

Why Sanitation and Water Supply are Important to Growth and Development in the Republic of Angola

A significant investment increase is required in Angola in order to achieve the WSS MDGs.

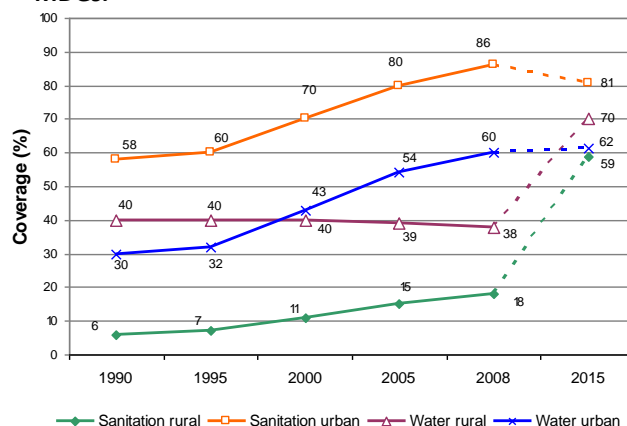
This briefing note for the Angolan Ministry of Finance shows that **water supply and sanitation (WSS) need urgent attention**. Failure to finance water and sanitation is costing the country a notable portion of its GDP. Scientific studies show that access to **sanitation and water not only improve quality of life, but also bring tangible health, environmental and economic benefits, and contribute to poverty reduction**. The rate of return of spending on sanitation and water can exceed other public investments such as in infrastructure, transport, health or education. While data are still incomplete, this briefing note demonstrates that even a little **spending on water supply and sanitation reaps enormous rewards**.

Sanitation and water supply coverage in Angola requires attention

According to data compiled by the WHO/UNICEF Joint Monitoring Program (JMP)^a, progress to achieve the rural sanitation and water targets^b in Angola is off-track. Based on the most recent coverage data in 2008, Angola has **seven years to raise rural sanitation coverage from 18% to 59%, and to raise rural water coverage from 38% to 70%**. This latter target compares with the Water For All Programme which has set a goal of reaching 80% drinking water coverage in rural and peri-urban areas by 2012. Sanitation figures from JMP are lower than MICS data due to excluding unhygienic latrines from estimates. In urban areas, on the other hand, coverage has increased consistently since 1990, with the urban sanitation target already achieved, and the urban water target almost achieved.

However, even if Angola meets the MDG target in both rural and urban areas, **41% of the rural population would still be without access to improved sanitation and 30% of the rural population would still be without access to improved water supply**. Therefore, continued investments are needed in the sector, but targeted to the rural population, where roughly 45% of the Angolan population lives.

Angola's progress towards the sanitation and water MDGs 1990-2008 and progress required to achieve the MDGs.



Money spent on sanitation and water pays dividends

Based on the average cost of a latrine and water supply, it is estimated that Angola requires a **total expenditure of AKZ 96 billion (US\$ 1.2 billion) to meet the water and sanitation MDG targets, of which AKZ 80 billion (US\$ 1 billion) is for sanitation^c**. While the urban targets are already or almost achieved, spending is still required to maintain existing coverage and operate the services. Spending has been growing for the sector, however mainly for water supply^d. Investment needs in Angola are more sizable for sanitation. Therefore, Angola will need to significantly redirect investments in order to improve rural sanitation and rural water coverage.

^a JMP data are presented as it reflects global monitoring of the MDGs and standardized definitions, while it is recognized that each country has its own targets and data.

^b The rural – urban **target** breakdowns presented here are not official JMP, but are used to indicate what progress is needed in rural and urban areas separately to meet the overall MDG target.

^c This sum will be met from a mixture of sources which include households as well as the government and donor budgets. Also, budgeting has to take into account program costs (program establishment, population sensitization, monitoring, evaluation) which can be significant, but have been excluded here due to lack of data.

However, **investment in water and sanitation not only provides basic services, but also reaps benefits well beyond the sanitation and water sector.** Investments in sanitation and water in fact are investments in health, education, the environment and poverty reduction.

Failure to invest can be costly in the long-run

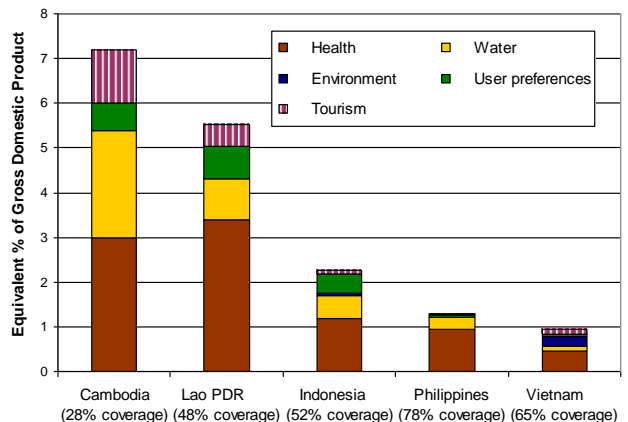
Economic research on water supply and sanitation is not commonly done, therefore findings must be borrowed from other countries. A World Bank country environmental analysis conducted in Ghana has shown that health costs resulting from poor water, sanitation and hygiene cost the country the equivalent of **2.1% of annual Gross Domestic Product (GDP)**. The indirect effects of malnutrition – to which poor water and sanitation contribute 50%, according to WHO. - cost even more than the direct effects, taking the total health cost to **5.2% of annual GDP in Ghana**. An important contributor to this figure is child mortality: in Angola WHO estimates 42,500 deaths of children under five caused by diarrheal disease in the year 2004. Further, studies demonstrate that poor water and sanitation significantly contribute to malnutrition which leads to lower school productivity and work productivity from impaired cognitive function and learning capacity. Rates of moderate and severe stunting and underweight are high in children under five in Angola, at 29% and 16%, respectively.

As well as valuing health-related productivity and loss of life associated with inadequate WSS, other economic impacts have been valued for countries other than Angola. These costs include treatment seeking for illness; time to access unimproved drinking water and sanitation; and water pollution. The latter includes the cost of water treatment to ensure the safety of hauled and piped water, or access to safer but more distant water sources.

Not every country has the luxury of a full economic impact study on poor sanitation. World Bank studies from Southeast Asia show the non-health costs of poor sanitation are comparable with the health costs, contributing AKZ 1,500 (US\$ 20) of the total annual AKZ 2,500 (US\$ 32) per capita losses in Cambodia, and AKZ 1,200 (US\$ 15) of the total annual AKZ 2,600 (US\$ 34) per capita losses in Lao PDR (see figure). **The results are indeed alarming: the total economic losses associated with poor sanitation are equivalent to 7.2% of annual GDP in Cambodia and 5.4% of annual GDP in Lao PDR.**

The graphic shows the equivalent cost, as a proportion of annual GDP, of not investing in improved sanitation in 5 countries of Southeast Asia. (in brackets, sanitation coverage in 2006)

Source: World Bank



As well as the direct household effects of poor sanitation, poor water and sanitation can also have larger scale effects. First, it can impact on **foreign tourists** choosing Angola as their holiday destination. Second, it can affect business and play an influential role in where **foreign businesses** invest their money. Emerging evidence from Asia suggests that a country's reputation of poor environment, polluted water and an unhealthy workforce can affect the earning power of foreign currencies, and hence hinder economic growth. Furthermore, as the effects of **climate change** are felt – with increased predictions of extremes such as flooding and droughts – it will become even more important to invest in resilient WSS systems to ensure the availability and safety of the water supply, as well as appropriate sanitation options that do not further stress water supplies nor pollute dwindling water resources.

^d The PDSA (Water Sector Development Program, 2004) focuses on the planning and programming of investment requirements with a focus on water supply services. Budget allocations for water increased from 0.61% of the national budget in 2004 to an average of 1.1% for 2006/8, at the same time the national budget quadrupling in size. Hence the water sector's budget grew from AKZ 4 billion (US\$ 51 million) to AKZ 27 billion (US\$ 350 million). Projects undertaken with grants from external development agencies represent approximately 10% of total expenditure in the sector in 2008.

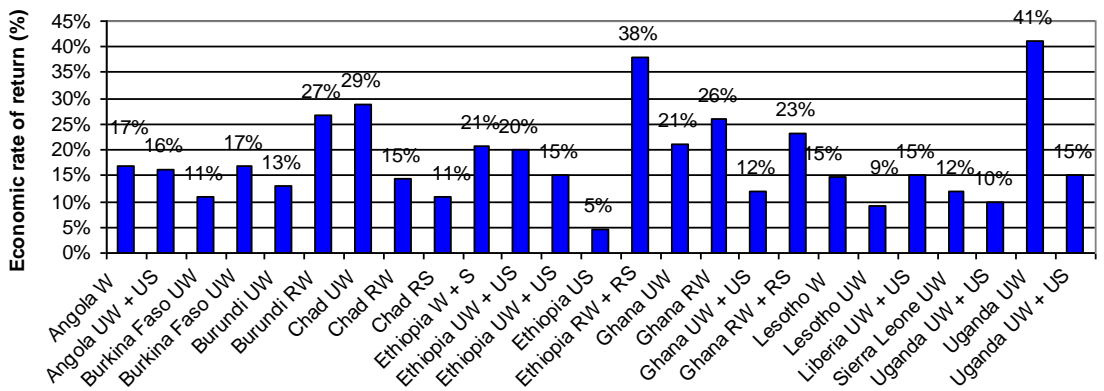
The cost of WSS investment is off-set by the benefits that accrue in other sectors.

WSS services can yield a major return on investment

Economic returns on water and sanitation projects are highly favorable. In Angola, the World Bank project to support water sector institutions, the **economic rate of return** was estimated at 17%. An African Development Bank project to support water and sanitation services in Sumbe gave a similar return of 16%. Rural WSS projects are also efficient - in Ghana the Millennium Challenge Corporation estimated an average return of 21% on 11 rural water and sanitation projects. Rates of return for sanitation projects show rates of return of 16% in Angola, 21% in Ethiopia, 11% in Chad and 15% in Uganda (see Figure below).

Global **benefit-cost studies** on water supply and sanitation for Africa, including the value of health improvements and time savings, estimated the benefit per currency unit invested was estimated at a return of **5.5** currency units or **6.6** for sanitation alone. While the results of these studies demonstrate a strong case for increased investment in water and sanitation, in fact, **these studies actually underestimate economic benefit as they include diarrheal disease only, thus excluding other positive health effects of improved water and sanitation.**

The graphic shows a high Economic Rate of Return on sanitation and drinking water projects.



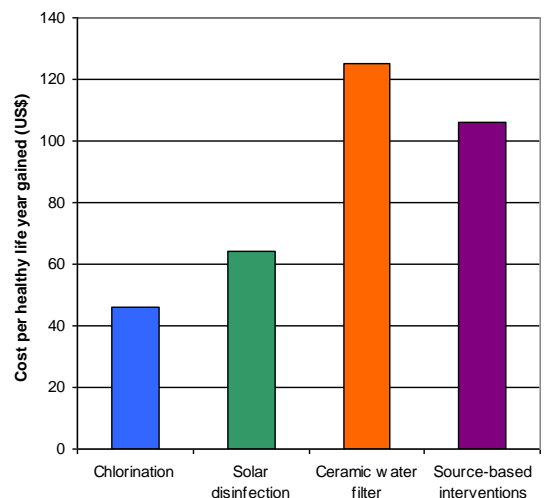
Key: W – Water; S – Sanitation; R – Rural; U - Urban

Source: Development banks

The health returns on investment in WSS are considerable

If health impacts are valued in units of Healthy Life Years (HLY) – defined as ‘a year of life lived in full health’ – they can be compared with other health interventions. In Africa, the cost of basic water and sanitation was estimated at US\$ 510 per Healthy Life Year gained. Add ‘water treatment at the point-of-use’ and the cost reduces to US\$ 208 per HLY gained. When a cost per Healthy Life Year is below the GDP per capita of a country, **the intervention is deemed a cost-effective use of health budgets.** In Angola, where GNI per capita is AKZ 270,000 (US\$ 3,450), the cost per Healthy Life Year of AKZ 40,000 (US\$ 510) is a strong argument for investing in basic water and sanitation, even more so for the AKZ 16,000 (US\$208) per HLY cost when including point-of-use treatment.

In another Africa study (see graphic) rates of health return on different interventions to improve water quality were measured and cost per HLY ranges from AKZ 3,600 (US\$ 46) to AKZ 9,700 (US\$ 125). These rates of health return are similar to other preventive health interventions such as for malaria and HIV/AIDS.



Water and sanitation projects in Angola have at least 16% economic rate of return, confirmed by projects in other countries.

Investing in sanitation and water can help Angola tackle its basic economic challenges as well as improve health.

Households are willing to pay for services when they see a benefit

An important role of government is to catalyze private investment.

Economic research indicates that households, even poor ones, are willing to pay for reliable and quality WSS services. World Bank studies in Ghana in the early 1990s estimated the average willingness to pay per month per household was roughly AKZ 120 (US\$1.50) for each of water and sanitation services, which equates to a combined **annual willingness to pay of AKZ 5,450 (US\$ 70)** in today's values. Furthermore, willingness to pay is enhanced when water supply has benefits beyond general household uses, in revenue-generating activities such as a small-scale household business or agriculture (irrigation). **Evidence from willingness-to-pay studies demonstrate that government investments in ensuring services are available leverage household investments. When reliable services are available, households are willing to invest themselves.**

Intangible aspects of water and sanitation are crucial in household decision making

Other benefits of improved water and sanitation rarely captured in economic studies are 'intangible' impacts, so-called because they are difficult to measure. These aspects may include dignity, comfort, privacy, security, and social acceptance. An undeniable basic need is to have a near-by, safe and private place to defecate, and this is especially true for women, the elderly, the sick and also children. As well as facilities at home, water and sanitation at schools can improve school enrolment, attendance and completion, and at the workplace can increase female participation in the urban workforce. **Hence water and sanitation promote social equality and economic growth.**

Conclusions and recommendations

Spending on water and sanitation is not only politically popular and socially beneficial, but it **makes good economic sense**. Economic evidence supports that meeting and going beyond MDG targets to achieve universal water and sanitation coverage not only improves quality of life, but also bring tangible health, environmental and economic benefits. Improving access to sanitation and water **contribute importantly to the achievement of other MDG targets.**

Sanitation and water interventions deliver economic returns of at least 5 times on investment, commonly with an annual rate of return of 20% or more. As decisions are made to increase investments, an efficiency comparison of alternative water and sanitation policies, programs and technologies can assist the government to respond better to the needs of its population. Going forward, policy makers are recommended to address:

- **POLICY:** Strengthen sector reforms and the government institutions at national, provincial and municipal levels, to support the decentralization process. Implement policies that lead to increased public and private spending on water and sanitation services, especially sanitation, where progress is slowest.
- **SUSTAINABILITY:** Ensure funds and mechanisms for **adequate operations and maintenance** in order to sustain services and maximize cost-effectiveness of investments. Adopt and implement the new water management model framework.
- **SCALING-UP:** Focus scaling-up efforts on the **most affordable and sustainable services** that are demanded by the population and those that have proven health and environmental benefits.
- **TARGETING:** Provide additional support to increase **access to the poorest and most vulnerable households**. The consolidation of the management information system should help identify and target the most vulnerable households and reduce urban-rural disparities.
- **MAXIMIZING EFFICIENCY:** Improve WSS delivery to the population and seek to maximize efficiency gains through large scale implementation and strengthen and sustain the focus on high impact interventions such as handwashing campaigns and household water treatment which has lead to decline in cholera outbreaks.