

WELL Briefing Note

Cost estimates, Budgets, Aid and the Water Sector: What's going on?

An analysis illustrated with data from 12 Sub-Saharan African countries

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1. Introduction

Increasing access to water and sanitation services is a financially daunting task. Recently, a large number of studies have been conducted to estimate the costs to achieve the Millennium Development Goals MDGs. The *WELL Briefing Note 9* provides an overview of costs estimated by different agencies. The range of estimates is broad, covers all regions and ranges between US\$6.5 billion per year by the UN MDG Task Force on Water and Sanitation (2004) to US\$75 billion per year by the World Water Vision (2000).

There is disagreement on how expensive access can be, but there are also an increasing number of sources of funds ranging from the more traditional Overseas Development Assistance, to national government sector expenditures, to and increasing number of international and national private financing mechanisms.

Financial flows to WASH from the international community have varied in recent years, ODA commitments in 2004 nearly doubled to USD 1.2 billion in 2004. Additionally, considerable efforts have been made to increase the inclusion of the water sector in Poverty Reduction Strategy Papers and MTEF frameworks, in order to increase (domestic) government spending on water through the national budget. Although difficult to track, NGOs and INGOs also invest considerable amounts in the water sector and finally, WASH has also become a topic for consideration by foundations and private (financing) companies, including Ethos water (USA), One water (UK), interest from the Bill and Melinda Gates Foundation as well as funds such as the Acumen Fund entering the market.

1.1 The scope of the analysis in this Briefing Note

The analysis presented in this briefing note draws from our understanding of the global financing picture for water and sanitation, focusing on 12 countries in Sub-Saharan Africa that are least likely to achieve the MDGs: Angola, Burkina Faso, Chad, DR Congo, Ethiopia, Kenya, Madagascar, Mozambique, Niger, Nigeria, Tanzania, and Uganda.

In the analysis we focus on the adequacy of estimates of the cost of providing access to water and sanitation per capita in these countries, rather than how *effective or efficient* the funding flows may be. We hope to initiate discussions and reflection on these issues by exposing what seems to be contradictory information in the sector.

The analysis of a few variables shows firstly that on a per-capita basis, cost estimates to achieve the MDGs that are used to drive policy decisions both by donors and governments, tend to be underestimates. Secondly, amounts of funding to WASH, whether through public budgets or ODA, still (for the most part) are insufficient to meet even those under-estimated cost estimates.

1.3 Structure of the Briefing Note

We argue in this paper the following propositions:

Argument i) Existing cost estimates per capita are grossly underestimated;

Argument ii) Public budgeting processes do not provide sufficient resources to WASH;

Argument iii) ODA is insufficient to bridge the financing gap;

To illustrate these points, this briefing note is structured as follows:

- *Section 2* considers the costs to provide WASH coverage and why we believe they are underestimated;
- *Section 3* considers the potential for finance from within a country's budgeting process, and the role the level and per capita GDP plays in a country's ability to leverage additional finance for WASH;
- *Section 4* looks at the ability of Official Development Assistance (ODA) to bridge the gap; and
- *Section 5* presents a summary and conclusion.

1.4 Country selection

To illustrate our analysis, we selected Sub-Saharan Africa as the region of focus. As seen in Figure 1, Sub-Saharan Africa has seen the lowest growth in Human Development Indicators during the last decade. Notably, thirteen of eighteen countries that registered lower scores on the HDI in 2003 than in 1990 are located in Sub-Saharan Africa.

We then selected the 12 countries with the greatest numbers (absolute and percentage) of people lacking access to water supply and sanitation (Table 1). This list includes some countries that are considered to be 'on track' to achieve the MDG for water supply by 2015 (Tanzania, Uganda, Burkina Faso, and Nigeria), but none of the 12 countries are considered 'on track' to achieve the sanitation goal (WHO/UNICEF, 2004a).

Table 1: Sub-Saharan countries with the least access to improved water supply and sanitation in 2002

Countries (alphabetic order)	Pop total millions	Pop with no access water millions	Pop with no access sanitation millions	Pop with no access water (%)	Pop with no access sanitation (%)
Angola	13,2	6,6	9,2	50	70
Burkina Faso	12,6	6,2	11,1	49	88
Chad	8,3	5,5	7,7	66	92
DR Congo	51,2	27,6	36,4	54	71
Ethiopia	68,9	53,8	64,8	78	94
Kenya	31,5	11,9	16,4	38	52
Madagascar	16,9	9,3	11,3	55	67
Mozambique	18,5	10,8	13,5	58	73
Niger	11,5	6,2	10,2	54	88
Nigeria	120,9	48,4	74,9	40	62
Tanzania	36,3	9,8	19,6	27	54
Uganda	25,0	11,0	14,8	44	59

Source: WHO/UNICEF (2004a, 2004b)

Figure 1 Human Development Index



Source: UNDP, 2005

2 Argument i) Existing cost estimates per capita for WASH are grossly underestimated

As mentioned, quite a number of different cost estimates to achieve the MDGs have in recent years tried to quantify the cost of the challenge, both at local, national, and international levels. While some of these cost estimates considered secondary and tertiary treatment for wastewater, and more costly infrastructure, others tipped in the other direction by focusing on low cost technologies.

At a regional and country level, cost estimates are important to help target aid flows, as well as identify areas where costs can be reduced. However, the most basic estimates per capita for the water sector are actually less than what some of the world's poorest governments are already spend from their own budgets. We believe that the per capita funding estimates are heavily under-estimated, because they tend to ignore capital maintenance expenditures¹ (CAPEX) and both direct and indirect support costs².

The impact of using 'low-balled' per capita costs is considerable, and is affecting budgeting decisions, leading to unrealistic expectations of value for money, limiting determinations of funding by donors, and, most importantly, resulting in insufficiently funded WASH.

In the rush to produce visible "impact" on the ground, sustainability is at stake. By 2015, even if some countries reach the WASH MDGs on paper, between 15-50% of the new services will have already broken down³ due to the lack of capacities and support structures to keep the services running.

2.1 WASH cost estimates per capita

One method, recently used, to calculate costs on a per-capita basis, is based on extrapolations of technology requirements, which are then multiplied by the projected number of people lacking access between 2000 and 2015 (to achieve the MDGs). However, while input cost estimates can be useful for projecting costs, the picture usually presented is incomplete. As decades of experience in the WASH sector have proven, it requires more than a hand-pump to ensure access, and more than a bar of soap to ensure proper hygiene behaviour.

Table 2 illustrates some of the cost estimates per capita for the twelve countries selected for this study, based on the country's entire population. Notably, these differ significantly when direct and indirect support costs are calculated as a percentage of initial investments.⁴

For example, on the lower end, the WHO estimates include awareness campaigns and hygiene education required expenditures, but do not account for rehabilitation of existing infrastructures (WHO, 2004). Recurrent expenditure required for direct and indirect support costs such as regulation, source protection, monitoring and educational activities have been estimated between 5 and 30 percent of annual costs.

The UN Millennium Project (2005a) included most of the above but did not include costs related with integrated water resources management (IWRM), such as hydrological monitoring systems. The costs of operation and maintenance range between 5 and 10 percent of the capital replacement costs.

¹ Expenditure on asset renewal and replacement costs, based upon serviceability and risk criteria.

² Expenditure on direct support costs such as environmental and economic regulation including customer involvement costs.

Indirect support costs indicate expenditure with activities such as capacity building and planning at a national scale.

³ "Although the literature is sparse on sustainable coverage, some estimates suggest that at any given moment, 30%–40% of rural water supply systems in developing countries may be inoperable" Source: Evans, Phil. 1992. Paying the piper: an overview of community financing of water and sanitation. Delft, the Netherlands: IRC International Water and Sanitation Centre.) In Ethiopia, studies from 1999-2004 in rural areas, report that a third to a half of existing water schemes are not functional (WSP, 2003). The UN Millennium Project (2005a), based on interviews with experts assumes conservatively a 15% breakdown in sanitation infrastructures in 2004.

⁴ For more assumptions behind the data refer to the sources or the summarised version in World Water Council, 2005.

By contrast WSP's approach (Mehta et al., 2005 and WSP-Af, 2006⁵), by far the most realistic estimate, took into account low cost technologies, rehabilitation of non-functioning infrastructure, policy formulation and sector monitoring and regulation, but excluded hygiene education. An important assumption made is that costs with operation and maintenance amount to 130% of capital cost requirements, on top of the costs needed for infrastructure replacement.

Table 2 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 and UN Millennium Project, 2005a

2.2 The “ignored” costs (what is left out)

In rural and peri-urban areas, capital maintenance expenditures are considered “small”, or are determined affordable by communities using a willingness to pay survey. Communities are left to figure by themselves how to collect sufficient amounts to maintain their new systems. In poor countries, or in regions of countries without a strong cash-based economy, identifying costs and developing systems to pay for services can be stubbornly difficult. As a result, capital maintenance falls to the wayside, systems fall into disrepair, and users lose the health, time, education, and other benefits until the provision of a new or rehabilitated facility.

Likewise, expenditures for on-going support costs to maintain existing capacity within a community to manage the service are also required though equally often ignored in project budgets. Some examples of situations we have seen include caretakers who leave their communities in search of better jobs after they have been trained, or the crumbling of a water committee after a corruption scandal. As part of project design, and particularly in rural areas, most projects and programmes rely strongly on the community, local NGOs, or the private sector, but do not sufficiently involve local governments during implementation. However, when there are serious system breakdowns or when there are conflicts within the communities and the implementing agency has left the area, some support and mediation is required from outside the community. The costs of ensuring that local government staff has the ability to help communities in its jurisdiction when systems break down, or to monitor private sector performance, is usually overlooked.

For urban utilities, donor agencies insist upon pricing strategies that cannot meet the demands of capital maintenance. In all too many cases ODA financiers set targets that fail to meet current cost depreciation and return on capital. Depreciation is ignored and return on capital is limited to debt service on very generous terms. Under these conditions, on the medium term, utilities will fail and levels of service will deteriorate⁶.

⁵ WSP-Af, 2006. WSS costing model. World Bank, Nairobi (not published)

⁶ Keith Burwell, personal communication

Other costs that tend not to be factored in include indirect support costs, particularly costs incurred at higher levels of administration. These include institutional capacity building and skills training at regional and national levels, as well as the development and implementation of incentive schemes to prevent a local “brain drain” once technical and administrative staff are trained, and until a critical mass of people are trained. This category also includes the cost of developing a strategy for IWRM, water and wastewater management, and developing and maintaining monitoring and assessment information systems which are critical for gauging the effectiveness of programmes as part of a broader development strategy. On the other hand, cost estimates for institutional, governance, and sustainability factors are notoriously difficult to project, which is why they are often excluded, leading to an under-estimation of the costs for a number of countries in Africa.

Per-capita estimates also fail to factor the associated high costs of technical assistance, which, while necessary, is largely spent on international consultants. The estimates also do not factor in when implementation departs NOT from the lowest cost options due to: tied aid (leading to much more expensive options), the high drilling costs in many African countries, lack of or limited supply chains, and other market factors.

3. Argument ii) Public budgeting processes do not provide sufficient resources to WASH

3.1 Government planning and budgeting frameworks

In theory, the Poverty Reduction Strategy Paper (PRSP) is a planning tool to help countries organize their poverty/development agendas at local, district, regional, and national levels. The planning process is meant to be accompanied by costing exercises, to help inform budget allocations and to help bridge policy development with public funding. The Medium-Term Expenditure Framework (MTEF), a three year financial planning tool, and a sector investment plan, which is more long term, are meant to guide this budget development to ensure that government expenditures are spent on defined poverty reduction activities.

While the PRSP is intended to be a country-driven plan to reduce poverty, it is also meant as a step towards improved coordination between a country government and donors. A well-organized PRSP can help raise interest in programmatic funding, by which a donor provides money through the government budget, or a Sector Wide Approach, (SWAp), whereby donors and the government agree on specific activities for funding. From a water sector perspective, then, the key to obtaining government funding is to get water prioritized through the PRSP, which is updated every three years. However, in practice, the PRSPs have not led to demonstrable increases in WASH budgets in most countries, with the exception of Uganda. In the first cycle of PRSPs, water and sanitation were barely mentioned. Where WASH was identified as a priority in the PRSP, such prioritization was not reflected in the budget allocation (Fugelsnes and Mehta, 2003). While more recent PRSPs have improved their articulation of the WASH challenge still, linkages between the PRSP and budgets are limited.⁷

⁷ Part of the limited understanding of linkages in these processes is due to a lack of publicly-available information, beyond what is provided by the World Bank and IMF. In particular, country specific budget data is difficult to obtain.

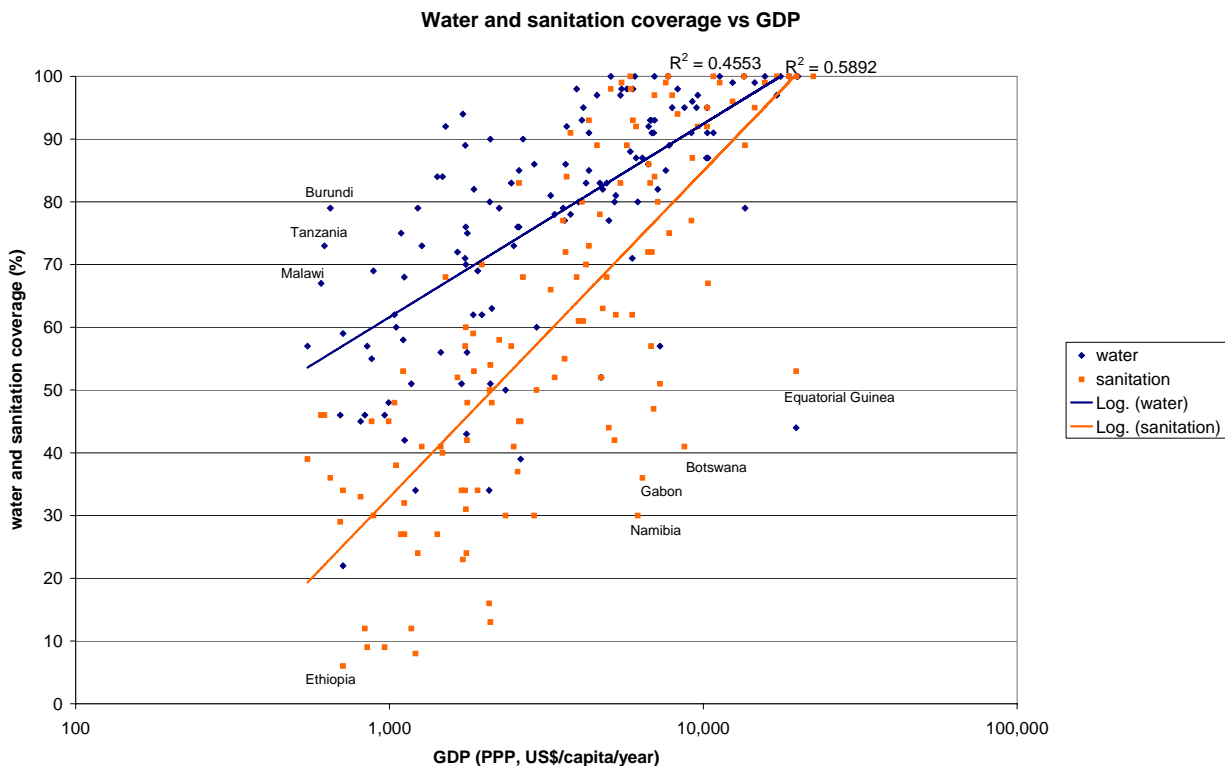
3.2 The limitations of low per-capita GDP to leverage additional finance for WASH

Some economists believe that the poorest countries lack the resources to be able to invest in capital infrastructures due to low domestic savings rates and other factors⁸ and will only be able to revert this poverty cycle once basic massive investments are made and GDP reaches a certain level. According to the Global Monitoring Report, Sub-Saharan Africa will need to double its economic growth rate in order to achieve poverty reduction goals (IBRD/World Bank, 2005).

While we do not imply with this analysis that countries with low GDP per capita are “doomed” or “hopeless” to remain with poor levels of coverage, it is always useful to remember that historically, many European countries have only reached improved levels of service such as household connections and sewerage for a large number of their population when GDP reached values well above US\$5,000 per capita, after two hundred years with an average GDP growth/year of 1.3%⁹. Furthermore, Figure 2 shows the correlation between water and sanitation coverage and GDP per capita per year using data from 2002 from both developed and developing countries.

While a high GDP does not translate automatically into high service coverage and the other way around (i.e. Equatorial Guinea or Burundi), the data does suggest that higher GDP is associated with higher investments in the sector. Data available from some of the 12 countries (table 3) confirms this belief with a significant correlation coefficient ($R^2 = 0.60$).

Figure 2 GDP (PPP, US\$/capita/year) and water and sanitation coverage, all world countries with data available, 2002



⁸ For example, Sach’s discussion of the poverty trap in “The End of Poverty”. (Sachs, 2005).

⁹ Richard Franceys. 2007. Forthcoming publication.

Table 3 GDP and per capita budget expenditure; Trends in GDP growth

Country	Budgeted expenditures on WASH 2003 US\$/capita/year	GDP 2003 PPP US\$/capita/year	Average GDP growth 1998-2003	Trend in GDP growth 1998-2003
Angola	NA	2,344	6%	↑
Uganda	NA	1,457	6%	↓
Chad	NA	1,210	6%	↑
Burkina Faso	2.29	1,174	4%	↑
Mozambique	2.48	1,117	9%	↓
Nigeria	NA	1,050	4%	↑
Kenya	1.90	1,037	1%	↓
Niger	1.51	835	4%	↓
Madagascar	0.56	809	3%	↓
Ethiopia	1.49	711	3%	↓
DR Congo	NA	697	-1%	↑
Tanzania	NA	621	5%	↑

Source: Public Expenditure Reviews and APRs; IMF Selected Issues and Statistical Summaries for all countries, own analysis; World Bank, 2005.

In the 12 countries of this Briefing Note, on a 10-year average, GDP growth is variable across the 12 countries, from 9% in Mozambique to -1% in DR Congo. The average is about 4% which is well below the 7-8% required to fully fund poverty reduction activities and half of the 12 countries most off-track to achieve the MDGs are experiencing a trend of declining GDP growth.

3.3 Considering levels of indebtedness

Many poor countries' debt payments are more than their estimated requirements to fund the WASH sector, which puts into question the logic of development finance. For example, between 1970 and 2002, Africa as a whole received US\$540 billion in loans, but repaid US\$550 billion in principle and interest in the same timeframe (McLaughlin, 2005). The call for debt relief – to eliminate the debts owed to OECD countries as well as multi-lateral development banks – has been an issue in the halls of development finance for many years.

In 2005, the G8 finance ministers agreed to cancel US\$40 billion in debt to 18 of the poorest countries, including Burkina Faso, Ethiopia, Madagascar, Mozambique, Niger, Tanzania and Uganda, highlighted in Table 4. The debt relief package amounts to about one-sixth of Africa's overall US\$295 billion debt. To obtain the debt relief, governments had to demonstrate good governance, and commit to spending the money saved on poverty reduction activities (McLaughlin, 2005).

In theory, the debt relief offered by the G8 and Bretton Woods agencies would create fiscal space for countries to invest in their physical and social infrastructure. Given the reliance of many countries on ODA to meet their budget expenditures, it is not clear at this time whether such fiscal space created will be equivalent to the percentage of the budget that went to service the debt, given other government liabilities, including domestically-held debt. For example, in Uganda, a rise in interest rates on domestically-held debt rose considerably, as of 2003/04, the Government's interest costs rose by 1,000% in six years, and domestic interest costs account for over 8% of Uganda's GDP (Uganda MFPED, 2004.). In other countries, for example in Niger, debt cancellation and even a 5% increase in ODA still would not cover the projected costs to achieve the MDGs (Agénor et al, 2005).

Table 4 Total debt per capita vs estimated annual WASH costs per capita, 2002

Country	Total Debt 2002 US\$ per capita	WSP annual WASH cost estimates 2002 US\$ per capita
Angola	490	7.05
Mozambique	324	6.53
Madagascar	235	6.35
Congo, Dem. Rep. of the	213	3.34
Kenya	193	5.67
Nigeria	176	8.08
Chad	163	7.01
Uganda	159	7.26
Tanzania, U. Rep. of	154	7.36
Niger	153	7.90
Burkina Faso	135	7.30
Ethiopia	97	7.84

Source: OECD, 2006. External Debt Statistics (New series 1998-2002); WSP-Af, 2006

5. Argument iii) ODA is insufficient to bridge the financing gap

Typically, developing countries – and particularly the poorest – rely heavily on Official Development Assistance (ODA) to support budgets and fund basic services. In most of these countries, except in Uganda and Tanzania, most WASH sector based ODA are provided off-budget directly to implementing organisations and institutions, as the sector and public financial management systems in these countries tends to be limited and donors and INGOs numerous and un-coordinated. This section provides an overview of ODA flows globally for WASH, focusing on Sub-Saharan Africa and the 12 countries of this study.

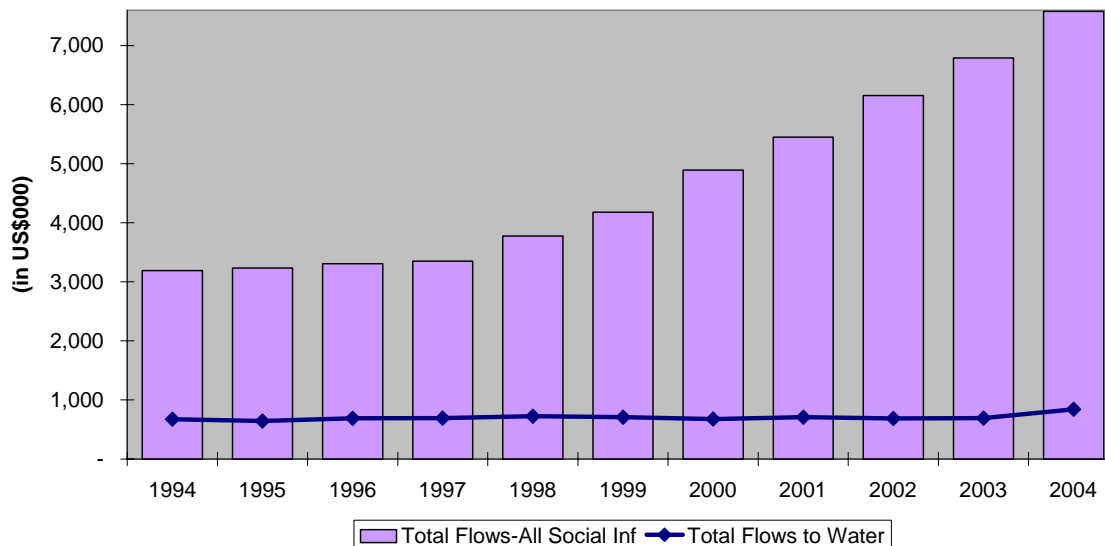
5.1 Trends ODA in Sub-Saharan Africa

Between 1994 and 2004, global ODA to social infrastructure¹⁰ – which includes health and education as well as governance and civil society - more than doubled, with annual increases, to over US\$26 billion dollars in 2004. By contrast, ODA to the water sector floated between US\$2.5 billion and US\$3 billion in that time frame. While total commitments for the water sector dropped off between 2002 and 2003, 2004 saw an increase by over US\$1 billion in commitments. However, commitments will need to be sustained over the next several years, and increased, in order to achieve the global requirements of the water and sanitation MDGs.

Within this framework, commitments to Sub-Saharan Africa are also on the rise. Although commitments have been highly variable since 1990, they have mostly remained within a band of between US\$500 million and US\$850 million per year. In 2004, commitments spiked to US\$1.36 billion. Because of lower commitments in 2000 and 2002, however, this increase has only slightly increased the 5-year average (see Figure 3).

¹⁰ This data, drawn from the OECD CRS database, is calculated using a 5-year moving average, is based on constant US\$, and is based on total ODA from all donors.

Figure 3: Sub-Saharan Africa ODA for social infrastructure and total ODA for the water sector, 1994-2004.



5.2 ODA to WASH relative to other social sectors

While the increased commitments in Sub-Saharan Africa should be taken as very positive signs, the pace of flows to the water sector relative to overall ODA as well as to social infrastructure (including health, education, and governance and civil society strengthening), has lagged. This is true both at a regional level, and also at a country level. Table 5 below highlights these trends, and provides specific information for the 12 countries.

Table 5 ODA flows to WASH in the 12 selected countries

Countries	ODA flows to WASH (in millions ¹¹)		Trend	Flows to WASH relative to Total ODA		Trend	Flows to WASH relative to social infrastructure ODA (in %)		Trend
	1999	2004		1999	2004		1999	2004	
Angola	4.06	11.8	↑	1%	2%	↕	6%	6%	--
Burkina Faso	40.28	56.74	↑	12%	10%	↕	36%	31%	↕
Chad	18.668	24.078	↑	11%	8%	↕	30%	26%	↕
DR Congo	2.74	9.33	↑	2%	0%	↕	6%	3%	↕
Ethiopia	28.886	52.1	↑	4%	4%	--	14%	13%	↕
Kenya	26.3	35.7	↑	5%	4%	↕	17%	10%	↕
Madagascar	7.5	9.01	↑	2%	1%	↕	7%	7%	--
Mozambique	52.97	32.6	↕	6%	2%	↕	20%	8%	↕
Niger	17.2	24.7	↑	9%	6%	↕	21%	24%	↑
Nigeria	1.06	59.3	↑	2%	7%	↑	2%	11%	↑
Tanzania	23.9	80.9	↑	3%	5%	↑	11%	15%	↑
Uganda	39.4	30.2	↕	6%	3%	↕	15%	9%	↕
Total SSA	708.9	842.2	↑	5%	4%	↕	17%	11%	↕

Looking more closely at a country level, amongst the 12 countries with the highest absolute numbers of people lacking access to water supply, 10 have seen considerable increases in ODA flows between 1999

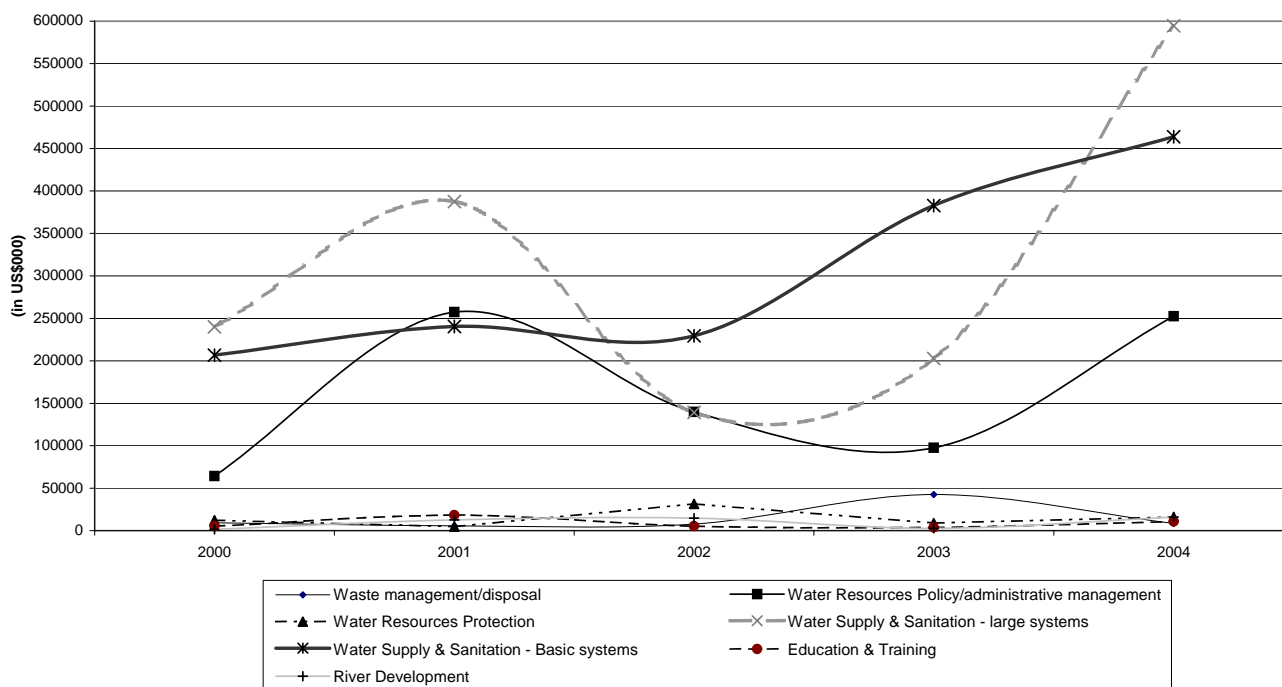
¹¹ Based on a 5-year moving average.

and 2004. In Ethiopia, ODA nearly doubled, from US\$26.3 million in 1999 to US\$52.1 million in 2004. In Tanzania, the increase was over three-fold, from US\$23.9 million in 1999 to US\$80.9 million in 2004. Some countries' ODA for WASH are on the decline, notably in Uganda, which dropped from US\$39.4 million to US\$30.2 million between 1999 and 2004, and in Mozambique, where flows dropped from US\$52.97 million to US\$32.6 million. Interestingly, even where aid flows have increased dramatically, as seen in Ethiopia and Burkina Faso, water sector investments have not kept pace with either overall ODA, or ODA targeted for social infrastructure. By contrast, in Nigeria and Tanzania, significant increases to the water sector appear to have outpaced overall increases in ODA flows.

5.3 ODA allocations within the WASH sector

ODA tends to focus on large-scale infrastructure. In Sub-Saharan Africa, this is seen in the dotted gray line in Figure 4 below, most notably with an increase in commitments for large-scale infrastructure nearing US\$600 million. Incorporating the commitment data from 2004, increases in commitments for basic water supply and sanitation¹² as well as for water resources policy/administrative management (US\$463.8 million and US\$252.5 million, respectively). By contrast, ODA commitments for water resources protection, waste management/disposal, education and training, and river development were all under US\$20 million for 2004. In 2003 and 2004, an emphasis was placed on infrastructure – whether large scale, or small scale (with a focus on basic services). It is not clear from the data the proportion of flows categorized as infrastructure that are spent on capacity building and institutional strengthening.

Figure 4 ODA commitments to the WASH sector 1998 – 2003 in Sub-Saharan Africa



ODA provides considerable additional funds to government expenditures. However, while ODA flows are valuable, they are not always consistent, which affects a country's ability to program activities effectively. According to an OECD report (2004), there is an average of 8 years between a commitment and full

¹² This category was formerly known as "water infrastructure – small scale" but was re-named in 2005 to reflect the needs of the MDGs in 2005.

disbursement. Peak disbursements tend to occur between 4-5 years after the commitment. Further, following the donors' logic, actual disbursements of commitments made in 2004/05 will not reach any momentum until 2009/2010.

5.4 Per-Capita ODA and WASH requirements

While the ODA analysis above provides some big-picture trends on financing in the sector, understanding how ODA at a national level translates to per-capita ODA will help us to illustrate whether ODA is working to bridge the expenditure gap in those countries least likely to achieve the MDGs. Importantly, this analysis is meant to be indicative, as it was not possible at this time to disaggregate the amounts of funding spent through the public budgets (and therefore possibly double-counted); further, the analysis reflects data from different years (2002-2003). Table 6 below builds on previous tables in this briefing note, by reflecting per capita ODA, and the remaining finance gap in the 12 focus countries.

As seen in table 6, the sum of ODA and budget expenditures on a per capita basis still does not cover the WSP's per capita cost estimates, which while being the highest estimate per capita available in the sector is still low considering the "ignored costs" mentioned in section 2.2. The gap ranges from nearly US\$2, in Burkina Faso, to US\$6.20, in Madagascar.¹³

Table 6 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	NA	1.79		7.05	
Burkina Faso	2.29	2.64	4.93	6.53	1.6
Chad	NA	8.66		6.35	
DR Congo	NA	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	NA	0.03		7.90	
Tanzania	NA	5.20		7.30	
Uganda	NA	1.69		7.84	

Source: OECD CRS database, 2003, World Development Indicators, 2003, own estimates

5.5 Volatility of ODA flows

In addition to the lag time between commitments and disbursements of ODA, which impacts its effectiveness at a project or programme level, year-on-year aid volatility is also a concern. In most cases, analyses of ODA are based on a 5-year moving average, to account for the way in which projects are booked – meaning that the full project amount is booked in a single year, even if the project is multi-year in nature. In many respects, this analysis 'smoothes' the data, providing a more accurate picture of total flows. However, a recent study by the IMF (Bulir et Hamann, 2006) considered the volatility of aid flows, with some interesting results.

¹³ Notably, this analysis does not capture funding flows from NGOs and private foundations, as these are not accounted for in a consistent fashion, and are largely unknown.

Specifically, the study's authors focused on the impact of the PRSP on aid volatility. As noted in Section 3, the PRSP process is meant to help improve policy planning and budgeting at a country level, and increase donor coordination at an international level. In practice, this analysis found that aid flows are more volatile now than they were pre-PRSP (in the mid 1990s). The impact of volatile aid flows can increase macro-economic instability, reducing the potential for sustainable economic growth. Further, the authors found little evidence that the poorest countries have benefited from the PRSP and other coordination efforts.

The authors note that the drivers for increased volatility are largely administrative and bureaucratic, relating to the ways in which budgets are approved, and the disconnect between the agencies that make ODA commitments, those which approve budgets, and those that ultimately disburse funds. Because of the number of agencies involved, the result can be a timely process (Bulir et Hamann, 2006).

While the constraints in institutional arrangements amongst donor agencies are, to a degree, understandable, it appears incongruous for those making aid commitments to step beyond the reach of what a parliament or Ministry of Finance will support. Harmonizing the ODA commitments and delivery towards greater predictability and more consistent funding would make a considerable difference to the quality and longevity of impacts from development finance.

6. Summary and recommendations on financing WASH

The financing situation in the water sector is depressing. In this analysis, we started by considering cost estimates to achieve the MDGs, and found that these are largely underestimated. Further, we found that the missing components of the cost estimate are those most strongly linked to sustainability, because of the difficulty in deriving a standard estimate. Then, we looked at the public budgeting process in 12 countries least likely to achieve the MDGs, and found that current budgets do not match even the low-balled estimates in terms of WASH. Further, given per-capita GDP estimates, and GDP growth trends, it is unlikely that these countries will be able to leverage additional finance from domestic resources, whether through taxes, user fees, or the like, particularly for the poorest. Then, we considered the role of ODA, and noted that even while ODA commitments have increased recently, per capita ODA to the poorest countries are still insufficient to meet per capita costs. Additionally, the challenges of disbursements, and the increased volatility of aid flows, suggest that the systems surrounding ODA need to change in order to be more effective, to achieve development targets.

Recommendations on financing WASH include:

- *Per capita cost estimates should reflect capital maintenance expenditures, on-going support costs and indirect support costs of WASH.* Updated costs should be discussed and adopted at a country level by donors and other sector actors, to feed into budget projections, investment planning, large and small projects. It is a very simplistic recommendation but in fact cost underestimation has been one of the single most direct causes of programme, project and utility failures and inability to move from “pilot projects” to scale.
- *Donor agencies should 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 should work harder to ensure that their recent commitments to the WASH sector are disbursed as quickly as possible, to maximize impact in the next few years.
- *NGOs operating at both a country and international level should publish their annual commitments and expenditures, to help 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 sums in many countries, particularly the poorest. Because NGOs often work outside the

scope of government, whether for political or other reasons, NGO contributions are also not captured in a government budget. For the purposes of coordination and aid targeting, it would be extremely helpful for NGOs to provide information on their commitments, expenditures, and outputs/outcomes in a standardized fashion, to allow for greater understanding of the impact of this sector.

- *Likewise, new financial sources and agencies entering the WASH market should be encouraged to report their commitments and expenditures, with funding details, to allow for more comprehensive analysis.* Ideally, the DAC database would be able to capture the efforts of non-state actors, such as NGOs and private foundations or companies; however there may be other agencies, for example as part of the UN Global Compact, or UN Water, which may be able to serve a similar function.

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