

Why Sanitation and Water Supply are Important to Growth and Development in Ghana

This briefing note for the Ghana Ministry of Finance sets out the case for spending on water and sanitation. **Investment in water and sanitation makes good economic sense** and is socially beneficial – as well as supportive of a strong political climate. Water and sanitation interventions deliver economic returns of at least 5 times on investment, with an annual rate of return of 20% or more. Water and sanitation investments improve quality of life, and bring tangible health and environmental benefits. In themselves, water supply and sanitation (WSS) need urgent attention – and they also contribute to the achievement of other MDG targets. Lack of funding to-date for water and sanitation is costing the country several percent of GDP.

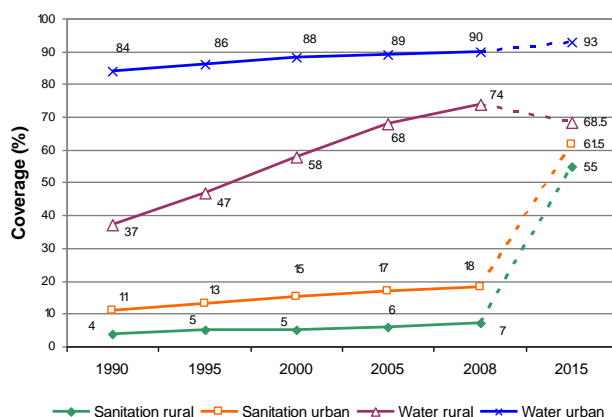
Sanitation and water supply coverage in Ghana requires attention

According to data compiled by the WHO/UNICEF Joint Monitoring Program (JMP)^a, progress to achieve the sanitation target^b in Ghana is off-track. Based on the most recent coverage data in 2008, Ghana has seven years to raise sanitation coverage from 18% to 61.5% in urban areas, and from 7% to 55% in rural areas. The JMP does not count 'shared facilities' towards achievement even if they are of an acceptable technology. If shared facilities are counted, **Ghana would still need to raise sanitation coverage from 40% to 55% in rural areas**; while the MDG sanitation target would already be achieved in urban areas.

However, even if Ghana meets the MDG target in both rural and urban areas, **45% of the rural population and 16% of the urban population would still be without access to improved sanitation.**

Access to drinking water, on the other hand, is on-track to meet the MDG target in urban areas, and has already achieved the target in rural areas. However, even if Ghana meets its MDG target, it will still have 22% of its population without improved drinking water.

Ghana'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 Ghana requires a **total expenditure of GHS 2.4 billion (US\$1.6 billion) to meet the water and sanitation MDG targets, of which GHS 2.2 billion (US\$ 1.5 billion) is for sanitation.** This equates with roughly GHS 100 (US\$ 70) per capita over a 10 year period, or GHS 10 (US\$ 7) per capita annually^c. 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.

^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.

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

Investment needs in Ghana are sizable, especially compared to current spending^d. Ghana will need to significantly increase investments in order to improve water and sanitation. However, **investment in water and sanitation not only provides basic services, but also reaps benefits well beyond the water and sanitation sector**. Investments in water and sanitation in fact are investments in health, education, the environment and poverty reduction.

Failure to invest can be costly in the long-run

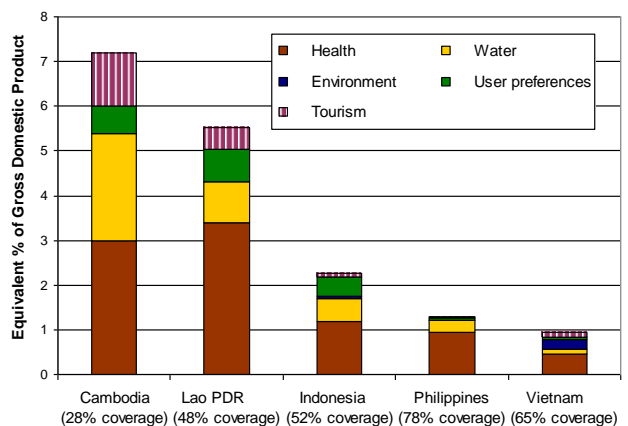
A World Bank country environmental analysis conducted in Ghana has shown that health costs resulting from poor water, sanitation and hygiene cost the country the equivalent of **2.1% of annual Gross Domestic Product (GDP)**. The indirect effects of malnutrition – to which poor water and sanitation contribute 50%, according to WHO - cost even more than the direct effects, taking the total health cost to **5.2% of annual GDP in Ghana**. This figure includes the value of at least 8,000 deaths of children under five caused by diarrheal disease. 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 Ghana, at 29% and 14%, 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 Ghana. 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.

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

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 GHS 28.3 (US\$ 20) of the total annual GHS 45 (US\$ 32) per capita losses in Cambodia, and GHS 21 (US\$ 15) of the total annual GHS 48 (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 Ghana 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 appropriate sanitation options that do not further stress water supplies nor pollute dwindling water resources.

^d From 2006-2008 in Ghana, spending on water and sanitation was 2.5% of government spending, augmented by US\$ 105 million annually from donors. Sanitation received between 0% and 20% of the funding from 9 reviewed water and sanitation projects.

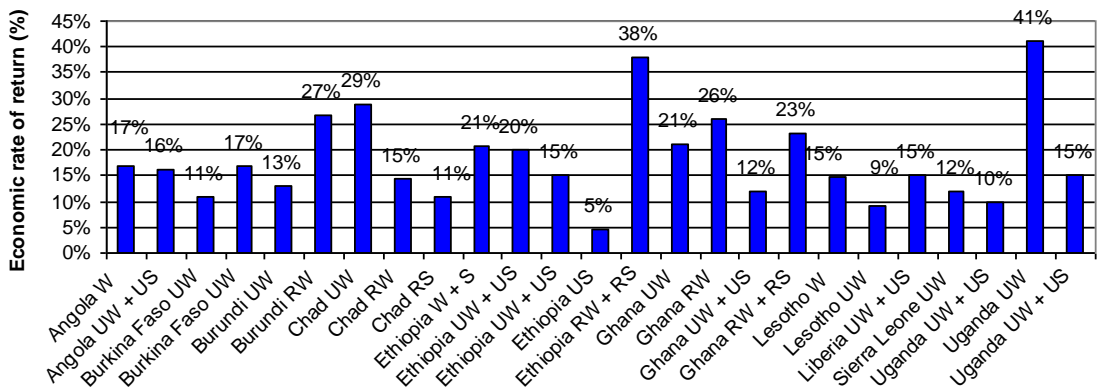
WSS services can yield a major return on investment

Sanitation and water projects in Ghana have a 21-35% economic rate of return.

Economic returns on water and sanitation projects are highly favourable. For a project appraisal carried out for the World Bank’s Second Community Water and Sanitation project in Ghana, time savings from closer water sources were evaluated: the **economic rate of return** on constructing a well was **35%**, while for constructing a borehole it was **18%**. The economic rate of return in an African Development Fund project was similarly **23%** for water interventions in Ghana and the Millennium Challenge Corporation estimated an average return of **21%** on 11 water and sanitation projects in Ghana.

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

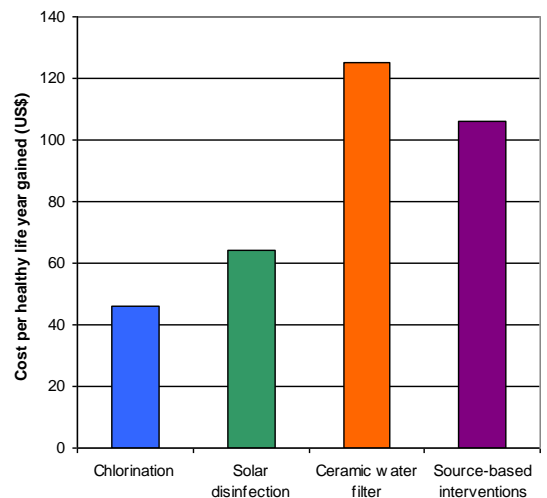
Investing in sanitation and water can help Ghana tackle its basic economic challenges as well as improve health.

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 Ghana, where GNI per capita is GHS 1000 (US\$670), the cost per Healthy Life Year of GHS 720 (US\$510) is a strong argument for investing in basic water and sanitation interventions** – even

more so for the GHS 300 (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 GHS 65 (US\$ 46) to GHS 150 (US\$ 125). These rates of health return are similar to other preventive health interventions such as for malaria and HIV/AIDS.



An important role of government is to catalyze private investment.

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

Economic research indicates that households, even poor ones, are willing to pay for reliable and quality WSS services. World Bank studies in Kumasi in the early 1990s estimated the average willingness to pay per month per household was roughly GHS 2 (US\$1.50) for each of water and sanitation services, which equates to a combined **annual willingness to pay of GHS 100 (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. Furthermore, **WSS services are basic services that are demanded by the population, with often strong willingness to pay for these services -- when services are reliable.** 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:** Implement **policies that lead to increased public and private spending** on water and sanitation services, especially sanitation, where progress is slowest. This includes a focus on increased population demand through sensitization and marketing campaigns, which will result in increased household investments.
- **SUSTAINABILITY:** Ensure funds and mechanisms for **adequate operations and maintenance** in order to sustain services and maximize cost-effectiveness of investments.
- **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.**
- **MAXIMIZING EFFICIENCY:** Improve WSS delivery to the population and seek to maximize **efficiency gains through large scale implementation.**