

Money matters

Cost estimates, budgets, aid and the water and sanitation sector

Introduction

In September 2000, the United Nations Millennium Summit agreed a set of time-bound and measurable goals aimed at combating poverty, hunger, illiteracy, environmental degradation and discrimination against women. Millennium Development Goal (MDG) 7 is to 'ensure environmental sustainability', with target 10 being 'to halve the proportion of people without access to safe drinking water and sanitation by 2015'. This is a financially ambitious task and the estimates of what this will cost vary from US\$6.5 billion per year to US\$75 billion.

This Briefing Note considers the accuracy of existing cost estimates and how national financing allocations and international assistance can be more effective at meeting development targets. It is based on 12 countries in sub-Saharan Africa which are least likely to achieve the MDGs: Angola, Burkina Faso, Chad, DR Congo, Ethiopia, Kenya, Madagascar, Mozambique, Niger, Nigeria, Tanzania and Uganda.



Headline facts

- Existing cost estimates per capita for the provision of water and sanitation are grossly underestimated.
- Cost estimates do not include the elements that make water and sanitation services sustainable.
- Public budgeting processes in the 12 selected countries do not provide sufficient resources to the water and sanitation sector to meet the MDG targets.
- Given per capita estimates of Gross Domestic Product (GDP) and current growth trends, it is unlikely that these countries will be able to find additional resources, either through taxes or user fees.
- Despite the recent increase in Overseas Development Assistance (ODA) commitments, per capita aid to the poorest countries still does not meet the required per capita costs. Additional challenges of the timing of aid payments, and the increased volatility of aid flows, suggest that ODA processes need to change in order for development targets to be achieved.



The Water Sector Picture

At a regional and country level, cost estimates are important to help target aid and to identify where savings might be made. However, per capita funding estimates are grossly underestimated because they tend to ignore capital maintenance expenditures (renewal and replacement of assets) and support costs such as environmental and economic regulation, planning and capacity building. These underestimations then lead to unrealistic planning and insufficient funding.

Cost estimates per capita

Table 1 shows some of the cost estimates per capita for water supply and sanitation for the selected countries.

Table 1. Cost estimates per capita for selected Sub-Saharan countries

Country	WHO estimates of annual cost for WSS (USD per capita 2000)	UN Millenium Project annual estimates (USD per capita 2004)	WSP annual estimates (USD per capita 2002)
Angola	1.94	1.61	7.05
Burkina Faso	1.94	0.98	6.53
Chad	1.94	-	6.35
DR Congo	2.23	-	3.34
Ethiopia	2.23	-	5.67
Kenya	2.23	-	8.08
Madagascar	1.94	3.13	7.01
Mozambique	2.23	0.18	7.26
Niger	1.94	-	7.36
Nigeria	1.94	-	7.90
Tanzania	2.23	6.5	7.30
Uganda	2.23	4.3	7.84

Sources: WHO, 2004; WSP-AF, 2006; UN Millennium Project, 2005.

These costs differ significantly when support costs are calculated as a percentage of the initial investment. For example, WHO include awareness campaigns and hygiene education expenditure, but do not include rehabilitation of existing infrastructure. Recurrent support costs have been estimated at between 5 and 30% of annual costs. The UN Millennium Project includes these costs but excludes integrated water resource management related costs, such as hydrological monitoring systems. Operation and maintenance costs range between 5 and 10% of capital replacement costs. By contrast, WSP estimates are more realistic, taking into account low-cost technologies, rehabilitation of infrastructure, policy formulation, sector monitoring and regulation, although they exclude hygiene education. An important assumption they make is that operation and maintenance amounts to 130% of capital cost requirements, on top of infrastructure replacement costs.

What costs are left out?

- Capital maintenance costs in rural or peri-urban areas are often left to consumers to find. However, identifying costs and developing payment systems can be difficult and so capital maintenance is abandoned, with systems falling into disrepair, and adverse effects on users' health, time, education and other associated benefits.
- On-going support to maintain existing capacity within a community is often ignored, with high turnover of caretaker staff and the disbandment of water committees. Local government involvement in projects helps communities when systems break down, and assists in monitoring private sector performance.
- Support costs which are ignored include institutional capacity building, and incentive schemes and systems for gauging programme effectiveness.
- The associated cost of technical assistance is also largely excluded in per capita estimates.

The National Picture

Government planning and budgeting frameworks

A Poverty Reduction Strategy Paper (PRSP) is a planning tool aimed at reducing poverty and assisting in budget allocations. The aim is to improve co-ordination and provide a framework for donors and government to work together and involve a range of stakeholders. Water and sanitation have rarely been prioritized in PRSPs and there have not been demonstrable increases in relevant budgets, with the exception of Uganda. While recent PRSPs have recognized the water and sanitation challenge, linkages between PRSPs and budgets remain limited.

The limitations of low per-capita GDP

A link has been made between low Gross Domestic Product (GDP) per capita and the ability of a country to invest in infrastructure and improvements in levels of service such as household water and sewerage connections. The Global Monitoring Report (2005) suggests that sub-Saharan Africa will need to double its economic growth rate in order to achieve its poverty reduction goals. Although a high GDP does not translate automatically into high service coverage and vice versa, available data from the 12 countries shows that it contributes to higher investments in the sector.

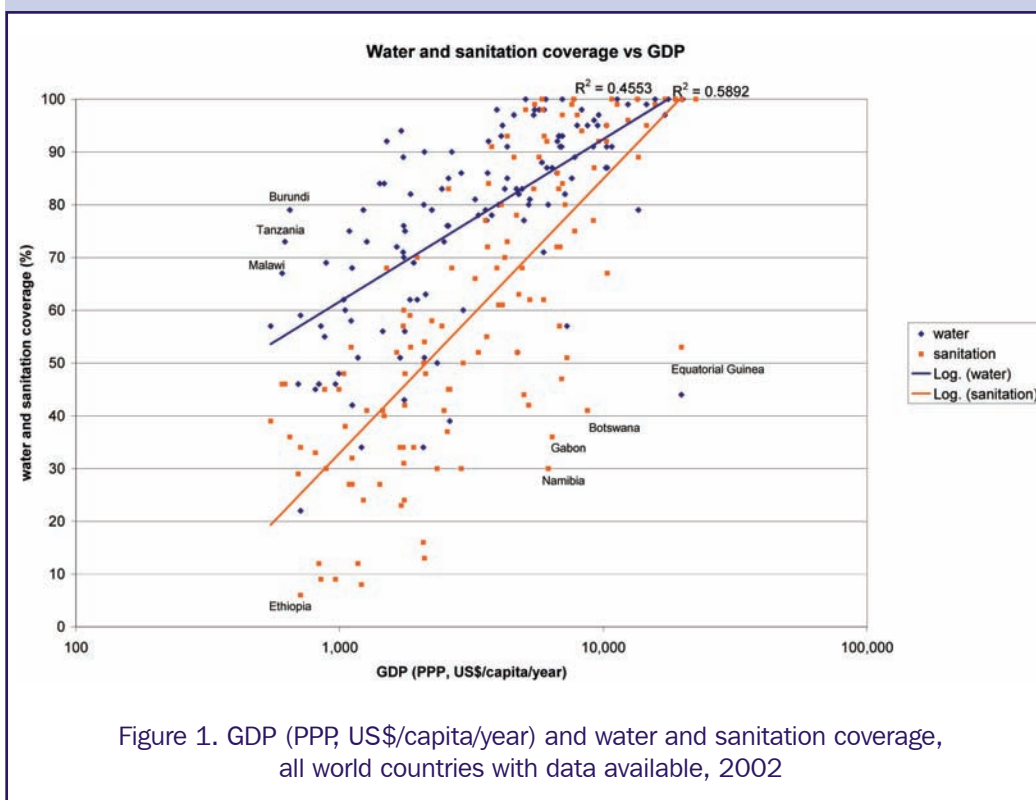


Figure 1. GDP (PPP, US\$/capita/year) and water and sanitation coverage, all world countries with data available, 2002

Levels of indebtedness

Many poor countries are paying higher debt repayments than their estimated funding requirements for water and sanitation. In 2005, US\$40 billion of debt of 18 of the poorest countries was cancelled, on assurance of their commitment towards good governance and poverty reduction. This should create the opportunity for investment in physical and social infrastructure. However, it is not clear whether this investment will be equivalent to the percentage of budget used to pay off debt, due to other government liabilities, including domestically-held debt. In Uganda, interest rates for domestically-held debt rose by 1000% over six years, so that domestic interest costs account for over 8% of Uganda's GDP. Another example is Niger, where cancellation of debt, together with a 5% increase in ODA, would still fail to cover the projected costs of achieving the MDGs.

The Development Aid Picture

Typically, developing countries rely on ODA to support their budgets and fund basic services. Usually, water and sanitation assistance is provided 'off-budget', i.e. directly to the implementing organizations, as there are limited sector and public financial management systems.

Trends in ODA in sub-Saharan Africa

Between 1994 and 2004, global ODA to fund social infrastructure (e.g. health and education) more than doubled, to over US\$26 billion. In comparison, ODA to the water sector was between US\$2.5 to 3 billion over the same period, with a rise of US\$1 billion in 2004. Still, funding needs to increase for several more years to meet the levels required to achieve the MDGs. Commitments to sub-Saharan Africa have also seen rises to US\$1.36 billion in 2004, however, this has meant only a slight increase on the 5-year average due to lower funding levels in 2000 and 2002 (OECD CRS Database).

Amongst the countries with the highest numbers of people without access to water, 10 have seen considerable increases in ODA. However, even where aid flows have been dramatic, as in the case of Ethiopia, water sector investments have not kept pace with these increases or with ODA for social infrastructure. There are exceptions, such as Nigeria and Tanzania, where water sector increases have outpaced overall ODA flows.

In the water and sanitation sector, ODA tends to focus on large-scale infrastructure. In sub-Saharan Africa this figure was US\$600 million in 2004. In contrast, funding for water resources protection, waste management, education and training etc. was under US\$20 million.

Per capita ODA and water and sanitation requirements

Table 2 shows that the sum of ODA and budget expenditures on a per capita basis does not meet the WSP's per capita cost estimates. The gap ranges from nearly US\$2 in Burkina Faso, to US\$6.20 in Madagascar.

Table 2. Per capita expenditures against cost estimates

Country	Annual budget expenditures on WASH US\$/per capita 2002	ODA US\$/per capita 2003	WASH expenditures + ODA US\$/per capita	WSP estimates US\$/per capita 2002	Remaining finance gap with WSP estimates US\$/per capita
Angola	N/A	1.79		7.05	
Burkina Faso	2.29	2.64	4.93	6.53	1.6
Chad	N/A	8.66		6.35	
DR Congo	N/A	0.79		3.34	
Ethiopia	1.49	0.16	1.65	5.67	4.02
Kenya	1.90	0.48	2.38	8.08	5.70
Madagascar	0.56	0.26	0.82	7.01	6.19
Mozambique	2.48	0.36	2.84	7.26	4.42
Niger	1.51	0.64	2.15	7.36	5.21
Nigeria	N/A	0.03		7.90	
Tanzania	N/A	5.20		7.30	
Uganda	N/A	1.69		7.84	

Source: OECD CRS database, 2003, World Development Indicators, 2003.

Volatility of ODA flows

There is an average of 8 years between an ODA funding commitment and full disbursement or payment. This impacts on its effectiveness at project or programme level. In addition to this, the sporadic nature of aid flow is a concern, as this can inhibit sustainable economic growth. This is despite the fact that PRSPs are meant to improve country-level policy planning and budgeting. This increased volatility of aid is due to the way budgets are approved, and the lack of co-ordination between donor agencies, those approving budgets and those disbursing funds (Bulir and Hamann, 2006). Harmonizing ODA commitments and their delivery would greatly increase their impact.

Recommendations

Per capita cost estimates could reflect capital maintenance costs and on-going support costs of water and sanitation. Updated costs could be discussed and adopted at a country level by donors and other sector stakeholders, to feed into budgets, investment planning, and projects to provide more reliable overall estimates.

Donor agencies could focus on streamlining their processes to make aid more predictable and consistent. While the MDGs are focused on results in developing countries, a considerable cause for concern rests with the budgeting and administrative processes within aid agencies. Donors could work harder to ensure that their recent commitments to the WASH sector are disbursed as quickly as possible, to maximize impact.

NGOs operating at both a country and international level could publish their annual commitments and expenditures, to fill this information gap. While the OECD captures ODA commitments and disbursements for governments, no similar source of information exists for NGOs, which provide considerable funds in many countries, particularly the poorest. Because NGOs often work outside the scope of government, their contributions are not captured in government budgets.

Likewise, new financial sources and agencies entering the water and sanitation market could be encouraged to report their commitments and expenditures, to allow for a more comprehensive analysis. Ideally, the Development Cooperation Directorate (DAC) database would capture the efforts of non-state funders, such as NGOs and private foundations or companies.



This Briefing Note is an analysis of the global aid financing picture, based on 12 countries in sub-Saharan Africa which are least likely to achieve the MDGs: Angola, Burkina Faso, Chad, DR Congo, Ethiopia, Kenya, Madagascar, Mozambique, Niger, Nigeria, Tanzania and Uganda.

Key references

- Bulir, A. and Javier Hamann, A. (2006). *Volatility of development aid: from the frying pan into the fire?* IMF Working Paper WP/06/65 March 2006. <http://www.imf.org/external/pubs/ft/wp/2006/wp0665.pdf> (accessed 12/12/06).
- *OECD CRS Database on Aid Activities.* <http://www.oecd.org/dataoecd/20/29/31753872.htm> (accessed 12/12/06).
- WHO, (2004). *Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level.* http://www.who.int/water_sanitation_health/wsh0404/en/ (accessed 12/12/06).
- UN Millennium Project, (2005). *Task Force on Water and Sanitation. Health, Dignity, and Development: What Will it Take?* <http://www.unmillenniumproject.org/documents/WaterComplete-lowres.pdf>
- WSP-Af, (2006). *WSS costing model.* World Bank, Nairobi (unpublished).
- The World Bank, (2005). *Global Monitoring Report 2005: Millennium Development Goals - from consensus to momentum.* World Bank; Washington. <http://web.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTGLOBALMONITOR0,,contentMDK:20857409~pagePK:64168445~piPK:64168309~theSitePK:2185068,00.html>

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