

Water and sanitation: the economic case for global action



Photo: Jim Loring / Tearfund

Water and sanitation are fundamental for a healthy life, yet millions of people cannot safely access these essentials. According to the World Health Organization (2008), almost 900 million people do not have access to a safe water supply. Some 2.5 billion people lack access to improved sanitation facilities that ensure hygienic separation of human excreta from human contact.

The statistics are shocking – 5,000 children die each day because of diseases related to unclean water and poor sanitation. It is estimated that Sub-Saharan Africa loses around 5 per cent of Gross Domestic Product (GDP) due to ill-health because of poor water and sanitation – more than the total value of aid these countries receive.

Water and sanitation are crucial for sustainable development and economic growth. They affect every area of life, including health, education, gender equality, and economic productivity. Many women

and children walk long distances to collect water – a huge physical burden, and time that could be better spent either in school or earning a livelihood in order to break out of the cycle of poverty.

The economic case for global action on water and sanitation is overwhelming. The value of safe water and good sanitation and hygiene far outweighs the financial cost of investing to improve it. For every \$1 invested in the water and sanitation sector, studies have shown that there are \$8 of benefits gained.

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Water and sanitation: fundamental human rights

Clean water is essential for life, and good facilities for sanitation and hygiene are vital for health, dignity and gender equality. This has been recognised internationally. World leaders, as part of the Millennium Development Goals (MDGs), have committed to halving the number of people without access to safe drinking water and sanitation by 2015.

Water has been recognised as a fundamental human right. In November 2002, the United Nations affirmed that:

'Water is fundamental for life and health. The human right to water is indispensable for leading a healthy life in human dignity. It is a prerequisite to the realisation of all other human rights.'

United Nations Committee on Economic, Cultural and Social Rights

Inadequate sanitation is one of the major drivers of world poverty. Sanitation is a basic human need, and a human right as incorporated in the right to shelter and the right to health.

However, despite these commitments, far greater international action is urgently needed if the MDGs are to be met. Long-term political commitment and investment is necessary to end the scandal of unsafe water and poor sanitation. The case for this is compelling:

'The damage inflicted by deprivation in water and sanitation is indefensible. Overcoming that deprivation is not just a moral imperative and

the right thing to do. It is also the sensible thing to do because the waste of human potential associated with unsafe water and poor sanitation ultimately hurts everybody.'

UN Human Development Report 2006

In recent years there have been improvements in the supply of water. Some 1.6 billion people have gained access to improved drinking water sources since 1990. However, while the MDG target for water is on track to be met globally due to rapid progress in East Asia, it is unlikely to be met in sub-Saharan Africa. The goal for sanitation is off target globally, and little progress is being made.

Governments must ensure universal access to sanitation and water through fully-funded country plans, delivered and owned locally. Water and sanitation services must reach the poorest and most marginalised groups in society. Donors and national and local governments must deliver the appropriate policy changes to ensure water and sanitation for all.

Costs and benefits of investments in water and sanitation

It makes good economic sense to invest in water and sanitation. Quantifying the costs averted and benefits gained from improvements in water and sanitation is difficult, but best estimates show that the benefits far outweigh the costs of such investments.

The UN reports that for every \$1 invested in water and sanitation, there are around \$8

gained through averted costs and increased productivity. In 2004, the World Health Organization (WHO) found that investing \$1 in water, sanitation and hygiene education would bring health and other benefits of between \$3 and \$34, depending on the technology used.

Research carried out for the 2006 UN Human Development Report estimated that the total cost of the current deficit in investment in water and sanitation is \$170 billion – 2.6 per cent of developing country GDP.

Achieving the MDG on water and sanitation in sub-Saharan Africa would require an additional investment of around \$10 billion a year, and that is to deliver the most low-cost, sustainable technology. This figure represents about half the amount that people in the developed world spend on bottled mineral water each year. Universal access would require \$20–30 billion, depending on the technology.

The benefits of water and sanitation are wide-reaching, and are likely to lead to both short-term static gain across a number of areas, such as improved health, access to education – particularly for girls – and increased incomes, and also dynamic long-term gains such as increases in productivity and the development of workforce skills.

'Ultimately the case for public action in water and sanitation is rooted in human rights and moral imperatives. At the same time, cost benefit analysis suggests that the economic common sense makes a powerful supporting case.'

UN Human Development Report 2006



In Ethiopia, a Tearfund partner has been promoting the use of biosand filters to remove all impurities from water collected from rivers. The money that people have spent in order to purchase these filters has paid dividends:

'If we didn't have a biosand filter and a pit latrine we may have died because of contaminated water. We have spent more than 500 Birr (£27) on medication in the past, but now that money is saved for other development work.'

Serekelem Denkenhe (30) Abyatir village

Photo: Harry Sharpe / Tearfund

Households
in rural Africa
typically spend
26 per cent of their
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water



Photo: Marcus Perkins / Tearfund

Health benefits

At any time, nearly half the people living in the developing world are suffering from one or more of the main diseases associated with inadequate provision of water and sanitation, such as diarrhoea, guinea worm, or trachoma which can lead to blindness.

Children in households with no toilet are twice as likely to get diarrhoea as those who have one. Children who have intestinal worms are more likely to have asthma and stunted growth, and to perform less well at school.

Some 1.5 million children die each year as a result of diarrhoeal diseases. Five times as many children die of diarrhoea than of AIDS-related illnesses. The WHO estimates that 60 million years are lost each year through ill health and premature death resulting from poor water and sanitation.

The facts are grim. Just 1gm of human faeces can contain 10 million bacteria, 1,000 parasite cysts and 100 parasite eggs. However, washing hands with soap and water can reduce diarrhoeal diseases by around 40 per cent. Providing water, sanitation and hygiene together reduces the number of deaths from diarrhoeal diseases by around 65 per cent.

Increasing access to water and sanitation is likely to lead to significant health benefits, reducing the financial burden on health systems in developing countries. It is estimated that universal access to even the most basic facilities would reduce the health related costs by around \$1.7 billion, annually – including \$610 million in sub-Saharan Africa, which represents around 7 per cent of the region's health budget. Reduced spending on water-related diseases would release resources for other priorities, including HIV.

Improving access

'When asked in a 2004 Participatory Poverty Assessment about what keeps them poor, both men and women in Sierra Leone named sickness and ill health as the primary reason.'

Making Every Drop Count

Tearfund's 2004 report, *Making Every Drop Count*, looked at the barriers to meeting the Water and Sanitation MDG. Based on research in Sierra Leone and Ethiopia, and interviews with donor agencies, the research identified the need for more funding and better use of money to improve access to water and sanitation.

Time savings

Research has shown that households in rural Africa typically spend 26 per cent of their day fetching water. Some 40 billion working hours are spent carrying water each year in sub-Saharan Africa – equivalent to a year's labour for the entire workforce in France.

The average weight of water carried is around 20kg. This is literally a heavy burden that falls mainly on women and children. In Mozambique, rural Senegal and eastern Uganda women spend on average 15–17 hours each week collecting water – on average 660 hours each year. This represents two full

months of labour, and is time that could be used for productive activities and schooling.

Productivity gained

Improving access to water and sanitation could lead to a large increase in productivity in developing countries, with potential for increasing household incomes and economic growth.

Including benefits from reduced diarrhoea, it is estimated that 3.2 billion working days would be gained for people aged 15–59 from creating universal access to water and sanitation. Annual time savings from more convenient water supplies would amount to another 20 billion working days – most of them gained by women.

Increasing access to water and sanitation is also likely to lead to improvements in education rates, particularly amongst girls. Studies have shown that 443 million school days are lost each year due to water-related diseases. An estimated 11 per cent more girls attend school when sanitation is available, and for girls who have reached puberty adequate facilities are particularly important. As studies have shown clear links between female literacy and positive impacts on health, improving the length of a girl's education is likely to have significant benefits for her household and community.

Savings groups

In south-west Uganda, water projects supported by Tearfund in the Diocese of Kigezi have led to significant improvements in the lives of the community. As a result of water now being stored near homes in new tanks and water collection jars, people have saved the money they used to spend in paying others to fetch water and have formed a small savings group.

The savings group is now breeding goats. Others are using the water to irrigate crops such as potatoes, and the increased incomes due to greater productivity have been used for making improvements to homes and to support children in education.

The benefits from improved human health, education, and increased productivity far exceed the costs of investments to provide access to clean water

Key references

Joint Monitoring Report, Unicef, WHO (2008)

Human Development Report, UNDP (2006)

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Incomes and inequality

The poor are the least likely to have access to safe water and sanitation. Almost two-thirds of people who don't have access to clean water survive on less than \$2 a day, with one in three living on less than \$1 a day. More than 660 million people without sanitation live on less than \$2 a day, and more than 385 million on less than \$1 a day.

In many countries, the poor pay exorbitant amounts for water and sanitation, with pricing following a perverse system – the poorer you are, the more you pay. While the Organisation for Economic Co-operation and Development (OECD) sets a guideline that no more than 3 per cent of income should be spent on water, in Uganda, the poorest fifth of the population spends around 22 per cent of its income on water. In cities such as Manila, Lima and Nairobi, the poor typically pay 5–10 times more for water than high-income residents of the same city.

The average European uses 200 litres of water every day. Americans use 400 litres. However,

the average person in the developing world uses just 10 litres of water every day for their drinking, washing and cooking. In many developing countries, particularly in urban areas, water infrastructure exists, but the costs of access are too expensive for poor communities. Given the economic and social benefits of access to water and sanitation, it is important that poor households are able to access enough to meet their basic needs.

The case for action

The economic case for water and sanitation is compelling. The benefits from improved human health, education, and increased productivity far exceed the costs of investments to provide access to clean water, and good sanitation facilities and hygiene education. Global action, by donors, national governments and communities, is needed to ensure that these targets are met.

www.tearfund.org/waterandsanitation



Photo: Harry Sharpe / Tearfund