

Financing for Sustainable WASH Services

Background of poor sustainability

For many years, if not decades, the long-term performance of water supply and sanitation programmes has been a concern to national governments and international aid organisations and institutional donors. Various studies have pointed towards serious challenges to sustained services; one recent survey in Ghana estimated that 70% of rural point source water supplies functioned at a substandard level. Many other estimates point to 30 to 50% non-functionality of water supply at any given moment.

Similarly, maintaining gains in sanitation and hygiene behaviours following on from intensive periods of programme intervention are of concern. In particular, continuation of safe defecation practices in communities that have been declared Open Defecation Free (ODF) is increasingly recognised as a challenge following the widespread adoption of Community Led Total Sanitation (CLTS) (and its variants) by many countries. Several recent studies highlight a number of problems associated with CLTS in terms of post-triggering (the stage after which communities have gone through participatory awareness raising and collectively agree to end open defecation) adherence to ODF (WSP, 2011; Ryan, P. 2014). It is increasingly recognised that sustainable sanitation improvements require a combination of behaviour change (as triggered by CLTS for example) and support to sanitation services (through sanitation marketing and supply chains).

Understanding Financing and the critical cost gaps

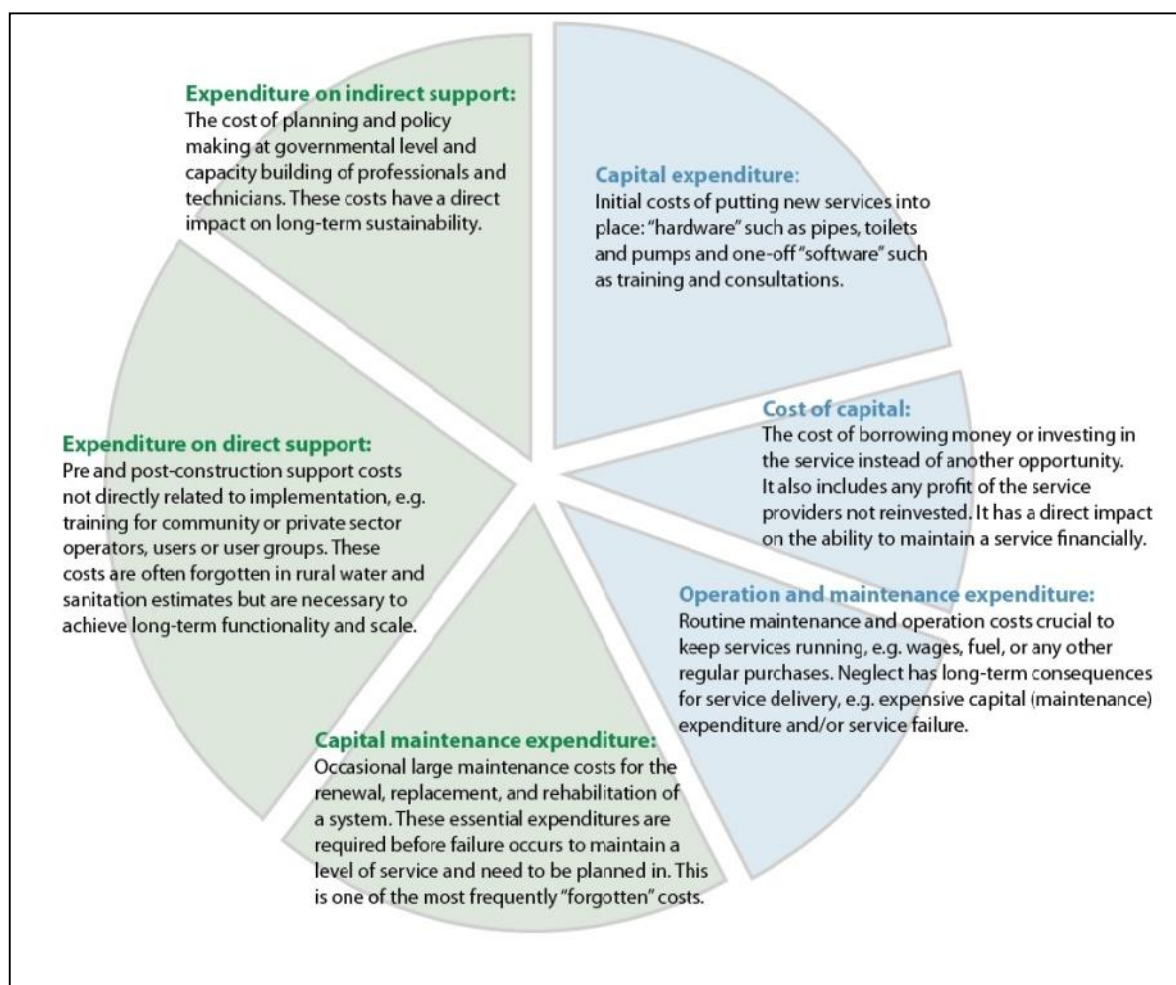
One of the most significant factors in poor sustainability is inadequate financing. Over time there has been an overwhelming focus, by national governments and development partners alike, on investments in the first-time provision of infrastructure and building water and sanitation facilities rather than on delivering permanent services. Although accurate data on financing water and sanitation services is notoriously difficult to obtain, the UN Water Global Analysis and Assessment of Sanitation and Drinking Water reports that funding for operation and maintenance is largely insufficient to meet the need and that the in one third of cases of reporting countries, urban utilities lack revenue to fund these type of recurrent costs (GLAAS, 2012).

In order to better address financing it is first necessary to fully define all of the costs associated with the provision of a service. This is relatively common practice in some sectors dominated by heavy infrastructure (most notably the road sector), but has been under-represented in WASH, particularly for those populations or areas not served by formal utilities and instead relying on community management, informal providers or where aid programmes are active and may only support a limited range of costs.

The concept of Life-cycle Cost (LCC) refers to the costs of ensuring adequate water, sanitation and hygiene services to a specific population in a determined geographical area - not just for a few years but indefinitely (WASHCost, 2011). LCC include not only the costs of constructing new systems but also the cost of maintaining them in the short and long term and at higher institutional levels. Costs for both district and national level administration and

planning are taken into account, as well as the costs of replacing and extending infrastructure. It is all of these costs taken together that form the total cost of providing a sustainable level of a service; see figure 1.

Figure 1 Life-cycle cost components (WASHCost, 2011).

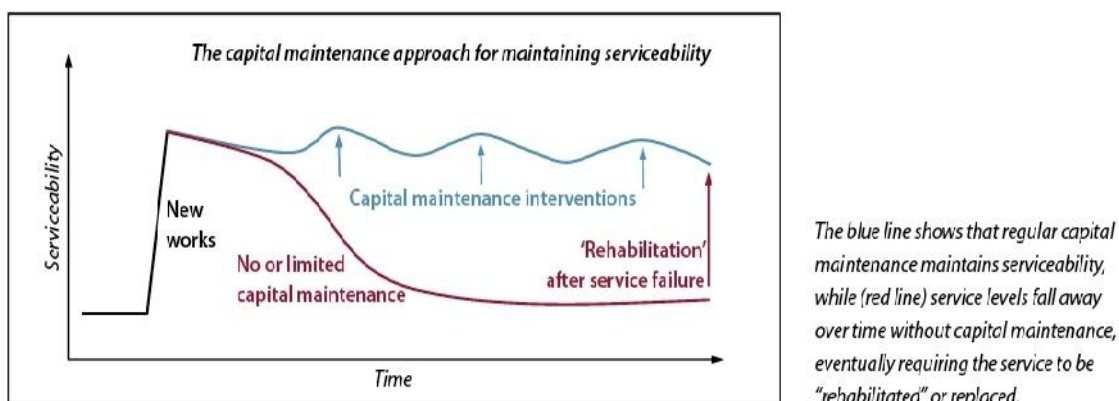


Life cycle cost categories

Capital expenditure (CapEx): The capital invested in constructing fixed assets such as concrete structures, latrine pits or superstructures, pumps and pipes. Investments in fixed assets are occasional and 'lumpy' and include the costs of initial construction and system extension, enhancement and augmentation. CapEx software includes one-off work with stakeholders prior to construction or implementation, extension, enhancement and augmentation (such as the costs of one-off training or capacity building).

Capital maintenance expenditure (CapManEx): Expenditure on asset renewal, replacement and rehabilitation costs, based upon serviceability and risk criteria. CapManEx covers the work that goes beyond routine maintenance to repair and replace equipment in order to keep systems running. Accounting rules may guide or govern what is included under capital maintenance and the extent to which broad equivalence is achieved between charges for depreciation and expenditure on capital maintenance.

Figure 2: Capital maintenance and serviceability (Franceys and Pezon, 2010).



Capital maintenance expenditures and potential revenue streams to pay those costs are critical to avoid the failures represented by haphazard system rehabilitation.

Cost of capital (CoC): The cost of financing a programme or project, taking into account loan repayments and the cost of tying up capital. For example, when governments take on loans from international financing institutions such as the World Bank or the African Development Bank, the loans will have some element of interest repayment which in the end has to be paid off. Many such loans to low-income countries are termed 'concessional', meaning that they include a grant element in the form of preferentially low levels of interest (well below commercial market rates) and often very long payback periods. In the case of private sector investment, the cost of capital will include an element distributed as dividends.

Operating and minor maintenance expenditure (OpEx): Expenditure on labour, fuel, chemicals, materials and 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.

For privatised utilities in a high-income country, operating expenses may amount to approximately 40% of total costs. Capital maintenance expenditure may represent 30%, while the cost of capital makes up the final 30%. If it is possible to access lower-cost public capital (at a risk free rate), then the proportion of the cost of capital decreases.

Expenditure on direct support (ExpDS): Includes expenditure on post-construction support activities direct to local level stakeholders, users or user groups. In utility management, expenditure on direct support such as for overhead is usually included in OpEx. However, these costs are rarely included in rural water and sanitation estimates. The costs of ensuring that local government staff has the capacities and resources to help communities when systems break down or to monitor private sector performance are often overlooked.

Expenditure on indirect support (ExpIDS): Macro-level support, planning and policy making that contributes to the service environment but is not particular to any programme or project. Indirect support costs include government macro-level planning and policy-making, developing and maintaining frameworks and institutional arrangements and capacity building for professionals and technicians.

The term life-cycle does not mean cradle-to-grave. But for services to be sustained and to work reliably, the costs follow a cycle from capital costs, to operation and minor maintenance, to capital maintenance and finally to the replacement of infrastructure that has come to the end of its useful life. This may then be extended with more capital maintenance or renewed with additional capital expenditure. The life-cycle can refer to the individual system components and/or to the overall costs required within a context of maintaining sustainable services which are (ideally) indefinite.

Applying LCC cost analysis in Ghana¹ showed that for piped schemes, the operating and minor maintenance expenditure per capita increased by a factor of ten, and capital maintenance expenditure by a factor of 100, compared to a borehole with a hand pump. The average annual cost (capital expenditure, operating and minor maintenance expenditure, capital maintenance expenditure and expenditure on direct support) for delivering water services from small town piped water systems ranges from US\$10 to \$14 per capita, per year, while that for water point sources is about US\$4 per capita, per year.

Matching revenue streams with costs

There are generally three recognised sources of financing for water and sanitation services that may be coordinated by governments to meet the costs of providing services; these are:

- 1. Tariffs (consumer finance):** Funds contributed by users of WASH services (and also including the monetary labour and material investments of households managing their own water supply).
- 2. Taxes (public finance):** Funds originating from public sources, via domestic taxes that are channelled to the sector by the central, regional and local governments.
- 3. Transfers (aid finance):** Funds from international donors and charitable foundations. Transfers include grants and concessional loans, which include a grant element in the form of a subsidized interest rate or a grace period.

The core pillar of public finance comes from (the re-distribution of) tax receipts, but this can also be supplemented by other sources, including sale or lease of land or other publically held assets (e.g. bandwidth for mobile phone networks) and of course governments can also take out loans or raise funds via issuing bonds, even at sub-national or municipal levels (Public Finance for WASH, 2015).

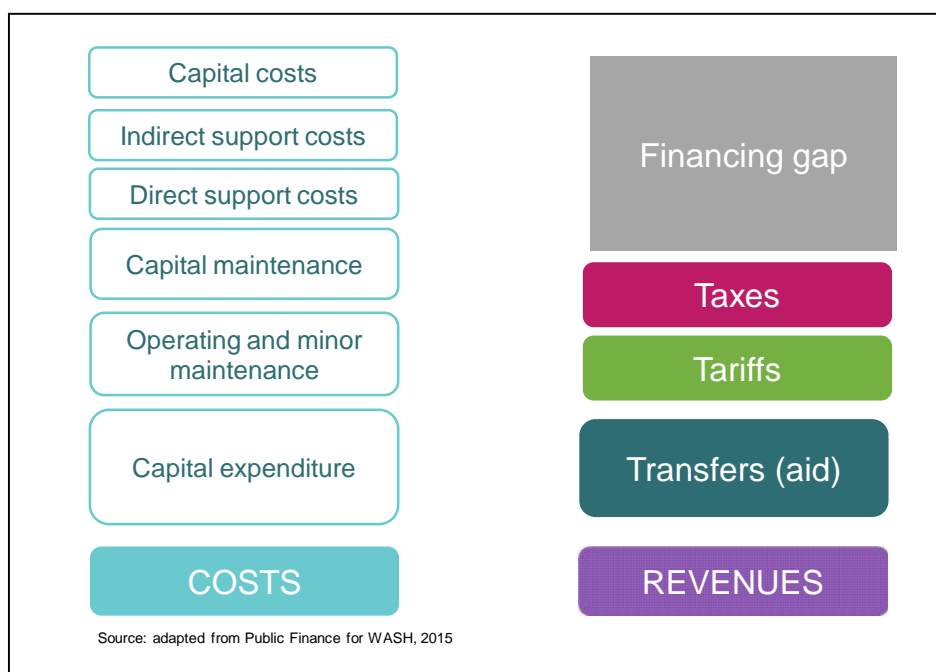
In addition, households fund other expenditures for complementary access to water supply and for use of drinking-water; so-called '**self-supply**' is a form of household investment which is now known to be significant. As economies grow and the **private sector financing** increases, it is also possible to leverage private capital through market mechanism for investment in some of the costs of supplying a service; these routes for financing are becoming more common place in Latin America for example.

It is complicated and difficult to assess the relative funding levels of different sources at a global level, because aggregated data on tariffs and out-of-pocket household expenditures for WASH are not readily available in most countries. Moreover, financial data for utilities

¹ Data was collected in the WASHCost project during 2010 from 76 boreholes fitted with hand pumps and 17 small town piped systems drawn from five out of the 10 regions in Ghana. The findings of the research will be made available in 2011.

and sub-national governments can also be difficult to obtain due to the lack of centralized information, and lack of disaggregation among different sub-sectors (GLAAS 2014). What is apparent from the GLAAS sources of data and others is that currently many WASH sectors face a significant gap in financing which makes it difficult – or indeed impossible – to meet all life-cycle costs (see figure 3).

Figure 3: Highlighting the financing gap (adapted Public Finance for WASH, 2015)



Financing at Local Government Level

Within the overall framework of revenue sources, Local Governments typically access funding for WASH (and other services) through two primary channels (UNDP, 2012):

- i) Own sources of revenue: this is revenue generated by LGs themselves. There are a variety of own sources of revenue including local taxes property tax, income tax, business levies, sales, fees, loans, and rent from property.
- ii) Transfers from Central Government: this is paid to LGs via transfers taking the form of grants (conditional, special or equalisation grants). The original source of such finance may be both from taxation and aid transfers received by development partners.

In recent years some development partners have been increasingly channelling funds directly to local government, although this is still limited practice, largely due to concerns over absorption capacity and fiduciary risk.

Mix of revenue sources varies

Each country is of course unique and the sources of financing will vary depending on strength of the economy, level of aid dependency and national policy which may encourage more private sector financing for example. Latest data from the GLAAS report 2014 from 19 countries covering over US\$39 billion of investment indicate that nearly 75% of WASH

financing is derived from household tariffs for services provided and household expenditures for self-supply. But some countries report more reliance on external aid (e.g. Panama, Lesotho), and a few countries reporting that national finance supports the majority of WASH expenditures, (e.g. Iran).

Ultimately investment in water and sanitation is also a question of investment in the public good, as failed services have basic welfare and health implications as well as quality of life and economic livelihood impacts. Historically, in developed countries there has been significant public investment in services and indeed to this day, rural water supply in the USA for example still receives both direct and indirect public subsidies from a range of federal, state and special interest funding sources (Gasteyer, 2011).

Resources and recommended reading

Absolute Options (2014) '*Motivational Capital: Financing water service improvement in Central America*', Absolute Options/Catholic Relief Services April 2014

IOB/ DGIS (2012). From infrastructure to sustainable impact: Policy review of the Dutch contribution to drinking water and sanitation (1990-2011). Available at < http://www.waterservicesthatlast.org/news/news_events_2/evaluating_dutch_contribution_to_improving_drinking_water_and_sanitation_services> [Accessed on 22 November 2014].

Fonseca, C. et al., 2011. *Briefing Note 1a Life-cycle costs approach; costing sustainable services* (WASHCost Briefing Note 1a) [online] The Hague: IRC (Published November 2011) Available at: < <http://www.ircwash.org/resources/briefing-note-1a-life-cycle-costs-approach-costing-sustainable-service> > [Accessed 28 April 2011].

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Gasteyer, S. (2011) Lessons for Rural Water Supply: Assessing progress towards sustainable service. USA case study; Triple-S project, IRC/Aguaconsult 2011; http://www.waterservicesthatlast.org/countries/usa_overview

Public Finance for WASH (2015) '*Domestic Public Finance for WASH: What, Why, How?!*'; Finance Brief March 2015 < http://www.publicfinanceforwash.com/sites/default/files/uploads/Finance_Brief_1_-_Domestic_public_finance_for_WASH.pdf>

Ryan P. (2014) *Madagascar WASH Sector Sustainability Check*. Ministere de L'eau, Government of Madagascar, UNICEF and WaterAid (unpublished).

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UNDP (2012) '*Local Governments in Southern Africa: An analytical study of decentralization, Financing, Service Delivery and Capacities*' UNDP, CLGF, UNCDF 2012
<http://www.clgf.org.uk/userfiles/1/file/Local%20Governments%20in%20Southern%20Africa%20CLGF-UNCDF-%20UNDP.pdf>

Water and Sanitation Program (WSP) (2011) *Long term sustainability of improved sanitation in rural Bangladesh*, accessed on line <http://www.wsp.org/sites/wsp.org/files/publications/WSP-Sustainability-Sanitation-Bangladesh-Brief.pdf> [Accessed on 22 November 2014].