policy brief

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Better Health through Improvements in Water and Sanitation

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While significant progress has been made towards addressing the challenge of providing basic water access, there are still nearly one billion people who lack convenient access to safe water, most of them in sub-Saharan Africa and South and East Asia.[1] Furthermore, over two and a half billion people in the world lack access to adequate sanitation. Despite increased recognition by decision makers of the importance of investments in water supply and sanitation, many countries in sub-Saharan Africa are projected to fall short of their Millennium Development Goal (MDG) targets for water supply and sanitation. Though global development assistance to improve access to these critical services is increasing in absolute terms, its share of total aid decreased from 8% in 1997 to 5% in 2008.[2]

In addition to the burden of diarrheal diseases and malnutrition, there are economic, security, and gender costs. Women and girls are responsible for collecting water for daily household needs, often walking over six kilometers a day to fetch water. Usually, these trips result in insufficient water even to meet the most basic needs. Often it is contaminated at the source or by handling in the process of transport. Even if a source is close to the household, there are often long queues to contend with. In addition, girls may begin to miss school due to inadequate sanitary facilities when they reach puberty. A report by the United Nations states that 433 million school days are lost each year due to water-related illness,[3] and studies suggest that increased school attendance is correlated with increased economic development due to a better-educated and more skilled populace. The World Health Organization (WHO) estimates that every year, lack of water and sanitation costs sub-Saharan Africa around $23.5 billion, or 5% of its GDP.

Water-Related Diseases

The consumption of dirty water and absence of safe sanitation have significant impacts on global health and poverty. Diarrhea, caused to a large extent by contaminated water, remains the second leading cause of death in young children, causing over 1.4 million preventable child deaths per year—more than tuberculosis, malaria, and HIV/AIDS combined.[4] Other examples of global disease burdens that are linked to unsafe water, inadequate sanitation, and insufficient hygiene include malnutrition, intestinal nematode (hookworm) infections, lymphatic filariasis, trachoma, schistosomiasis, and malaria. According to the WHO, one-tenth of the global disease burden could be prevented by improving water management and expanding access to safe drinking water, sanitation, and hygiene.

Returns from Investing in Drinking Water and Sanitation

The need for increased and sustained investment is great. But the benefits gained per dollar spent are even greater. According to the WHO, there is an approximate return of US$8 for every dollar spent, while estimated benefit/cost ratios for various water and sanitation interventions range from 4 to 12. In addition to the economic gains of investing in drinking water and sanitation, there are other benefits, including health care savings, millions of productive days and school attendance days, time savings, and deaths averted. Several challenges have limited the level of investment in the sector. These are outlined below.

Challenges

Sustaining, scaling up, and beyond the talk

Capital costs associated with developing water and sanitation facilities are high, and sustaining these facilities has been a particular challenge. This is especially true in Africa, where installation costs for water supply systems are high compared to other regions, and it is estimated that about 30% of such systems do not function properly.[5] Compounding the issue are discussions around appropriate tariffs to ensure cost recovery on the one hand, while balancing social equity concerns on the other. Creating an enabling environment ensures appropriate operation and maintenance of systems, builds the necessary capacity at the community and subnational levels, and minimizes costs, all of which are fundamental to sustaining and scaling up such investments.

Lack of coverage and poverty levels are key factors determining prioritization of a country for external support,

yet only 42% of existing investments are made in the least developed and other low-income countries.[6] This has implications on poor countries' abilities to scale up and increase capacity in the sector.

Realizing policy

Globally, responsibility for water and sanitation often crosses institutional and sector lines. This lack of clear identification of institutional roles permeates the realm of water and sanitation, making it challenging to prioritize. Even when policies exist to expand coverage of water and sanitation, the lack of clear roles and leadership often limit the effectiveness of legislation at the implementation level. It is essential to build capacity and promote leadership skills to ensure sustainable implementation of policies.

Changing conditions

Existing water supplies will be further stressed by expanding agricultural, food security, and industrial demands; increasing pollution loads; the effects of climate change; and the inherent interconnectivity of water resources. This will make the task of finding new, clean sources increasingly challenging. This is especially true in areas which are already water-stressed.

Sanitation or water?

Global commitments to halve the number of people without access to adequate drinking water between 1990 and 2015 are expected to be met in every region but sub-Saharan Africa. But if current trends continue, the proportion of people without access to basic sanitation will not be halved by 2015.[7] There has been an increased focus on improving sanitation and hygiene access globally. Scaling up commitments in sanitation is important, but maintaining existing commitments in water is equally important as it is an integrated approach that will truly maximize health impacts.

Case Studies

The case study presented below is intended to provide specific context to the progress, opportunities, and challenges described above. In Ethiopia, natural contamination of groundwater is an example of the evolving challenges faced in securing water supply.

Ethiopia

Recognizing the disease burden of inadequate water supply and sanitation, Ethiopia increased the percentage of the population with access to an improved water supply from 17% in 1990 to 38% in 2008.[8] However, this still leaves 47 million people, mostly in rural areas, exposed to the health threats of poor-quality water. Complicating the challenge, especially in the Main Ethiopian Rift (MER), is that groundwater resources contain naturally high concentrations of fluoride and arsenic. Exposure to elevated levels of toxic and naturally occurring inorganic constituents in drinking water resources is one of the most important environmental issues that endanger human health. In such areas, decision making regarding the development, scaling up, and sustaining of improved water supplies needs to account for the nature of these constituents, their likely health effects, the options to effectively mitigate the threat through water treatment, and the opportunity to develop alternative water supplies, such as rainwater harvesting.

Discussion Points

Even if we met the MDGs, we are still only halving the number of people without access to water and sanitation. If current trends continue, the sanitation target will not be met, and parts of sub-Saharan Africa will not meet the water target. Momentum must be sustained and carried past 2015. Several considerations include the following:

Creating and sustaining local capacity

There are hundreds of cases of latrines built in rural areas in Africa that have never been used, and many water supply systems that do not function as intended. It is essential to ensure that local governments have the requisite capacity to maintain water and sanitation service delivery, especially at the subnational level, while also ensuring that community members are included in the decision-making process. This not only promotes local ownership, but enhances the adoption and sustained use of technologies, which are critical for sustainable programs. Unless there is support from the government and community members, there will continue to be problems around whether WASH (water, sanitation, and hygiene) services are consistently available. It is vital to ensure that technology is appropriate, i.e., readily available materials, culturally acceptable, affordable, and with sufficiently trained members who can ensure maintenance of facilities.

Accountability

Though the lack of clear identification of institutional roles makes it challenging to prioritize, national-level leaders in the developing world have increasingly recognized the importance of investments in water and sanitation. In a recent survey, 28 out of 38 respondent countries reported that sanitation and drinking water targets have been included in their poverty reduction strategy or national development plans.[9] Where such plans and institutional prioritizations have been developed, providing external support through existing strategies enhances the sustainability of services. In turn, in addition to creating the institutional environment, national governments should allocate sufficient resources, ensure

committed leadership, and build capacity to ensure effective implementation. Translating policies into the necessary results on the ground requires that momentum be sustained. At the same time, momentum should not merely result in ad hoc temporary funding, which often results in projects that cannot be maintained and deliver the intended services.

Access/Service delivery

The World Health Organization broadly defines access to water as the availability of at least 20 liters per person per day from a source within one kilometer of the user's dwelling. There is often an assumption that the presence of a water point or a toilet implies access to water and sanitation. However, this fails to account for reliability of the water flow, quality of water, sustainability, or whether the facility is in usable condition. Practitioners thus distinguish access to a water point/toilet from the presence of a service, i.e., the use of that water point/toilet.

Integration

It is the integrated approach of water, sanitation, and hygiene, focusing on both the hardware and software components, which will maximize health impacts. It will allow more girls to go to school and promote more free time for women to spend on alternative productive activities—time that is now being spent either in a queue waiting to fill a bucket, or walking to fetch water.

References

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