and a given user group. Such sector actors represent the prime audience for WASHCost's cost information. That information is a key enabler for informed decision making around appropriate WASH investments, with the ultimate aim of improving the quality of service experienced by service users.

In the complex ecology of interacting and competing actors that characterises WASH service delivery, at least three broad groups of potential users of WASHCost information can be identified. The most obvious are the service users

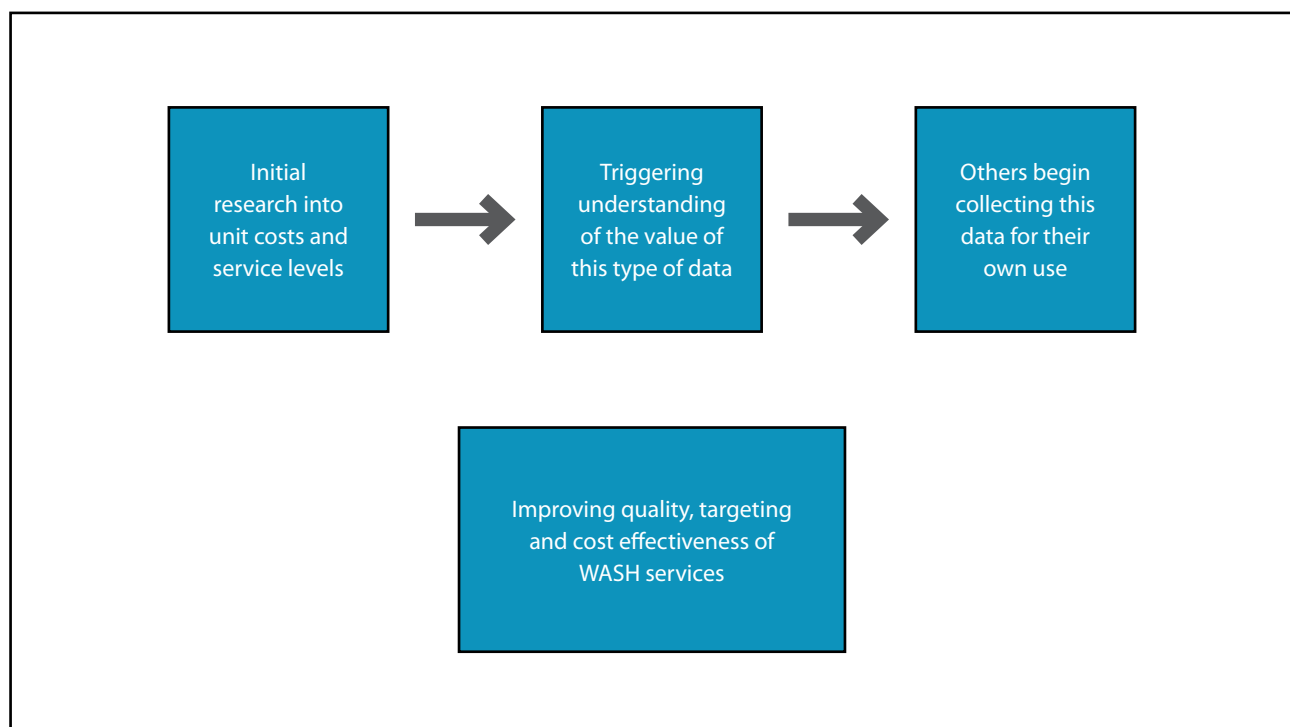
themselves, and the organisations that represent their interests: CBOs, NGOs, politicians and pressure groups, and service authorities or regulators (those who are tasked with ensuring that a service is provided). The second group consists of the service providers – the broad group of people and organisations involved in the day-to-day work of delivering WASH services. The third group is the service financiers – the providers of money to invest in services, either as loans or grants, whose role is particularly important at the initial capital investment stage.

In broad terms, service users and their representatives should be interested in cost information to help choose between different service options, to identify and circumvent any funds diversion, and to ensure that the services being provided are indeed appropriate for both their users' needs and their ability to pay (where relevant). Service providers could use WASHCost information as part of cost management exercises such as benchmarking. Service financiers could similarly use WASHCost data to monitor whether the investments proposed by providers and users are really cost-effective and, in the case of loans, likely to be repaid. None of these groups is homogenous, and all three contain a wide variety of different and sometimes competing actors and interests.

For WASHCost's theory of change to hold true, an arena (or arenas) must exist in which it is possible for information to be used to affect decisions, and these arenas must be accessible to actors from all three groups. If decisions are taken 'behind closed doors', or decision-making processes are non-transparent and open to abuse, the possibility for unit cost information to affect the decisions will, at best, be sharply reduced. If unit cost information is to enable better decision making, some stakeholders in the decision-making process must be willing and able to use the information.

Given that experience (see also Chapter 3) to date suggests that cost data is largely unavailable and hence not widely used (Fonseca & Cardone 2005; Fonseca 2010), a more nuanced version of WASHCost's theory of change is as follows. In the right environment, initial research into unit costs of the project will trigger an understanding of the value of such data by sector actors – initially a sub-group – to the extent that they will start to collect and use unit costs themselves. It is essential to underline that, because of the constantly-changing nature of costs, the actors must start to collect and maintain this data regularly for themselves, or the entire exercise will be unsustainable (Figure 2).

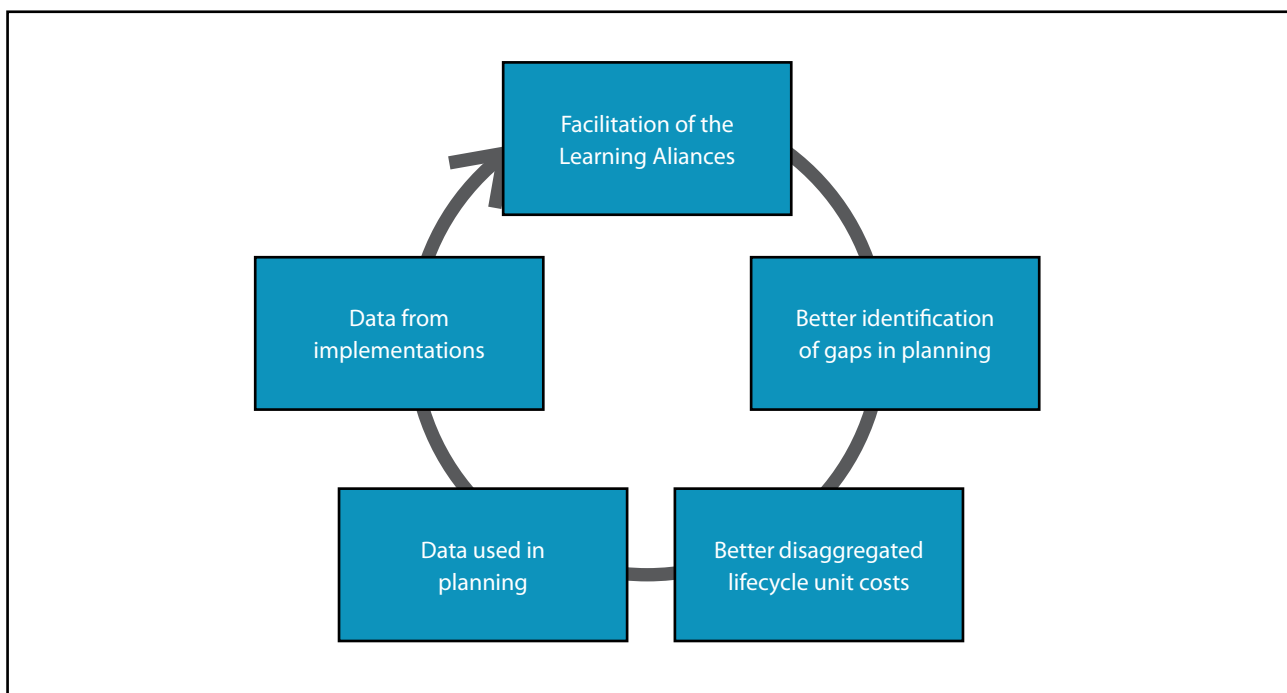
Figure 2: A more nuanced version of the WASHCost theory of change



It is important to realise that the ‘right’ environment is, to a large extent, something that is external to the WASH sector itself. In essence, the ‘right’ environment may be defined as a country that is relatively stable, where institutions function, where professionals make decisions based on the interests of service users, and where the means to collect and use data exist (or will shortly). It is also a country in which civil society is strong and educated enough to understand, and be able to use, information about costs (among other things) in order to challenge decision makers and hold them accountable. This is not to be overly Utopian, but to underline that the systematic use of unit cost (or any other planning) data requires a certain level of public probity, capacity, and ‘good enough governance’ to have the desired impact.

To catalyse the change that is believed to be necessary – to put in motion WASHCost’s theory of change – WASHCost is using an approach in which research into unit costs is carried out by a country team working closely with a “Learning Alliance” made up of key sector actors. By involving those who must change in firstly identifying the cost data, and latterly defining necessary changes to systems and behaviours, the process of change will become self-reinforcing and internally driven. In other words, this modus operandi represents a classic action research model of research-driven change. This model of LA-driven action research is underpinned by an active communication strategy in which short cycles of research and results dissemination seek to identify, and start to change, the behaviours necessary to ensure that unit costs are valued and used (Figure 3).

Figure 3: WASHCost ideal theory of change



2.2 What is a service and what does it cost to provide it?

2.2.1 Service delivery and service level

Central to the thinking behind WASHCost are the related concepts of service delivery and service level. The assumption is that to be able to make meaningful cost-benefit decisions in relation to providing a WASH service, it must be possible to describe that service in sufficient detail to permit meaningful comparisons to be made between different options. This section sets out the key concepts behind a Service Delivery Approach, emphasising the most important element of all: a shift from focusing on the physical hardware of service delivery (the pumps, pipes and latrines), to the service itself, as experienced by its users.

A water service is best understood in terms of a user's ability to reliably access a given quantity of water, of an acceptable quality, at given times and at a given distance from the user's home. Similarly, a sanitation service implies the ability to access safe and convenient excreta disposal. To differentiate between (and identify costs for) different types of service, it is necessary to be able to clearly define different qualities of service in relation to these indicators. In companion documents to this paper, WASHCost sets out a series of proposed 'service delivery ladders' for water (Moriarty et al, 2010) and sanitation (Potter, Klutse et al, 2010) in which, for each type of service, a set of qualitatively-and quantitatively-different service levels are defined. For both water and sanitation, the ladders consist of five distinct levels ranging from 'no service' at the bottom to 'high service' at the top (see Figures 4 and 5). WASHCost feel that it is axiomatic that a meaningful discussion of cost can only take place within the context of a clear, shared understanding of the different levels of service for which payment is being made.

Delivering services implies getting a sometimes dauntingly wide set of criteria 'right': the enabling and regulatory environment of policy, institutional arrangements, planning, regulation, monitoring, etc; and, the different components of provision, such as physical infrastructure construction, tariffs and financial management systems, O&M, business planning, communication and customer relations, and reporting systems. The concept of a Service Delivery Model (SDM) brings together in one proposition the different elements needed to enable a service with the type and level of service to be provided. An SDM is therefore a holistic description of all the elements required to provide a service of a given level.

Figure 4: WASHCost water service ladder (Moriarty et al, 2010)

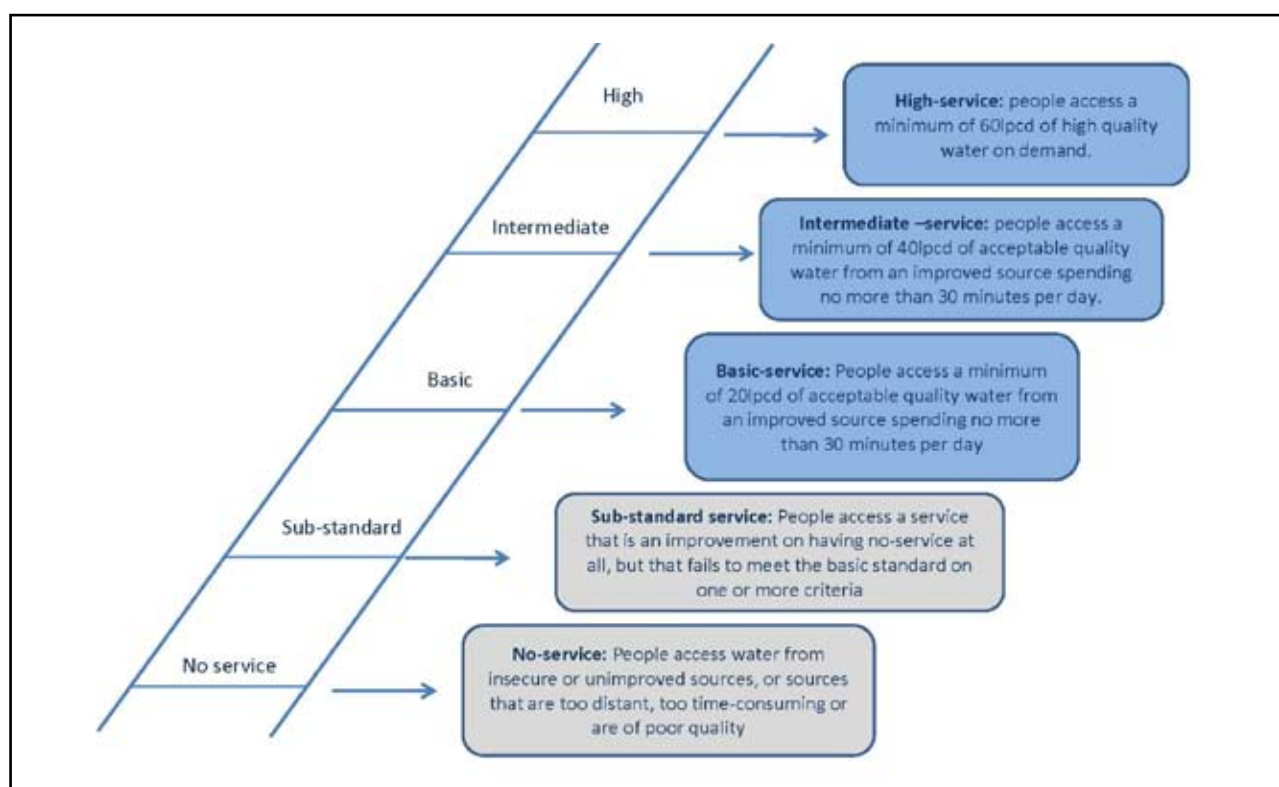
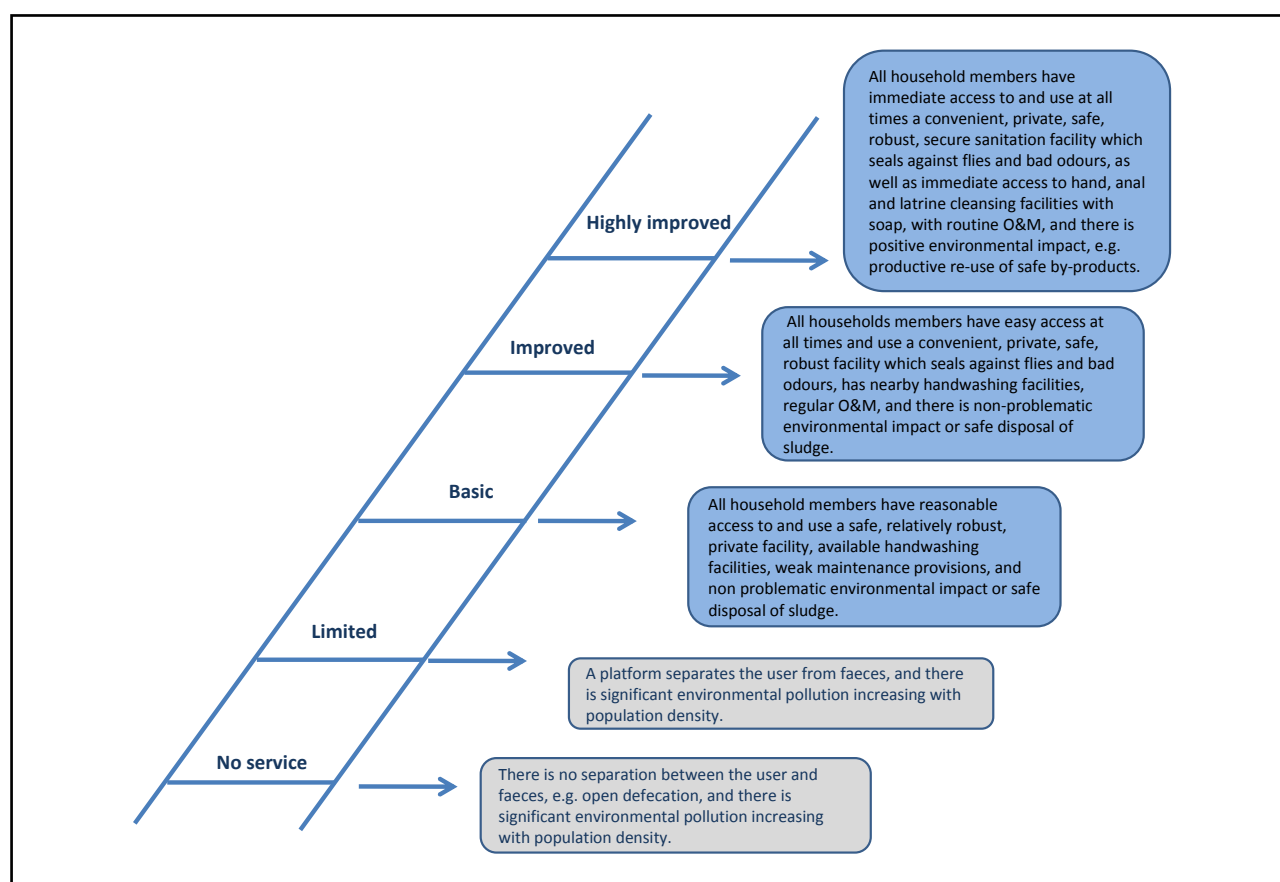


Figure 5: WASHCost sanitation service ladder (Potter, Klutse et al, 2010)



2.2.2 Service delivery roles and functions

Intrinsic to the concept of a Service Delivery Model, as defined by WASHCost, is that different functions of service provision are (or should be) carried out by different actors at different levels. Three of these are most important for service delivery (Triple S, 2009):

- **The national level:** for policy formulation, some aspects of finance and regulation
- **The intermediate level(s):** for the service authority functions of planning, monitoring, technical support, and some financing
- **The service provider level:** for day-to-day management of the service

One of the great challenges in the WASH sector is that the overall service will tend to be only as good as the weakest link in the service delivery chain, which stretches from the national level down to the user. The provision of a state-of-the-art physical infrastructure will do nothing if the skills to manage and maintain it are lacking, or if it is not clear who is the legal owner with end responsibility for its management. Even if the challenges of properly constructing new infrastructure are met, this problem is most often evidenced by the high rates of service failure experienced through poor operation and maintenance, which lead to premature failure of systems and deteriorating service quality from the users' point of view.

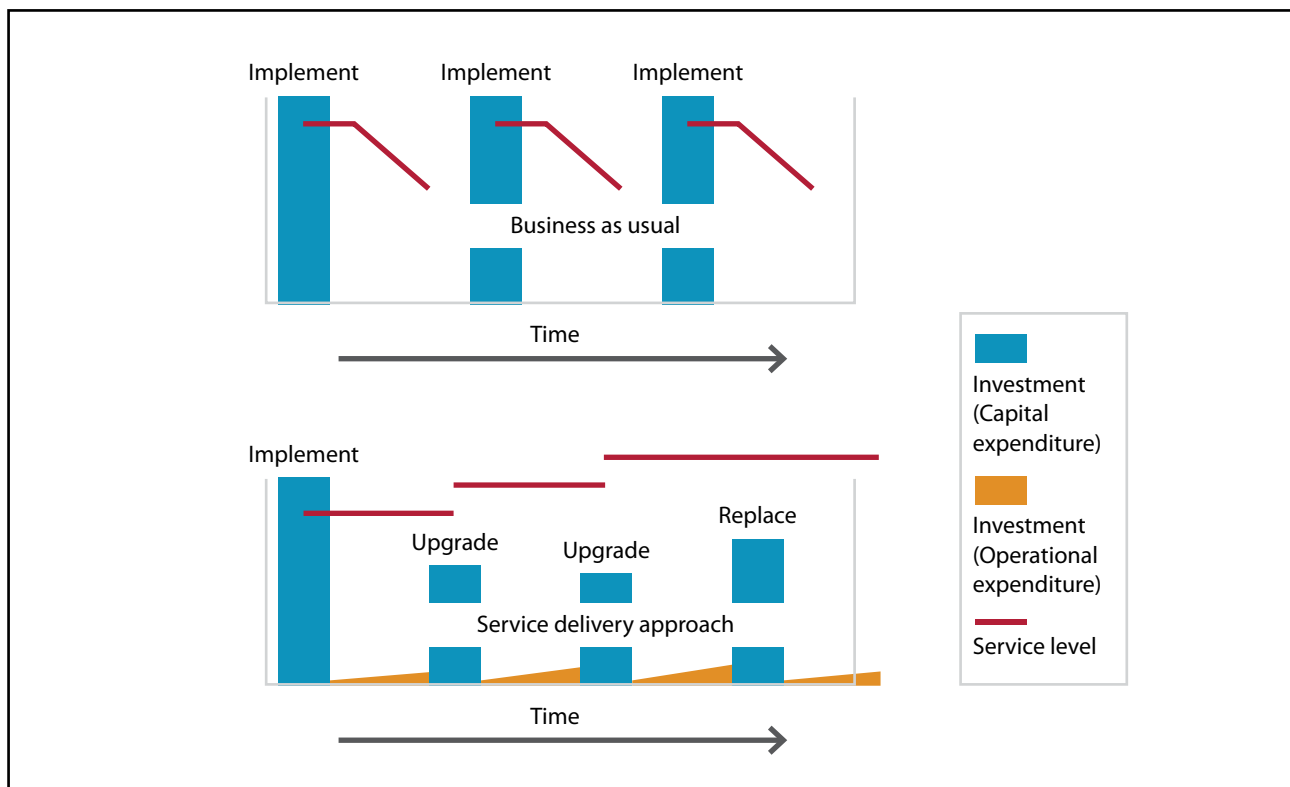
Separating the roles and functions of service provider from service authority (or regulator) is increasingly seen as good practice, allowing in particular for better enforcement of accountability. It was, for example, at the heart of South Africa's sector reforms in the late 1990s (DWAF, 1997). The concept of service authority provides an important link with decentralisation, as this is classically a role for local government. Its implication is that, often, the basic unit of local government (district, municipality, commune etc.) becomes additionally the basic unit for planning and deci-

sion making concerning service provision. Decentralised and de-concentrated levels of government are also critical for providing post-construction support for services (see next section). If a larger unit of service provision than that of an individual water supply system or village is considered, it becomes (at least in theory) possible to achieve the synergies and cost-effectiveness inherent in providing support services to a larger platform of systems. Separating and specifying roles and functions for service delivery between different administrative levels, and ensuring that provision of these functions is costed and budgeted, is one of two critical aspects of delivering sustainable rural water services. The other is ensuring that this takes place over the entire **service lifecycle**.

2.2.3 Lifecycle costs

The concept of service lifecycle is built around the understanding that services are reliant on hardware and software systems that must be created, periodically maintained, and eventually replaced. The diagram below shows the difference between 'business as usual' (above) and 'sustainable service delivery' (below). In the case of 'business as usual' operations, periodic injections of capital lead to a temporary improvement in service level. However, this is not maintained and, over time, the service deteriorates and eventually fails. Under the 'sustainable service delivery' approach, initial capital investment is followed by periods of ongoing investment in operation and maintenance, interspersed with occasional new investment for major replacement, rehabilitation or upgrading. The result is a sustained (or even improving) level of service.

Figure 6: The Service Delivery Approach



WASHCost looks at the different cost elements in sustaining a given service level using the framework below, which takes account of both the different levels and functions involved in service delivery (and the need to finance them) and the different phases of the service lifecycle (Fonseca, 2010).

Illustration 1: Life Cycle Cost Components

Terminology	Definition
Capital expenditure – hardware and software (CapEx)	The capital invested in constructing fixed assets such as concrete structures, pumps and pipes. Investments in fixed assets are occasional and ‘lumpy’. They include the initial construction of the system, extension of the system, enhancement and augmentation. CapEx software includes one-off work with stakeholders prior to construction or implementation, extension, enhancement and augmentation
Cost of capital (CoC)	Expenditure on the weighted average cost of capital, representing interest payments on debt and dividend payments to the equity providers.
Operating and minor maintenance expenditure (OpEx)	Expenditure on labour, fuel, chemicals, materials, regular purchases of any bulk water. Minor maintenance is routine maintenance needed to keep systems running at peak performance, but does not include major repairs.
Capital maintenance expenditure (CapManEx)	Expenditure on asset renewal, replacement and rehabilitation costs, based upon serviceability and risk criteria. Capital maintenance expenditures and potential revenue streams to pay those costs are critical to avoid the failures represented by haphazard system rehabilitation.
Expenditure on direct support (ExpDS)	Includes expenditure on post-construction support activities for local-level stakeholders, users or user groups. In utility management, expenditures on direct support such as overheads are usually included in OpEx. However, they are rarely included in rural water and sanitation cost estimates. The costs of ensuring that the local government staff has the capacity and resources to help the communities when systems break down, or to monitor private sector performance, are usually overlooked.
Expenditure on indirect support (ExpIDS)	This cost component includes macro-level government planning and policy-making; developing and maintaining frameworks and institutional arrangements; and capacity-building for professionals and technicians.

Because providing both water and sanitation services have implications for water resources that themselves entail costs; and because, for many households, the service provided is augmented by investment at the household level (for example in storage or treatment), WASHCost uses a matrix to further disaggregate the costs of providing water services across these different elements. Examples of matrices for water and sanitation are included in annexe 1, together with examples of the kind of data that needs to be collected.

As with most truly difficult problems, the failure to deliver sustainable WASH services has many and complex roots. That is because providing a service relies on many different factors being in place and working together: soft factors such as skills, behaviours, norms and practices; hard factors such as human resources and suitable technologies; financial factors such as the availability of finance for capital expenditure and the ability of users to pay for services. For a service to work, all these factors must be in place to at least a minimally-effective level. Where one or more are missing, the service is impaired or fails completely.

Each different type of service – from those provided by point water sources to those provided by household tap, or from pit latrines to WCs with or without sewer connections – contains within it a host of implicit and often unaddressed assumptions about support services, financial requirements, ability and willingness to pay, technical capacity, spare parts availability and so on. The essence of the service delivery approach, and its importance for WASHCost, has its centre in making these implicit assumptions explicit. To be precise, it means being able to say: ‘If we opt for a water supply of 20l/p/d, delivered within 500m of the household and available 10 hours a day for at least 20 days per month, then these are the possible service delivery models... These are the implications for capacity building, for management, for investment cost, and for operation and maintenance. This is what it will cost to implement; to maintain; to support’. Failure to deal explicitly with implicit assumptions is what lies behind much of the current failure in the sector.

2.3 Sector governance and decision making, and the use of cost data

Decision making in WASH occurs at multiple levels, from the international down to the local. At each level, cost data can be of potential use. However, because the types of decision taken at each level are rather different, the type of information that may be useful is also different. Building on the previous discussion of services, and service levels, two sets of decisions seem to be important. The first of these are the decisions taken at a national level regarding the different SDMs that are acceptable within a country, and the financing arrangements required to implement them. The second are the operational-level decisions taken within a service area concerning the mix of different models (or different service levels) to be provided to users, and how their sustainable delivery will be financed.

Both sets of decisions are complex and often contested. Neither is typically driven, primarily, by cost-based considerations. Indeed, in many aid-dependent countries, neither decision is controlled by national actors, but made in a largely ad hoc process of negotiation around individual projects and programmes.

2.3.1 Use of cost information in national policy formulation and budgeting

The national level, even under decentralisation (see next section) is the level at which overall sector policy is, or should be, set. This is important to WASHCost, because it is at the national level that the limits are set for local decision making and action across the service delivery lifecycle. It is at national level that norms for different levels of service are set, and that the legal frameworks for investment and cost recovery are developed. It is probably at this level that clearly-presented advocacy material, backed by solid research, is most likely to achieve impact on large-scale investment decisions.

Because of the importance of the national level in establishing the framework of national SDMs and, typically, also in financing – at least at the ‘implementation’ stage – this is a key level for policy- focused communication of project outputs. WASHCost therefore actively supports Learning Alliances at national level to bring together key sector actors.

In aid-dependent countries, aid harmonisation is a critical driver for sector governance. It is the difference between a mosaic of ad hoc project implementation and broad, integrated, sector-wide programming. In such countries, the rural WASH sector is often ‘a donor sector’, where it is not at all uncommon for 90% or more of capital investment to come from development partners.

In this context, the move towards greater harmonisation and eventually either Sector Wide Approaches (SWAPs) and/or direct budget support is hugely important to WASHCost, as it encourages the creation of unified national platforms and sector-wide programming frameworks into which WASHCost information can be fed. Conversely, fragmented aid flows and project-based aid provide a much more difficult environment for WASHCost information, as donors often have radically-different accounting methods, may be reticent about sharing cost information, and often have parallel agendas (for example tied aid) that mean cost considerations may not be a primary driver in decision making.

Policy makers’ interest in WASHCost information is likely to be most focused on cost information that supports decisions related to overall service levels and the types of services to be offered, as well as on the costs of providing support services. The use of WASHCost information on behalf of service users at the national level will typically be restricted to advocacy efforts on behalf of users by organisations such as NGOs. Here, the information that is likely to be of use is the provision of broad-brush comparisons of costs to users for different levels of service and different service delivery models. Armed with this kind of information, NGOs and lobby groups should be able to challenge governments more effectively to explain the assumptions behind decisions to adopt specific levels and types of services.

2.3.2 Use of WASHCost information in operational decision making

The second arena in which WASHCost information can be used is at the level of the decentralised service authority and service delivery. Decentralisation is the dominant paradigm for rural and small-town service delivery in most of the developed and developing world.

Decentralisation processes in much of the developed world can be characterised in general as ongoing, contested, underfunded, and often unrealistic. There is no proof that decentralisation leads to 'improved service'. That said, there is also no proof that it leads to 'worse' service provision. Proof of any kind is notably absent from most discussions of service delivery in developing countries.

Therefore, given that decentralisation is a political process that is much wider than the WASH sector, and that it is unlikely to go away, the challenge is not to resist it or seek alternatives, but to make it work for rural service users. To do so, a number of challenges must be addressed. These include:

- Creation of a legally-defined arena and associated mechanisms in which citizens (including CSOs) and local government can interact in governance and planning.
- Creation of adequate capacity (financial, human, physical) within local government, and with other intermediate level actors.
- Identification or creation of incentives and sanctions for service providers, to improve performance and accountability.
- The need to address tensions between integrated and sectoral planning at the decentralised level.

Most important from the perspective of WASHCost is to instigate genuinely bottom-up planning and decision making. If there no decisions are being taken at decentralised levels, there is no arena for using cost information. While an increasing number of countries have adopted 'bottom-up' planning processes, often based around the development of local sectoral or integrated development plans, the extent to which these will engender a demand for cost data is directly related to the relationships between plans and financial flows. In many countries, local development planning continues to be largely a paper exercise, in which plans are created but project implementation continues to be top-down and ad hoc, driven by donor or central government whim.

This is not to say that in a decentralised decision-making process cost information will not be of use. However, for the assumptions upon which much decentralisation is based to hold true – that people are closer to their representatives and service providers – it is essential that there should be a means for their expression of preferences to be taken into account in making decisions, as well as a meaningful choice.

"The failure to link policy, planning and budgeting is the single most important cause of poor budgeting outcomes in developing countries." (OPM, 2000).

At the level of operational decision making, the role of users is clearer, and potentially the role of unit cost information more important. This is particularly so where more than one level or type of service is possible, and where users are expected to have a say in making the choice. In this setting, user access to readily-understandable information on total lifecycle costs related to different types of service, and especially to the likely expenditure required, will be essential.

At the same time, cost data is not enough to ensure either good decision making or accountability. For non-specialists, procurement processes are frequently complex and difficult to understand. A possible tool for making cost information more accessible to service users is input tracking. Rather than focusing on raw costs, input tracking takes them to a more tangible level. It expresses them in terms of expected inputs in service delivery, such as the number of pump repair technicians available, the number of functioning boreholes in a village, etc. Instead of focusing on the costs of the service, users can thus focus on the visible inputs required for the service to work.

2.4 Summing up

In this chapter, the key objectives and theory of change of the WASHCost project have been presented, together with some of the more important and relevant trends in the sector. A number of critical assumptions have been introduced, which underpin the success of WASHCost's strategy of improving the quality of services to users by making unit cost information more generally available. Key points include:

- Different users may be able to use unit costs at different institutional levels in different country contexts.
- Three main potential user groups for WASHCost information can be identified:
 - WASH service providers
 - WASH service financiers
 - WASH service users
- Sustainable WASH services are best understood in terms of service levels and service delivery models, each of which has its own service lifecycle. Different service models provide different levels of service and incur different costs for each stage of their lifecycle.
- To understand the full costs of service provision, it is important not only to look at costs related to the service itself (infrastructure-related costs), but also at costs incurred by users in accessing the services (demand- and access-related costs) and in costs relating to the management of water resources (resource-related costs).

3 Rapid assessment of sector structure and unit cost use in WASHCost countries

In this Chapter the findings of four Rapid Assessment (RA) studies carried out in the WASHCost pilot countries are presented: Burkina Faso, Ghana, India (Andhra Pradesh) and Mozambique (WASHCost India 2008; WASHCost Burkina Faso 2008; WASHCost Mozambique 2009; WASHCost Ghana 2009).

The Chapter is divided into two sections: a short introduction to the RAs, followed by four country 'sector sketches' based on the outcomes of the RAs.

3.1 Introduction to the country case studies

In 2008, as part of WASHCost's inception phase, each country carried out a 'rapid assessment' of the sector, focusing on the different areas of interest to WASHCost. In broad terms, each study included:

- An institutional mapping exercise to describe the sector, its main stakeholders and the major trends in sector governance. As part of this study, the main planning frameworks used in the WASH sector were identified.
- A unit cost scan to identify the availability of unit cost data, and the extent to which unit costs are, or are not, already used.
- A sector capacity and ICT use scan – both focusing on the ability to use unit cost information in planning.

The table below shows some key development, water and WASH-service indicators for the four WASHCost countries. From this it can be seen that India is considerably wealthier than any of the African countries (although budget spending per capita is less than that of Ghana). India also has the highest coverage figures for both water and sanitation. Of importance from the point of view of providing WASH services are India's far greater population density, as well as Mozambique's large size, low population density and abundant water resources. All the African countries are relatively donor-dependent, with aid making up almost 50% of both Mozambique's and Burkina Faso's annual budget. In Ghana the proportion is less, in the region of 20%. Although India received some 1.6 billion US\$ of development assistance in 2006, making it the largest absolute recipient of aid among the four countries, this represented an insignificant share of total budget spending – or, indeed, in per capita terms.

Table 1: Development Indicators

	CIA							WB	Aquastat (2007)	JMP (2008)	
	Area	Population	Density	GDP US\$ (PPP)		Budget US\$		Aid US\$	RFRW	Rural	
				total (bn)	/cap	total (bn)	/cap			San%	Wat%
Burkina Faso	274.200	15.264.735	56	19	1.267	2,3	153	0,9	871	6	72
Ghana	239.460	23.382.848	98	35	1.476	5,5	236	1,2	2.312	7	74
India	3.287.590	1.147.995.904	349	3.319	2.891	205,3	179	1,6	1.647	21	84
Mozambique	801.590	21.284.700	27	19,68	925	3,1	146	1,4	10.353	4	29

Sources: CIA 2010, World Bank IDA 2010, Aquastat 2010, WHO/UNICEF JMP 2010

3.2 Country sector sketches

This section presents four brief sketches of the WASH sector in each of WASHCost countries. The sector sketches set out, in outline form: the administrative framework; developments in the WASH sector; planning and budgeting processes; and current and potential use of cost information in the sectors.

3.2.1 Ghana, sector sketch



Ghana, since the re-imposition of civilian rule in 1992, has become something of a model state in West Africa, blessed by relative political stability and steady economic growth. Its democracy is one of the most stable on the continent. Although it is already among the richest and least donor-dependent countries in West Africa, recent oil finds are likely to boost its GDP significantly.

Depending on the source of data, Ghana is either well on-track to meet the MDGs for water, or has already met them. Sanitation, however, lags behind. Ghana's rural WASH sector is well developed, particularly for water, and the parastatal Community Water and Sanitation Agency (CWSA) is a strong and well-developed sector agency. Indeed, it is seen as one of the best functioning agencies in the country.

Administratively Ghana is divided into ten regions, subdivided into 170 districts. Rural districts typically have populations of the order of 100,000-200,000. They are served by a district capital – typically a small town of a few thousand people. They may, in addition, contain a number of additional small towns, with the remaining population living in scattered villages.

Formally, under the decentralised system now in operation, the districts are the main unit for planning and delivery of a range of services (including water and sanitation), and are the seat of elected district assemblies, as well as of technical and administrative staff. These staff currently fall under the various central-line ministries, but are intended to be re-allocated to local government in the near future. In the WASH sector, the technical and administrative backstop is provided from the regional level, which also houses regional co-ordinating councils with the remit to maintain an overview and co-ordination role for all district-level planning and budgeting. There is a renewed drive (under a new government in office since January 2009) to decentralisation. As part of the decentralisation process, district works departments (DWDs) are being created to take responsibility for a range of infrastructure-related sectors, including water.

The WASH sector in Ghana sees technical responsibility for WASH split over two principal ministries, with some input from various additional ministries. The main responsibility for policy development lies with the Water Directorate (housed in the Ministry of Water Resources, Works and Housing) and the Sanitation Directorate (housed since 2009 in the Ministry of Local Government and Rural Development). As part of the renewed commitment to decentralisation, the Ministry of Local Government has established a local government services secretariat to support districts in their functions, including those related to WASH. For specific areas relating to hygiene and schools, the Ministries of Health and Education are also involved.

The dominant actor in the rural sector is the Community Water and Sanitation Agency (CWSA). The CWSA mandate is to facilitate the provision of rural water services to rural communities and some small towns. The CWSA has a national and regional structure, and is nominally supposed to provide support to districts. In practice, CWSA functions as an implementation agency, rolling out donor-funded capital investment projects with considerable success. It is the strongest actor in the sector by far, with a network of well-resourced and staffed regional offices.

The sector is highly donor-dependent, with at least 95% of capital investments coming from development partners

(although much of this is in the form of loans). Despite recent shifts, the sector remains primarily project-driven, with donors rolling out large, regionally-based projects. In the poorer northern regions, NGOs are also important actors. Some funds (for the most deprived districts) are also made available by the Ministry of Finance from a Multi-donor Budget Support (MDBS) common fund. Coverage in rural water (but not sanitation) services is one of the triggers for MDBS disbursements.

At the national level, Ghana is moving slowly towards a more strategic and harmonised approach to rural water services. A water policy was launched in 2008, and a new rural Sector Investment Plan has been approved. There is a functioning sector group that brings together government and DPs and, while a SWAP is not yet in place, there is firm commitment to develop one. There is movement, too, in the form of a project implementation manual (PIM) and a number of service delivery manuals, towards harmonisation of an agreed set of different types and levels of service, particularly for water.

Responsibility for the delivery of sanitation services rests with the district, as does formal (including financial) responsibility for the ownership and major maintenance of water services. Districts are also supposed to oversee the implementation of major capital projects, although they are not expected to source the finances for this activity. In practice there are large variations in the capacity and effectiveness of the districts, and much WASH (particularly water) infrastructure is de facto implemented at the regional level by the CWSA. An important trend is the transfer of staff from line ministries to districts, with the development of District Works Departments which will be responsible for infrastructure development, including water. An implication of this trend towards decentralisation and the empowerment of local government is that quasi-official structures created under the existing institutional order may be called into question. This includes CBOs at village (WATSANS) and small town (Water Board) level, as well as at existing district-level WASH teams (the District Water and Sanitation Teams – DWST). Currently, these institutions currently operate in a legal grey area.

A huge challenge to the decentralisation process – and to the sector as a whole – is for sanitation (which has been, and remains, the sole responsibility of the districts) to be taken more seriously and receive more funding.

Planning and budgeting With the ongoing decentralisation reforms, planning and budgeting follow a hybrid model, in which top-down national plans are supposed to be informed and guided by bottom-up district plans. At the national level, the sector is guided overall by a medium-term investment plan (MTIP) for the years 2009-2013. In theory, this should inform the large number of large donor projects and programmes, each of which has its own planning and budgeting cycles. Districts are awarded budgets on an annual basis by the Ministry of Finance and Economic Planning (MoFEP) through a mechanism called the District Common Fund. While this Fund is supposed to provide the district with resources to implement its Medium Term Development Plan (MTDP), the allocation is both small and often heavily-earmarked. In practice, there is little money for basic support services and none at all for capital investment – unless special funding is made available through the Multi-donor Budget Support investment instrument, which is targeted to the poorest and most deprived districts.

At the national level, responsibility for planning and budgeting lies with the National Development Planning Commission (NDPC) and MoFEP. NDPC is responsible for the development of overarching planning frameworks, including the National Medium Term Expenditure Framework. The NDPC has developed formats for the preparation of sector plans, including WASH services.

At the district level, each district has a planning officer mandated to develop the MTDP. Typically this is a multi-sector plan, but recently – and under donor encouragement – some districts have also developed Water and Sanitation Development Plans (WSDP). However, there is little evidence that these are really linked to the MTDP. The preparation and monitoring of the MTDPs is overseen from the regional level by a Regional Co-ordinating Council (RCC) and its planning and co-ordination unit (RPCU). District MTDPs are aggregated at regional level by the RCC and then for-

warded to the national level. In theory, the same process should happen with the WSDPs, which should be collected and aggregated by the Regional Water and Sanitation Team (RWST). However, there is little evidence that this is happening in practice.

In short, a hybrid model of financing and budgeting exists within the WASH sector, consisting of two main lines. One is made up of disbursements from the national to the district levels via the District Common Fund. In practice, these provide very limited funds for minimal support services – including the salaries of District Water and Sanitation Teams (DWSTs). The second is a flow of earmarked project funds that are used, primarily, to construct new infrastructure (and to a limited extent to rehabilitate existing systems). These funds typically flow through CWSA.

Services in rural areas and small towns are supplied primarily through manually-operated point sources in villages and small piped networks with stand-posts and house connections in small towns. After a decade of focusing mainly on rural point-source schemes, the CWSA has in the last five years shifted its attention to the construction of small-town pipe networks. This has led to increased coverage and service levels in small towns, but it has, at the same time, been described by a previous CEO of CWSA as a ‘time bomb’. It features the rapid construction of relatively-expensive new systems, about which very little is known of the longer-term operating costs. The shift towards the construction of more pipe networks in small towns has seen the first examples of multi-village schemes to be developed in Ghana. These pose a special challenge to current models for decentralised decision making. They typically span several districts, and hence there is no formal arena in which their costs and benefits can be discussed by those nominally responsible for service delivery. Their construction to date has been possible due to the role of CWSA and its ability to function at the regional level.

Costs in Ghana are monitored by CWSA, which maintains a national unit cost database. However, the focus of this is almost exclusively on highly-aggregated records of capital investment in new systems. The figures from the national database have reportedly been used in the preparation of the national Rural Sector Investment Plan.

In practice, cost data is currently hardly used at levels below the national level. Because the focus is on the construction of new systems, and because the type of system and level of service are typically both constrained (only a small number of options are available) and made by regional CWSA engineers on grounds of technical expediency, there is little demand for unit cost information to be used in district-level planning. Under the national procurement act, all construction is in any case awarded on tenders, and there is no use of unit costs in the evaluation of tenders.

Focus for WASHCost intervention

From the point of view of WASHCost and its theory of change, the most useful type of information at the national level will probably be research-backed advocacy and awareness-raising material to underline the magnitude and crucial importance of costs other than capital (CapEx) across the different major service delivery models. There is an awareness that the rapid build-up of a substantial water supply infrastructure, while a positive development, also carries with it huge unknowns in terms of future expenditure on rehabilitation and replacement; and there is openness to receiving and using this type of cost information. There is also considerable potential to inform, and raise awareness of, attendant support costs, particularly around the relatively new (and technically- and managerially-complex) small town and multi-village schemes.

At the district level, there is also potential for use of unit cost information as the current focus on the construction of new schemes moves towards managing and maintaining constructed capacity. Districts and users will require a means of knowing whether they are getting value for money, and will also need information to help them understand the long-term implications of decisions on technology types and service levels. Currently there is little or no ability to weigh up objectively the costs and benefits of different options – and this is most often done, in practice, as part of design consultancy activities. Indeed, consultants play an important role in the sector, and should probably be a target for later awareness-raising and capacity-building efforts.

Empowering districts with a better understanding of (in particular) the post-construction implications of different technological and service level-related decisions could help to improve the sustainability of existing systems. The formation of district works departments, ongoing efforts to create district level capacity and the change process currently ongoing in CWSA all provide entry points for well-developed and targeted support and training material.

Finally, civil society is largely ignorant of cost-related issues, despite sometimes campaigning forcefully on niche issues. At the same time, a number of NGOs are actively supporting the creation of greater accountability in the sector. Broadly-based awareness-raising materials that can be used by advocates and representatives to question, and hold to account, service providers – including districts – will be important.

3.2.2 Burkina Faso sector sketch

Burkina Faso, Ghana's northern landlocked neighbour, is typical of much of the Sahelian region in that it is a dry and sparsely populated country, with little in the way of natural resources – including water. Politically stable, it remains nonetheless one of the poorest countries in the world, highly donor -dependent and water-scarce.



Administratively Burkina is divided into 13 regions subdivided into 351 communes, of which 302 are rural. Populations are very variable, from a few thousand to hundreds of thousands of people. Burkina also has a number of provinces, which, while they are not formal administrative units, are still important, as they are the lowest point at which technical ministries function.

Decentralisation (devolution) in Burkina is both very recent and far from finalised. The commune is, since the decentralisation law (2004), the primary unit for bottom-up planning and delivery of services, supported by technical backstopping from the state at the provincial level. A big step towards concretisation of the new structure was taken in 2006 by the election of municipal councils headed by mayors in all communes. Nonetheless, in rural communes, most day-to-day decision making and activities related to services continue to be taken by the staff of technical ministries, NGOs or donor projects. The country is in a period of transition in which the new and old structures co-exist.

The WASH sector in Burkina Faso is led at the national level by the Ministry of Agriculture, Water and Fishery Resources (MAHRH in its French acronym). A national 'framework for co-operation' brings together different donors. In a 2007 'memorandum of understanding between the state and partners', the MAHRH and its departments for water and sanitation were tasked to lead the sector in terms of co-ordination, guided by a national plan for water sanitation (PN-AEPA, 2006).

Two institutions within the directorate are principally involved: the water resource directorate (DGRE) and the recently-formed (2009) sanitation and drainage directorate (DGAEUE). In urban areas, the national utility – National Office for Water and Sanitation (ONEA) – deals with both water and sanitation services. De-concentrated services of the ministry also exist at regional (DRAHRH) and provincial (DPAHRH) levels, although the latter are chronically understaffed and resourced. Two other ministries are involved in specific activities: the ministry of basic education and literacy (MEBA) and the ministry of health (MS).

The sector is in the process of undergoing a major and vigorously-implemented reform process, guided by the PN-AEPA. The PN-AEPA brings together all ongoing and planned activities in the sector, rural and urban, within one programme approach, agreed by the government as part of its strategy to attain the MDGs. As such it serves as the national sector development programme until the year 2015.

At the decentralised level, responsibility for WASH lies with the communes, who are expected to manage (eventually) all aspects of the regulation of service provision (albeit within a VLOM model where communities are expected to carry out minor O&M), including regulation, planning, construction of new works, and management. However, given that the decentralisation process is in its infancy, the PN-AEPA makes clear that this responsibility is expected to be taken up gradually in parallel with the development of the necessary capacity at the level of the commune. Currently, activities continue to be carried out by DGRE in rural settings and ONEA in urban settings. In the case of NGO or donor-implemented projects, there is considerable latitude for the instigators to regulate their own activities, not necessarily conforming to commune plans.

Planning and budgeting

The PN-AEPA provides the national framework until 2015. As part of the PN-AEPA, each commune is expected to develop a 'communal water and sanitation development plan' (PCD-AEPA). Such plans are currently being developed, primarily by consultants, but some also by NGOs and other development partners. The majority of rural communes are in no way capable of carrying out the planning required, and neither are the province-level offices of the ministry really equipped to help them.

Co-ordination of commune PCD-AEPA takes place at the regional level, based on a national monitoring and evaluation manual developed as part of the PN-AEPA. Government financing is on the basis of three-year programmes, in turn based on the consolidated plans. Planning takes place in a top-to-bottom-to-top process, in which PCD-AEPAs are guided by the national PN-AEPA, and are then consolidated at the regional and national level to develop the three-year programmes.

It is emphasised that, as for the process of decentralisation itself, so too is the national planning process at a development stage and, essentially, testing at scale. The extent to which communes are capable of developing (let alone following or implementing) their plans has yet to be tested. The same applies to the ability of government and donors to follow the national programme, and to channel funds effectively to the communes. In practice, most new infrastructure continues to be provided by means of donor and NGO projects, which are essentially planned at national level.

Services are defined by a set of norms for rural and urban delivery within the PN-AEPA. Based on this, different types of service are supposed to be provided according to the type of settlement. The table below shows the main types of settlement and norms for water supply.

Table 2: Burkina Faso water supply service norms

Parameters	Norms		
	Village	Rural commune centre or village of more than 3,500 inhabitants	Centres of urban communes
Quality	WHO standards	WHO standards	WHO standards
Quantity	20 l/c/d	20 l/c/d	Stand-pipe 20 l/c/d Household connection 40 to 60 l/c/d
Distance	'Modern' water point within 1km	Stand-pipe within 500 m	Stand-pipe within 500m
Accessibility	1 modern water point per 300 people (or per village if < 300 people)	1 stand-pipe 500 habitants 1 Point de Distribution Collectif /100 habitants 1 BP/ 10 habitants	1 stand-pipe per 1000 habitants 1 collective distribution point per 100 habitants 1 BP/ 10 habitants

Source : Normes, critères et indicateurs d'accès à l'Eau Potable et à l'Assainissement au Burkina Faso. MAHRH, juillet 2006

These different sets of parameters have been put together in the form of a service ladder, below, which puts together a level of service with the zone of application and typical infrastructure types.

Table 3: Critères d'équipement en infrastructures d'eau potable/Recommended infrastructure for different rural settings

Service level	Zone of application	Infrastructure type
Service level 1	Villages of less than 3500 inhabitants	Modern water points
Service level 2	Rural commune centres and larger villages 3500	Simplified pipe networks
Service level 3	Centres of urban communes	BP + BF ²

Source : Normes, critères et indicateurs d'accès à l'Eau Potable et à l'Assainissement au Burkina Faso. MAHRH, juillet 2006

Costs

Unit costs are little used in the sector in Burkina. As in other countries, what cost information exists tends to be used at the national level, in a highly-aggregated form, and exclusively for capital works. Existing cost information is largely based on the collection of actual market costs, or costs of project implementation, from which average figures are generated. There is not, as is the case in India, something like a standard schedule of rates, although there is agreement that such a document (referred to in French as a *mercurial*) would be useful. Because of this, it is generally accepted that the quality of cost estimates in national programmes like the PN-AEPA is low.

Focus for WASHCost intervention

In terms of WASHCost, as with other countries, the current stage of decentralisation offers two clear targets for using unit costs – either to change behaviour, or to support ongoing change processes. At the national level, there is little awareness or information about the costs of operation and maintenance of rural services, or of the costs of providing support services. This latter is an area where data and models from WASHCost could be particularly useful, as it is widely acknowledged that the currently ongoing decentralisation process is undermined by the lack of capacity at de-concentrated and decentralised levels. However, there is little clear agreement on the capacity required or the cost to set it in place.

At the decentralised levels and as part of the decentralisation process – particularly for the development of communal and regional WASH plans – there is a clear need for support in terms of accessible cost information for decision-making and planning purposes.

3.2.3 Mozambique sector sketch



Since the end of its civil war in the early 1990s, Mozambique has experienced steady economic growth and political stability. Nonetheless it remains one of the poorest and most donor-dependent countries in the world. A vast and sparsely-populated country rich in resources, including water, it has very low levels of rural WASH services, and its large size and low population density provide special challenges to extending services to the un-served. It is the only country in WASH-Cost where the majority of rural citizens are not already (at least nominally) covered by water services.

Administratively, Mozambique is divided into ten provinces (*provincias*). These are subdivided into 128 Districts (*distritos*), each with a typical population of around 150,000. The Districts are further divided into 405 Administrative Posts (*postos administrativos*) and then into Localities (*Localidades*).

² Cette cage a été complétée par la mission. Dans le document cité, il n'a pas été précisé de type d'infrastructure pour le niveau de service 3 dont la zone d'application est constituée par les chefs lieux de communes urbaines

In the late 1990s, a series of reform measures were designed and put in place. They included democratic decentralisation (devolution) through the establishment of municipalities; de-concentration to provincial level of much service provision; public sector reform through the establishment of a new system of careers and remuneration; and reform of the budget planning and programming system through restructuring. While it was considered, democratic decentralisation to the level of rural districts was ruled out.

Provincial government is run by the Governor, who is nominated by the President. The Governor in turn nominates Provincial Directors, with a technical support role in relation to district government. In rural areas, the district level is administered by District Administrators, who are functionaries of the Ministry of State Administration: there are no elected positions. In the 43 municipalities which cover the major cities and small towns, the Mayor is an elected politician working with municipal officials who are nominated by the Mayor. An elected Municipal Assembly plays an oversight and monitoring role, and approves the municipal government's plan and budget and all regulatory rules. In October 2009 there will, for the first time, be a vote for Provincial Assemblies, which will have an oversight and monitoring function in relation to provincial government planning and activities.

The government is increasingly defining the district as the most important administrative unit in the general planning and promotion of national development. Guidelines for District Development Plans adopted in 2003 reinforce the role of the districts as planning and budgeting units. The guidelines open up the possibility for the creation of local (district, administrative post, and locality) consultative councils to act as an interface between CSOs, the public and local authorities in the planning, implementation, monitoring and evaluation of development activities.

However, at present, the main obstacle to translating this new option into a reality is the capacity of government personnel and that of other existing entities and systems at this level.

The WASH sector in Mozambique is overseen by a single technical ministry: the Ministry of Public Works and Housing (MOPH). Within it, the Direção Nacional de Águas (National Directorate of Water –DNA) is the primary directorate dealing specifically with the sector. The planning, implementation, monitoring and evaluation of RWSS are financed by the Government of Mozambique, supported by development partners. These two main actors are complemented by national and international NGOs spread across the country. The Ministry of Health and the Ministry of Environment also have a number of responsibilities in regard to hygiene education and awareness, as well as solid waste management (in which Municipalities are also involved).

The WASH sector, which is heavily donor-dependent, is now shifting to embrace in the rural sub-sector a sector-wide approach (SWAP) to water supply and sanitation. A considerable number of large donors have been moving towards alignment and harmonisation, and increased adoption of budget support – seen by many as a way of increasing aid effectiveness.

In December 2003, MOPH/DNA developed a Strategic Plan for the Water Sector (SPWS/PESA). PESA was used to formulate National Water Supply and Sanitation Strategies for Urban and Rural Areas. Based on the rural strategy, a National Rural Water and Sanitation Supply Programme (NRWSSP) is being finalised. The NRWSSP runs for the period 2009-2015. It is envisaged that there will be a Common Fund for the sub-sector, which will be used as a means of gaining the experience necessary for making informed decisions regarding the transition to budget support in the sub-sector, in the years to come.

The four immediate objectives of the programme are: (a) improving quality and increasing coverage and sustainability of RWSS facilities; (b) broadening the range of technologies and management models; (c) decentralising and strengthening sub-sector institutions and human resources; and (d) strengthening the relationship between planning, financing and decentralisation. The key sub-sector issues that the NRWSSP aims to address include: (i) sustainability of completed water supply facilities; (ii) fragmentation of sub-sector activities; (iii) capacity of RWSS sub-sector

institutions and actors; (iv) private sector capacity and market/supply chain inefficiencies; (v) incomplete and inaccurate data and deficient information systems; and (vi) poor quality of work and insufficient supervision of activities (DNA, 2008).

In the last few years, DNA has been engaged in the decentralisation (essentially de-concentration) of its core activities in crucial areas, including rural water supply and sanitation. In more recent years, the Department of Rural Water (DAR) within DNA has been strengthened significantly in order to fulfil its role of promoting, co-ordinating and regulating the expansion of water supply and sanitation services to the rural communities, as has the Department of Sanitation (DES). However, as far as water supply is concerned it should be noted that, because the decentralisation process is still in its early stages of development, and involves private operators in the water sector in Mozambique, DNA finds itself in a hybrid situation where – in addition to the policy, regulation, monitoring and evaluation functions – it also retains important operational functions in some areas. The same applies to municipalities, where delegated management is in the process of being initiated. To a great extent, this means that at times DNA is more involved in operational issues than in policy and regulation.

Overall, DNA's capacity to undertake this large mandate is stretched. A major consequence is a fragmented approach, and projects undertaken by donors with inadequate co-ordination by DNA. Additionally, systems that are built suffer from inadequate implementation and follow-up support. Up to 35% of rural systems are not working (World Bank, 2007) and are in need of repair at any one time.

At provincial level, DPOPH (Provincial level branch of MOPH) has the most direct participation in the water sector, and has a unit that deals specifically with water and sanitation (DAS). It largely focuses at present on rural water supply with a few ad hoc responsibilities for urban water supply. This is in the process of being extended to small piped systems (PSAA) in a model that is being tested in a series of towns.

The provinces are expected to provide the capacity building, monitoring and evaluation required at district and local levels to perform tasks related to the provision of WASH-related goods and services. They are also expected to co-ordinate and integrate the various sources of funding for local development. Under the policy shift to a greater private sector involvement in construction and rehabilitation, there is now a move to turn DAS's network of provincial workshops (EPARs) into autonomous bodies.

DAS's offices are weak in terms of the numbers and technical capabilities of their staff. Most of DAS personnel are basic³ and middle⁴ level technicians. This brings the advantage that they are usually qualified in water and sanitation issues, but less so in planning and management.

Under the most recent restructuring (2003) of the government at district level, four major units or services have been created to run government issues at this level, namely: (i) Economic Activities; (ii) Education, Culture, Youth and Technology; (iii) Health, Women and Social Affairs; and (iv) Planning and Infrastructure. Water and sanitation fall under Planning and Infrastructure Services (SDPI), but at the same time Health, Women and Social Affairs Services (SDMAS) have a certain number of responsibilities for sanitation.

Planning and budgeting in Mozambique is carried out by the Ministries of Planning and Development and of Finance. These have a shared Provincial Directorate of Planning and Finance, as well as technical planning teams at provincial level called the ETPP. Under the Decentralised Finance and Planning Project (PPFD), there are also technical planning teams at district level called ETPD. These transitory teams assist districts to develop District Development Plans (DDP) every five years. The DDPs are relatively-high-level strategic plans, addressing all development priorities. These plans are articulated in more detail and budgeted through the PESOD, the annual district economic plan and

3 Equivalent to full junior secondary education with a technical component in water and/or sanitation.

4 Equivalent to full secondary high school with a technical component in water and/or sanitation.

budget. At this stage there is no specific sector planning: all relevant sectors are covered. There is currently no permanent planning function within districts.

In terms of civil society participation, there are district consultative councils (CCD) comprised of CSOs, community leaders, and with private sector representation. They in principle approve the DDP. The District Administrator (DA) has the final stamp of approval, but the CCD has to approve the plans.

At national level, a process of strategic planning linked to a national poverty-reduction strategy (PARPA) sees the development of medium-term policy targets and expenditure priorities specified in a medium-term expenditure framework (CFMP). The formulation of the CFMP is mainly the responsibility of MPD, and it is in theory put together in consultation with all relevant stakeholders, including CSOs. The water sector had its first CFMP in 2007 for the period 2008-2010. Annual budgets are based on the submission of bids by ministries and other state actors, within plan and budget guidelines and expenditure limits circulated by the MPD and the Ministry of Finance (MF).

Services in rural Mozambique are typically provided by boreholes or deep wells. Nearly 80% of water supply infrastructure in use consists of boreholes (30-80m) equipped with different types of manually-operated pumps. In addition to these there are some small piped village systems. For these rural supplies, a demand-driven community-managed model was developed in the early 2000s and piloted in a number of districts. The pilots have been successful but, as over 70% of the population live in rural areas, and the starting point for new services was very low, the challenge remains enormous. The sector's focus is almost entirely on new system construction, with the assumption that, once built, systems will be managed by users.

Costs

Under the currently-existing planning, budgeting and budget execution systems and mechanisms most costs are aggregated, and as such of limited use for decision-making processes. At government level, the separation between the technical and budgeting/reporting departments increases the difficulty in finding cost data. The DAs at provincial level do not always keep a record of the costs associated with their activities that support the implementation of projects. The interventions and the related cost for guaranteeing the long-term sustainability of services at community level are therefore unknown. Extant annual activity reports at DAs do not contain cost information and do not attempt to link the activities and outcomes in terms of WASH services.

The predominant type of data available across the sector refers to CapEx, and this is largely variable across the country. Aside from hydrogeological variations, one of the aspects that influence the variability of CapEx is related to the poor geographic distribution of contractors and availability of material and spare parts.

Focus for WASHCost intervention

The most obvious target for WASHCost information, given the current, still largely-centralised system, is the national level. As is the case in other countries, the information that most likely will be of use in changing behaviours and raising awareness will probably focus on parts of the service delivery cycle other than capital investment. At the sub-national level, there may be some limited potential to use simple decision support tools (of the decision tree type). However, given that in rural areas there is only really one type of approved service and level, the opportunity for meaningful choice (and thus demand for information) is limited. This may be different in small towns, where there is a greater range of possible choices.

An important partner for the Mozambican context is the SINAS initiative (Sistema de Informação Nacional de água e saneamento), which is improving the information flow throughout the sector. WASHCost can play a leading role in assisting in the set-up and inclusion of financial information in this system.

Simple tools to help districts assess whether they are getting value for money from service suppliers may also be useful as the private sector becomes more active in the sector. Similarly, and again as in other countries, simple tools that help users to understand the likely implications of demanding services – in terms of their long-term contributions – would be of value.

3.2.4 India and Andhra Pradesh, sector sketch



India is a rapidly-emerging global economic power for whom aid is not a particularly important source of income. It is, indeed, starting its own aid programme. Andhra Pradesh is one of the wealthiest and fastest-developing states in India. In much of India, including Andhra Pradesh, coverage in water services is officially 'full' (although, in practice, services for many users are of substandard quality), while sanitation lags behind. Like much of India, Andhra Pradesh has a high population density, a water-intensive agriculture sector, and stressed water resources.

India is the only federal nation of the WASHCost countries. As befits a country of its physical size and population, India has several more layers of administration than the African countries in which WASHCost works. It is divided into 28 states, of which Andhra Pradesh (AP) is one and seven territories. With a population of some 76 million, AP is far more populous than any of the African countries in WASHCost.

Administratively at the state level there is an elected parliament and de-concentrated branches of national ministries. Major policy is set between the national and state level. States have considerable autonomy in some areas, but large national programmes sometimes conflict with this. Below state level, there are three principal levels of local government, known collectively as the Panchayati Raj Institutions (PRI). These are the District, Mandal and Village. Corresponding to each level are elected assemblies, namely Zilla Parishad (District); Mandal Parishad (Block) and Gram Panchaya (Village). The district is a key administrative unit in India, typically with a population of some 1-2 millions. AP is divided into 23 districts (22 rural and one urban), 1,125 Mandals, 21,893 Gram Panchayats, and 71,710 habitations.

After a period of centralisation, running from independence in 1947 to the early 1990s, India has been decentralising since the 73rd amendment to the constitution (in 1993). This amendment requires devolution of 29 key functions to the institutions of the PRI. The amendment talks of the devolution of 'functions, functionaries and funds', and progress on decentralisation is measured against these. By this measure, WASH is one of only two sectors that have been fully decentralised in AP. Decentralisation is very much an ongoing process in AP, and the state lags behind much of the rest of India.

AP has a long history of developing and supporting parallel 'participatory' institutions at the grass roots, ranging from women's self-help groups to water user associations. It is estimated that some 60% of the total number of such groups in India are found in AP. The existence of these institutions, which are major actors in all aspects of development, has led to the emergence of a hybrid governance structure in AP, where the roles and responsibilities of the PRI often overlap or compete with those of CBOs. Arguably, in some locations, CBOs and the active NGO sector substitute for the PRI in certain functions.

In terms of the formal structures of the PRI, at District level the Zilla Parishad – consisting of partly-elected, partly-nominated members – has nominal oversight of a staff headed by a Chief Executive Officer supported by technical staff including an education officer, executive engineers, and a few administrative personnel. Districts typically have a population in the low millions.

Below the District (Zilla Parishad), the Mandal Parishad has an administrative staff headed by a Development Officer (MPDO), who is in overall charge of administration, supported by technical staff. Finally, at the village level, the Gram Panchaya has an elected body which, depending on size, may or may not be supported by government staff. The definition of GPs is loose, and they range in size from 300 to 30,000 inhabitants. Typically, a group of villages will be supported by a village development officer.

The WASH sector

The context of the WASH sector in AP is very different from any of the African countries in a number of important aspects. AP has a long (centuries old) tradition of irrigation, which means that there are very old and entrenched systems for managing surface water. More recently, an explosion in groundwater development – fuelled by a nexus of cheap electricity, highly-competitive borehole drillers, and cheap submersible electric pumps – has led to an exponential increase in the development of groundwater for irrigation. The result is a state-wide groundwater crisis that is a driver for a great deal of sometimes contradictory activity.

Villages in AP are large and densely populated, and look more like small or medium towns in an African context. They have typically experienced several successive waves of water supply infrastructure, and a typical village can easily have four or five different supply systems in varying states of repair. According to official statistics, the state is essentially fully covered. However, behind this lies a complex picture of partial coverage with – often – substandard services, particularly for poorer and marginalised social groups. Currently, therefore, much emphasis in the sector in AP is on what is referred to as slippage (villages that were fully covered once but no longer are, due to system failure or groundwater overdraft), and on ‘problem’ villages – villages which, for physical or social reasons, are seen as being particularly hard to reach.

Despite being almost entirely non-reliant on donors, the WASH sector in AP is formidably complex, to the extent that the Government of Andhra Pradesh (GoAP) is developing a SWAP at the state level to run from 2009 to 2014. The complexity comes both from the large number of different state level organisations involved in WASH sector provision, and from the many different state and national level projects, programmes and financing streams that are involved in the sector.

In recent years, GoAP has taken a number of steps to make significantly improvements to the rural water and sanitation situation, including greater devolution of powers to the PRI. GoAP also plans to enhance investments significantly to achieve increased coverage and access to both water supply and sanitation services in rural areas. In this context, GoAP has developed a Medium Term Sector Program (MTSP) for the RWSS sector to run from 2009-2014. This involves further significant reforms, as well as investments. The MTSP is built around the three fundamental pillars of reform: decentralisation and devolution; community participation and demand responsiveness; and enhanced accountability.

At the state level, the Panchayati Raj and Engineering Department (PRED) has the mandate to provide safe drinking water to the rural population of the state. For the rural sector, the central actor is the Rural Water Supplies and Sanitation Department (RWSS), which is part of PRED. The RWSS Department is the nodal agency responsible for planning, designing and implementation of water supply and sanitation facilities in rural areas of Andhra Pradesh. More recently, the State Water and Sanitation Mission (SWSM) has become the apex body for the sector. The SWSM is currently responsible for managing a number of sector reform and pilot projects, and later will extend the scope of its work to the whole state. Other departments that are involved in the sector in one way or another include the irrigation department; rural development department; agriculture department; Panchayati Raj department; pollution control board; and health and education department. The absence of effective platforms at the state level was identified by the rapid assessment as a major obstacle to sector progress.

In 2006, GoAP issued a RWSS Sector Vision and Policy Note. This note broadly describes the framework in which rural water supplies and sanitation-related services are to be delivered. The objectives of the RWSS vision are important in that, as well as setting immediate objectives such as safe and reliable delivery of a minimum of 40l/c/d to all rural people, they also set out the longer-term vision of having all houses connected to piped systems, and all habitations having solid and liquid waste disposal facilities.

Under this vision it is envisaged that the RWSS department would function as “facilitator”, and the three levels of local governance institutions will play a more executive role in the provision of WASH services, particularly in operation and maintenance of the systems. The RWSS faces a major challenge in re-inventing itself to fill the new roles identified in the vision statement.

The capacities of Gram Panchayats in management and maintenance of drinking water facilities also provide a major challenge. There is a need to develop capacities of Gram Panchaya members and systems of co-ordination between Gram Panchayats and the RWSS Department.

There is currently a major debate within the state as to the best approach to deal with the groundwater crisis, and to ensure sustainable domestic water supplies. Basically this boils down to a choice between two options: to radically improve groundwater management through regulations and appropriate allocations to various users/uses (irrigation, drinking water and so on); or to import water from other places (mainly from surface reservoirs) and establish Multi Village Schemes, which connect villages through a network of pipelines, pumping houses and storage tanks. This second option is based on the assumption that large surface water bodies are less stressed and more reliable than groundwater – an assumption that is far from proven. This debate, which is occurring at a state and national level, is both an opportunity and challenge for WASHCost. It is an opportunity in that cost information is essential to better inform the debate. It is a challenge because it greatly expands the scope of cost data that needs to be collected – and the range of institutional and physical scales at which work needs to be carried out.

Planning and budgeting

Planning and budgeting for services in AP take place primarily at the state or national level. Support services are, nominally, provided by the PRI institutions and the RWSS, and are budgeted for as part of the state budget. Norms have been developed for the maintenance of hand pumps, and piped water supply schemes; and based on this, funds are (supposed to be) released to Gram Panchayats/ Mandal Parishads. New schemes or major rehabilitation work (CapEx/CapManEx) tend to be funded through national or state level programmes, for which villages apply, as described in table 4.

Table 4: Key steps in planning for rural water service delivery

Scheme selection	Based on a demand or need, a scheme is conceptualised. This need or demand may emerge from local leaders, people's representatives or a specific local situation.
Preliminary feasibility study	Based on the above demand, a preliminary investigation is conducted to assess the availability of water (source, quality and quantity). Based on the source, a tentative estimation is prepared. In this process, local leaders can participate.
Field investigation and Design	Based on the feasibility study, a detailed engineering survey is conducted. Based on this, technical options are decided, and plans and estimates are prepared for approval and sanction at the district level.
Source funding	Based on the estimate and other considerations, approved plans are converted into project proposals for fund raising. These project proposals are presented to various central/state government schemes for consideration and approval.
Detailed design work	Once a scheme is approved (tentative sources and budgets), detailed investigations are conducted to identify the exact source of drinking water. This process differs for Single Village Systems, Multi Village Schemes, and source to source (groundwater to surface water). In this process, the quality and quantity (availability of drinking water) are estimated.
Execution of works	Tenders are invited for executing the works by RWSS. The contractors who win the tenders execute the works, following the designs and estimates prepared by RWSS Department.
Operation and maintenance	The Gram Panchaya is expected to identify a person to run the system on day-to-day basis. It includes water quality testing, operating motors/pumps/treatment plants/power supply/repairs and servicing/any other. As and when major repairs or rehabilitation are required, the process starts again from the beginning.

Two planning tools are of relevance to WASHCost. The first of these is the WaterSoft MIS which is in the process of being rolled out across the state. It is an advanced computer-based application, primarily designed to monitor the functioning of water supply systems. The second is the State Schedule of Rates (SSR). This is a very detailed listing of unit costs for all types of works, and is nominally used in the procurement of goods and services for any state-sponsored work. For WASH, it is focused primarily on those costs related to capital works – that is, for construction of new schemes or major rehabilitation. It is primarily hardware focused, although it also deals with software aspects such as community mobilisation.

Services In AP, the government is clear in its vision that the ultimate objective for water supply is to have the entire population of both rural and urban areas on piped schemes, providing a 24/7 service. In the medium term, the stated vision is to ensure full coverage with basic services providing 40l/p/d.

There is therefore, at least formally, only a single service level for rural water supply in AP in the medium term. The real discussion in AP does not concern levels of service per se, but rather the means for providing a service and ensuring security of supply – single village schemes based on locally available groundwater, and multi-village schemes based on distant surface or ground water.

For sanitation and hygiene, the focus is on a Total Sanitation Campaign (TSC) consisting of a “demand-driven” approach and a package of interventions to convert villages into clean places in which to live. Gram Panchayats are expected to develop a plan for maintaining cleanliness by establishing systems for garbage removal and drainage water disposal. The main intervention related to sanitation is the individual sanitary latrine.

Focus for WASHCost intervention

As with other countries, the focus at national and state level has to date primarily been on the costs of constructing new systems. Therefore, in India as in other countries, one important area of focus for WASHCost will be on raising

awareness of the importance of other costs: GIS-based planning, operation and maintenance, provision of services to the poor, rehabilitation, and also support services. This said, there are a number of areas where the case of India differs substantially from the other countries, offering different opportunities for WASHCost.

The first of these is the national and state level debate over how to deal with the groundwater crisis and increase water security. Simply stated, the assumptions on which much of this debate takes place are untested and uncoded. There are also very powerful interests involved in pushing for technical 'fixes' for the problem, in the form of massive new bulk water supply infrastructure and localised construction of RO plants. There is real demand for costing information to support and inform this debate. WASHCost India is addressing this by extending its communication activities beyond the state level to national level networks and activities.

The second opportunity area relates to the way in which services, particularly water services, are provided. As already described, this tends to be through a mosaic of different types of systems within a given village. This poses a substantial challenge to WASHCost India, particularly when trying to determine actual services received.

WASHCost information can potentially be channelled through a number of different conduits. At the state (and national) level, as in other countries, there is a great need for awareness-raising materials on the nature and relative importance of cost elements other than capital investment. More specifically in the context of India, this should also focus on costs related to water resource management, and for ensuring equitable distribution within fragmented communities. Also specific to India is the need to focus on defining what service delivery means within the context of slippage and service provision through multiple systems. Finally, existing management tools such as the SSR and WaterSoft provide a clear target for the inclusion of less-highly-summarised data.

4 Emerging sector trends and opportunities for WASHCost

Drawing on the information collected in the rapid assessments and presented in the country sketches above, this section briefly summarises the key sector trends that are of relevance to WASHCost and its theory of change. These are harmonisation and co-ordination; decentralisation; shifting responsibilities for service delivery; bottom-up planning and decision making; differentiation of service levels. Each section briefly summarises the trend, with reference to the country sketches. Where relevant, it then suggests a possible focus for WASHCost activities.

4.1 Harmonisation and co-ordination

By harmonisation we refer both to post-Paris declaration donor harmonisation and to national harmonisation between different actors in service delivery. The former tends to be focused primarily on harmonisation of finance and programmatic approaches, the latter on co-ordination and harmonisation of, and around, models for service delivery.

All three African countries see some progress towards sector harmonisation. All have sector platforms bringing together development partners and government to seek to improve harmonisation. All either already have a SWAP or are developing one; and in addition their sectors receive finance through direct budget support. In all three countries, national sector plans exist; and even where SWAPs are not yet in place, there is increasing pressure on donors and other actors to respect – at least on paper – the objectives and approaches set out in the plans. This said, and despite real movements towards much greater harmonisation, there remain significant quantities of non-aligned project aid from both donors and NGOs.

From the point of view of WASHCost, the existence in all three countries of active sector platforms at the national level provides a clear target for awareness-raising, and a channel for impact on policy and practice. Information for this level will need to be highly credible, but also aggregated and summarised to deliver clear policy messages. It is likely that the most important messages will relate to the need for more attention to post-construction operational and support costs – in particular unplanned (and largely ignored) capital maintenance expenditure, but also proper funding for both decentralised government structures and the technical support services at national or regional level necessary to support them.

While India is not donor-dependent in the same way, the peculiar role of national government and national programmes implemented at state level, means that here too there is demand for a sector-wide approach to streamline the different funding mechanisms. What is lacking is a clear state-level platform to which to provide WASHCost information. That said, there is clearly a similar process of designing state-level integrated programmes that can benefit from a very similar set of WASHCost materials.

Increased harmonisation and co-ordination of the sectors in all four countries present a second important window for WASHCost: the increasing agreement on a reduced set of widely-accepted Service Delivery Models. While this grouping is not always understood or discussed within countries using the language of service delivery and service levels that WASHCost uses, the results and implications are the same. As agreement on norms of service to be delivered, and acceptable means of delivering them (models and technologies) become more common, it is much easier and more meaningful to feed cost information into decision-making processes. Accurate cost information will enable donors and government to allocate budgets more accurately and with greater confidence. Knowing direct and indirect support costs will also enable improved budget support allocation and monitoring. Put another way, when each actor in the sector is pursuing his or her own vision, using his or her own means, it is very difficult indeed to make a meaningful comparison between competing approaches on the basis of cost.

The opportunity provided by the observable harmonisation of models for service delivery should be addressed in two ways by WASHCost. Firstly, WASHCost must clearly identify the range of models being used in a country, and focus information collection on these particular models. Secondly, WASHCost must advocate the clear inclusion of all relevant costs – not just capital investment – within models.

Summary of actions for WASHCost:

- Work with and through national (state) sector platforms. Provide high-quality synthesised research outputs to facilitate discussion.
- Identify main service delivery approaches, technologies and models being used in countries, and focus research efforts on identifying full lifecycle costs associated with them.
- Gather information on, and advocate the inclusion of post-construction and support costs in budgeting.

4.2 Decentralisation and the division of roles and responsibilities within the sector

In all four countries, decentralisation is a current and major trend, albeit one that is at different levels of implementation and following rather different models. Superficially Ghana, India and Burkina Faso are following similar tracks of democratic decentralisation or devolution, while Mozambique is implementing a policy of administrative de-concentration. However, in practice, there are very significant differences even between the models of devolution.

In all countries, sector institutions are also in a state of rapid change, with functions, mandates and activities changing rapidly. Typically, this involves a movement of the administrative arm away from direct implementation and towards facilitation and oversight, and handing over of responsibility to the elected branch for the actual ownership of the systems and responsibility for the carrying out works. This change is a process that is ongoing – not yet completed – in all countries. There are, therefore, contradictions between policy and practice, as well as between different practices, which is resulting in a hybrid between the old and new ways of working.

Looking at decentralisation in terms of functions, funds and functionaries, the picture is again confused and transitional in all countries. Typically, functions are the first and easiest part of decentralise. Reassigning functionaries, or coming up with genuinely decentralised financing, is much more difficult. Indeed, in all countries, the real challenge is not so much to come up with policy-level statements about the decentralisation of functions, but to work out in detail exactly which functions need to exist at which different levels, and – to make this happen – the requirements in terms of funds and people. No WASHCost country can truly be said to have completed this. One shared imperative for all the national processes of decentralisation is clarification of the roles and responsibilities of different actors, but particularly of decentralised levels of government – both administrative and elected.

All WASHCost countries are committed to community management as the basis for providing rural water services, although larger small towns in the African countries offer a slightly more complex picture, where there is experimentation with both delegated management by the private sector and management by urban utilities. Concurrently there is the rise in importance of village- or system-level CBOs of various degrees of formalisation; water and sanitation committees; water boards; and so on.

Under community management, it is normally reasonably clear that new infrastructure is provided by 'outsiders' – be that donors or national government – sometimes with some level of community contribution. Equally, it is also clear that communities are responsible for day-to-day operation and minor maintenance, with differing degrees of back-stopping from district or other intermediate levels. However, rehabilitation and major maintenance typically occupy a grey area, with many stakeholders acknowledging off the record that this is beyond the reach of either communities or local government, but with few willing to take explicit responsibility for it.

The level of development of this private sector (from consultants to drillers) is at different levels in all the countries, although broadly it could be said to be well-developed in India and Ghana, and more embryonic in Burkina Faso and Mozambique. Overall, therefore, albeit with great differences in the detail of how they do it and who is involved in specific functions, there is a striking degree of similarity between all four WASHCost countries in terms of the emerging model of broad sector government. In brief this can be summarised as:

- Community/user management of services and facilities – typically through CBOs but sometimes also through formal bodies of local government
- Local government facilitating and regulating service delivery (sometimes at several institutional levels)
- Private sector involvement in construction, planning and some support services – but seldom directly in management
- National agencies and technical ministries regulating, and providing technical backstopping, to the sector

All this provides background for the most important aspect of decentralisation from the point of view of WASHCost: planning and decision making about service delivery.

4.3 Planning and decision making in the WASH sector

Although, as mentioned earlier, cost information can be of interest to a wide range of actors in an equally wide range of circumstances, it is arguably of most (theoretical) importance in the planning and decision-making processes around service delivery. This section therefore looks the main trends in planning and decision making in the WASH-Cost countries, and relates this to WASHCost's theory of change.

In all countries, there is a degree of tension both between sectoral and broader development planning, and between top-down and bottom-up planning processes. This is an understandable teething problem of systems in process of decentralisation. However, it also reflects tensions created by non-harmonised aid flows from donors and NGOs.

All three African WASHCost countries have, at least on paper, a requirement for the development of service delivery plans at the primary level of decentralisation. Equally, all countries have national-level (in India, state-level) rural water supply programmes. Both decentralised and national programmes tend to have attendant costs. Both decentralised and national programmes are linked to the achievement of national sector goals. In India, the development of decentralised sector plans does not seem to be a requirement. There is an assumption that, on the one hand, local government costs will be factored into annual budgeting and that, on the other hand, investment in new capital works will be on the basis of 'demand responsive' applications by villages directly to state-level programmes. In practice, in all four countries there is, once again, a hybrid system in which new facilities tend to arrive as part of projects, which typically have their objectives and budgets set at a higher institutional level, and are not formally linked to either national- or district-level sector plans.

Given that, at least for the medium term, the twin models of top-down project-based planning and bottom-up service delivery-based planning and budgeting are likely to continue to co-exist, WASHCost will need to engage with both.

Starting with service (more realistically hardware) delivery through projects and programmes, WASHCost should do two things. Firstly, it should seek to engage with large projects and programmes, to identify their cost-related information needs, and then seek to help to fill these. Secondly, it should use advocacy and awareness-raising materials of the type described in the section on harmonisation to ensure that projects and programmes, even if not directly addressing them, are aware of the cost implications for post-construction support costs of the choices they make about technology and management models.

As for decentralised planning of service delivery, WASHCost should aim to help stakeholders to clarify the range of different Service Delivery Models on offer within a country or state and, based on this, support the development of information collection and management systems, together with decision support tools. If a district is only permitted (by national policy) to offer two or three types of technology, then decision support tools should be based on these.

4.4 Differentiation of service levels between rural and small towns

An important element picked up in the Rapid Assessments, which will need further investigation as WASHCost progresses, is the gradual emergence of a number of clearly-distinguishable service delivery models and service levels in rural water supply and sanitation. This trend is particularly visible in the African countries, but in India, too, there is a clear differentiation between medium-term targets for assuring minimum water services, and longer-term emphasis on a tap in every house. In essence, these are a reflection of the evolving demand for services, as communities and countries gradually emerge from absolute poverty.

In water supply, the two most common service levels found in rural areas and small towns are as follows. At the most basic level are the 'rural water supplies', typically providing 20-40 l/c/d at a maximum distance of 500-1,000m from the residence, and relying on an untreated water source (often groundwater). These are the minimalist 'survival' level services that have been put in place in their tens of thousands over the last 30 years, all around the world. More recently, a second level of service is beginning to emerge, visible in small towns in the African countries where WASHCost is working. Here, water quantities are greater, and distances to sources are less – sometimes even involving household connections. This new 'intermediate' level of service is often provided by small pipe networks.

Another shift, seen often in India, is towards multi-village schemes, where a single source (ground or surface water) is linked to a number of villages by a bulk distribution network. Ghana recently (2008) initiated its first such scheme. In India, the move is driven to some extent by the groundwater crisis, but also by a move towards the inclusion of domestic water supply in existing large-scale irrigation schemes. There is also a tendency to view such schemes as offering economies of scale, particularly in treating water (or in areas where groundwater may be either non-existent or polluted, for example by fluoride).

In sanitation, while Burkina and Mozambique still focus on fairly conventional subsidy-based roll-out of latrines, both India and recently Ghana seem to be moving towards a model based on community-led total sanitation: that is, a sustained push to raising awareness about the need for sanitation, but withdrawal from the business of the provision of sanitation services.

For WASHCost, the emergence of different levels of service delivery implies the need to be able to collect and analyse cost information that reflects these differences, to help decision makers understand the implications of choosing one over another – across all cost categories. Equally, within a service level, it is important to be able to help decision makers and users to understand the cost implications of the different available approaches (technological or other) to achieve a given level of service. The case of multi-village schemes is one example, albeit an example that has important bearing on how (at what scale) WASHCost collects and analyses information.

Implications for WASHCost

- Identify the service level being targeted within a given service area, as well as the actual service level received.
- Ensure that information is collected across the full range of supply options that are being used in a country (at least those that are officially sanctioned). Where large-scale schemes – such as multi-village schemes – are being implemented, ensure that these are dealt with adequately.
- Develop awareness-raising materials on the desirability of clarity around one (or more) recognised levels of service delivery.

4.5 Citizen's voice and the use of costs in holding service providers accountable

An aspect of decentralisation little touched upon in the rapid scans, but nonetheless of importance to WASHCost, is that of increased accountability – which is, after all, one of the cited aims of most decentralisation policy. In particular, how do citizens – the water users – hold to account those who are supposed to provide them with a service? – There are a number of typical NGO-led initiatives on the citizen's voice and accountability in process around the world, and WASHCost should seek to support these. Typically, for such activities to be supported, clear and appropriate awareness-raising materials would be needed, which could raise users' appreciation of cost-related issues in the WASH sector. These might include the cost implications of different service types and levels; national models for cost recovery and tariff setting; typical inputs for different types and levels of service (for input tracking).

4.6 Summary

In the three African countries in which WASHCost is active, there are clear moves towards more harmonised investment in the WASH sector. All four countries have ongoing decentralisation processes, and share a commitment to community management backed by decentralised support services. Equally, all four support a changing role for government, from project implementer to facilitator. Although the levels of government and the government agencies involved are different in each country, an important commonality is the continued identification of the need for a backstopping capacity within sectoral line-ministries, to support the decentralised and, in many cases, elected representatives in their decision making. Equally important are the mixed results to date in carrying through decentralisation, and the considerable areas of ambiguity that remain in the identification of areas of responsibility. Another important factor is the friction between bottom-up and top-down planning and financing. It is, indeed, questionable as to what extent many bottom-up planning processes are really linked to budget disbursement, posing a major challenge to WASHCost and other projects to identifying the appropriate zone in which to intervene with planning-related information.

In summary, the concept of unit costs is, at least superficially, reasonably well-recognised in all the countries where WASHCost is working. However, this superficial recognition conceals some important underlying facts that echo findings at the global level, reported in Chapter 2. Most important of these is that the understanding of unit costs is almost solely limited to the costs of investments in new infrastructure, although it is encouraging that software as well as hardware costs are typically involved. Secondly, unit costs are used primarily in the preparation of large-scale strategic programmes, or in project preparation at the macro level. They are used very little, if at all, at the local level.

5 Conclusions and directions for further work

5.1 Trends in sector development in the WASHCost countries

In looking at the WASH sectors across the four WASHCost countries, a number of common trends can be identified. These include:

- In all countries the sector is undergoing a major change process, which is causing sector agencies to re-evaluate their roles and mandates. This has led to a hybrid situation where elements of the old and new approaches to service delivery co-exist, and sometimes conflict.
- All four WASHCost countries are seeking to increase co-ordination and harmonisation within their sectors through the development of SWAPs, among other mechanisms. All countries have a sector plan which sets out the main framework of how they intend to achieve MDG-related goals in the medium term.
- All four countries are also engaging in decentralisation processes based on a mix of devolution and de-concentration. These processes also involve:
 - A shift in the role of state agencies from implementers to facilitators
 - An increased role for the local private sector
 - Community management of rural and, in some cases, small-town services, often involving the creation of management CBOs
- In all countries, sanitation seriously lags behind water, both in coverage and in importance in policy terms.

A number of other major trends exist in at least two of the countries:

- A shift towards using multi-village schemes. In India, this is primarily to cope with a groundwater crisis and, more positively, to improve water security. In Ghana, this pathway is chosen to deal with the country's difficult hydrogeology.
- The emergence of distinct service levels and service delivery models for rural and small-town water supplies in Ghana, Mozambique and Burkina Faso.

There are also some significant areas of difference between the sectors in different countries that need to be acknowledged by WASHCost. These include:

- High levels of coverage with multiple systems in India, together with slippage and a groundwater crisis, has led to an understanding of service delivery priorities that is significantly different to that of the three African countries, where the majority of services are still relatively new, and where meeting the needs of the un-served is still a sector-driving priority.
- While India, Ghana and Burkina are following a path of devolution of governance to their lowest administrative levels, Mozambique is instead working with a system of administrative de-concentration supported by less formal participation.
- Burkina and Mozambique both have a single sector-ministry that oversees all aspects of WASH. In India, there is a lead agency, but it must co-ordinate with a large number of other agencies – particularly those relating to irrigation. In Ghana, WASH is divided between directorates in two ministries.

Stakeholders in all four countries are aware of unit costs, but their use is typically limited to the formulation of national-level strategies, plans and projects. With the exception of AP, which has developed a standard schedule of rates for use in procurement, all other countries use aggregated costs based on actual expenditure on project implementation.

Awareness of unit costs is typically limited to capital costs, often highly aggregated. Officials are typically able to provide figures in response to questions such as: 'How much does it typically cost to provide a borehole and hand-pump, or a small pipe network?'. However, they are much less familiar with, or able to answer, questions about other aspects of unit costs, such as how much is spent on the operation and maintenance of typical schemes, or how much it costs

to provide support services. Costs for rehabilitation and replacement are even less discussed, and can be considered as something of an intentional blind spot in the sector – everyone knows they are there, but no one wants to address them.

5.2 Challenges to and opportunities for improving sector governance through improved access to WASH unit costs under decentralisation

Chapter 2 introduced WASHCost's theory of change – namely, that by involving sector actors in researching the disaggregated costs of service provision, sustainable demand for such information in decision making can be triggered, leading in turn to services that are less costly, more appropriate and more sustainable. To support this, it has been important to develop an understanding of the sectors in the four countries in which WASHCost is working, as well as at the global level, and to identify in those locations the people and processes that could make use of unit-cost data.

The findings of the rapid assessments, when viewed in this context, highlight both challenges and opportunities. The WASH sectors in all four countries are in a state of great change, with blurred and sometimes contradictory areas of governance responsibility; nascent planning processes; and, in donor -dependent countries, only gradual movement towards greater harmonisation. In none of the WASHCost countries does anyone have a clear picture of who is receiving what services, and at what level of quality. At best, lists of facilities constructed are fed into models, to calculate broad figures for aggregated coverage. This simple and incontestable fact stands both as an indictment of the waste and mismanagement that has characterised the WASH sector for decades, and which decentralisation, in part, seeks to address. It is also as a warning to WASHCost regarding the limits to its ambitions and its theory of change.

Nevertheless, it is equally true that, after decades of stagnation, real progress is being made and real opportunities exist. The processes of harmonisation and decentralisation, while clearly work in progress, do create a real need today for unit-cost information; and the rapid increase in the quality and skills of staff available to the sector mean that the ability to use such information is significantly enhanced. There is also something of a global movement developing around issues of accountability and citizens' rights, which could make use of unit-cost data to pressurise governments and other service providers.

Decentralisation itself provides a major opportunity, although with caveats. Clearly, a decentralised government that is keen to fulfil its mandate and provide its citizens with quality services needs cost (and other) information. It is essential for planning for new infrastructure, but also to identify the need for, and where necessary to lobby for, financing to cover its own functioning and backstopping role in relation to its service users. In addition, with national governments making assumptions about the role of decentralised local government in system upgrading and rehabilitation, it is clearly in the interests of local governments to understand the commitments they are making when they agree to implement or support services of a given type or level.

At all these levels, it is therefore clear that information on WASH costs can be of use. It is also relatively clear that all levels would have use for relatively-aggregated information based on quality research, and particularly focusing on those parts of the service delivery cycle other than capital investment. As soon as such information becomes available, WASHCost should seek to share it with a wide range of stakeholders in the form of accessible awareness-raising materials.

What is less clear, is how (or whether) to institutionalise the collection and use of cost information in the future. On one level, it can be argued that the range of choices between different levels of service or types of technology is, in practice, relatively constrained. In terms of decision making, what is important is the relative difference between the costs of different service delivery models and service levels over the whole service lifecycle. Having collected information on the various elements of service delivery, and having made them available as simple awareness-raising and

decision-support tools, it can be argued that WASHCost will have already provided the means to change the way in which people understand the sector and the choices within it.

However, if this is all that WASHCost achieves, it will not have satisfied its objective of sustainability. Without nationally-owned capacity to carry out future cost investigations, there will, for example, be no way to assess promising new approaches or technologies against those that exist. Institutionalising the capacity and systems to collect and analyse WASHCost data is therefore essential. With the increased use of transparent procurement procedures and networked electronic MIS, it now seems less unrealistic or achievable as it might have seemed even ten years ago. However, it remains a huge challenge to come up with a system that is practical, owned and wanted.

In summary, it seems that WASHCost should progress along two broad lines. The first of these should aim to carry out high-quality research and analysis, and from this to develop a range of equally high-quality awareness-raising and decision-support materials. These should be based on an understanding of the choices currently available to decision makers, service providers and service users in the different countries. They should focus on raising awareness of the full range of lifecycle costs related to service delivery; and to helping service providers and users to make informed and relevant choices between different types and levels of service. These activities rest well within the confines of the project, and it is likely that, if well executed, they can have a significant impact on thinking within the sector.

The second group of activities rests to some extent on the success of first. If WASHCost succeeds in raising awareness of the range of critical issues surrounding service delivery and lifecycle costs, then it may also create the conditions that would lead to cost analysis becoming institutionalised, owned and alive within national sectors. In the event that there is evidence that this is happening within a country, the activities related to supporting the development of a national cost analysis capability would include the establishment of national unit cost databases, and incorporating unit-cost information into existing or new MIS and DSS tools. With the successful implementation of this second broad group of activities, WASHCost would have met its initial objectives.

References

- DWAF (1997). *Water Services Act of 1997*. Republic of South Africa, Department of Water Affairs <http://www.dwaf.gov.za/Documents/Legislature/a108-97.pdf>
- Evans, Phil (1992). *Paying the Piper: an overview of community financing of water and sanitation*. IRC – International Water and Sanitation Centre, Delft.
- Fonseca, Catarina (2010). *A review of the literature and decision support tools which use unit costs for rural and peri-urban water supply and sanitation in developing countries*. Forthcoming,
- Fonseca, Catarina, & Cardone, Rachel (2005). *Analysis of cost estimates and funding available for achieving the MDG targets for water and sanitation*. WELL Briefing Note
- Fonseca, Catarina, Franceys, Richard, Batchelor, Charles, McIntyre, Peter, Klutse Amah, Komives, Kristin, Moriarty, Patrick, & Naafs, Arjen (2010). *Lifecycle Costs Approach Glossary and Cost Components*. IRC - International Water and Sanitation Center. <http://www.washcost.info/page/196>.
- Moriarty, P., with Fonseca, C., Klutse, A., Naafs, A., Nyarko, K., Pezon, C., Potter, A., Reddy, R., Snehalatha, M. (2010). *Ladders for assessing and costing water service delivery*. WASHCost Working Paper No. 2, IRC International Water and Sanitation Centre, April 2010.
- OPM (2000). *Medium Term Expenditure Frameworks – panacea or dangerous distraction?* Oxford Policy Management Review. [http://www.unescobkk.org/fileadmin/user_upload/epr/MTEF/04Financial_Planning/04MTEF_for_Public_Sector/040415002OPM%20\(2000\)%20MTEFs%20-%20panacea%20or%20dangerous%20distraction.pdf](http://www.unescobkk.org/fileadmin/user_upload/epr/MTEF/04Financial_Planning/04MTEF_for_Public_Sector/040415002OPM%20(2000)%20MTEFs%20-%20panacea%20or%20dangerous%20distraction.pdf)
- Potter, A. & Klutse, A., with Snehalatha, M., Batchelor, C., Uandela, A., Naafs, A., Fonseca, C., Moriarty, P. (2010). *Assessing Sanitation Service Levels*, WASHCost Working Paper No.3 of the WASHCost research team available online at: <http://www.washcost.info/page/902>.
- Reddy, V. Ratna, Rao, M. S. Rammohan, & Venkataswamy, M.(2010). *Slippage: The Bane of Drinking Water and Sanitation Sector (A Study of Extent and Causes in Rural Andhra Pradesh)*. WASHCost India <http://www.washcost.info/page/705>.
- Skinner, Jamie (2009). *Where every drop counts: tackling rural Africa's water crisis*. *Development*. International Institute for Environment and Development.
- Taylor, Ben (2009). *Addressing the Sustainability Crisis*, no. July. http://www.wateraid.org/documents/plugin_documents/sustainability_crisis.pdf.
- Triple S (2009). *Providing Reliable Rural Water Services that Last*. *Triple S Briefing*. IRC <http://www.irc.nl/page/51032>
- WASHCost Burkina Faso (December 2008). *Revue Sommaire du Secteur de l'AEPHA relative aux coûts unitaire*.
- WASHCost, Ghana(2009). *Rapid Assessment of the Water, Sanitation and Hygiene Sector in Ghana*.
- WASHCost India (November 2008). *Institutional Mapping and Analysis of WASH Services and Costs*.

WASHCost Mozambique (January 2009). *Assessment of the Water Sanitation and Hygiene Services Sector in Mozambique*.

World Bank (2007). *Republic of Mozambique Water Services and Institutional Support Project, Project Appraisal Document*.

WSP (2003). *Governance and financing of water supply and sanitation in Ethiopia, Kenya and South Africa: A Cross Country Synthesis*. Nairobi, Kenya.

Web-based research:

CIA. 2010. The World Fact Book.

Aquastat. 2010

World Bank IDA, 2010

WHO/UNICEF Joint Monitoring Programme, 2010

