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5. Conclusions: Investing in Water is Good Business

The greatest economic benefits of improved water supply and sanitation and water resources management will be felt in those countries with the greatest water challenges.

Investing in improved water and sanitation and water resources management is good business for national economies and poor people. Poor people are disproportionately dependent on natural resources for their livelihood and hardest hit by low water and sanitation service access. Actions that target poor people have the highest marginal benefit.

Investing in the health of people, ecosystems and more efficient water use is an investment that not only provides immediate economic benefits, but it also safeguards future economic gains. It leads to more business, better adaptive capacities to climate variability and improved ecosystem services.

The overwhelming economic benefits of improved water supply and sanitation and water resources management provide a compelling case for decision makers to take immediate action to resolve water challenges. At the national and global levels there is considerable momentum towards making significant progress that will benefit poor people. The momentum should grow in light of the fact that the investments required are within reach for most countries.

The report concludes with **5 urgent investment messages** to decision makers in public and private sectors:

Investing in improved water and sanitation and water resources management is good business for national economies and poor people.

Message 1

Improved water supply and sanitation and water resources management boosts countries' economic growth and contributes greatly to poverty eradication.

Poor countries with improved access to clean water and sanitation services enjoyed annual average growth of 3.7%. Similarly poor countries (i.e. with the same per capita income) but without improved access had average annual per capita GDP growth of only 0.1%.

There is a causal relationship between access to water supply and higher income levels. Improved access to water and basic sanitation services in poor countries drives higher economic growth. Poor countries with improved access to clean water and sanitation services enjoyed annual average growth of 3.7%. Similarly poor countries (i.e. with the same per capita income) but without improved access had average annual per capita GDP growth of only 0.1%.

Lower GDP growth due to rainfall variability and extreme weather events, such as floods and droughts, is used as a proxy to illustrate the benefits. The Zimbabwean drought of the early 1990s resulted in a 45% decline in agricultural production, an 11% decline in GDP and a 60% decline in stock markets. Incomes and labour in developing countries rely heavily on agriculture, which thus make them more susceptible to rainfall variability. Also in the case of Zimbabwe, the fluctuations in GDP are positively correlated to rainfall variability.

As seen below in messages 2 and 3, the economic benefits of improved water supply and sanitation and water resources management are massive. Targeting poor people who have the most to gain implies providing the highest marginal benefit of interventions.

Message 2

The economic benefits of improved water supply and – in particular – sanitation far outweigh the investment costs, surprisingly good news for Northern and Southern decision makers who often view investments as mere costs.

The evaluation of health and socio-economic benefits of safe water and adequate sanitation results in a strong argument in support of further investments to improve access for poor people. Based on present WHO analysis, achieving the water and sanitation MDG target would definitely bring direct and indirect economic benefits to the health sector, individuals and households, and agricultural and industrial sectors, ranging from USD 3 to USD 34 per USD 1 invested, depending on the region.

To meet the MDG for water and sanitation implies total economic benefits of USD 84 billion. For example, the health-sector related costs avoided reach USD 7.3 billion per year, and the annual global value of adult working days gained as a result of less illness would be almost USD 750 million per year. The biggest potential gain is found in the total convenience time saving – water collection and sanitation access time saved due to improved access – it amounts to USD 64 billion. Improvement in sanitation, hygiene and water access contributes to improved health, generates savings for households and national health budgets and contributes to poor households' economies through reduced costs and losses of time. Saving time may enable productive activity and school attendance, especially for girls. Investment in water and sanitation — whether through development assistance at the national or community levels or by poor households themselves — makes sound economic policy. Estimates indicate that sanitation interventions often have a higher economic impact per dollar invested than water supply interventions, but it is the combination of improved water supply, sanitation and hygiene that has the biggest economic impact.

Based on the WHO figures, the OECD has prepared a cost benefit analysis looking specifically at what is needed in order to meet the MDG sanitation target alone. The analysis provides figures in terms of net present value (NPV). With a discount rate of 5% and 10%, the NPV of the meeting the MDG sanitation target is USD 400 to USD 312 billion respectively. The results confirm again that the benefits far outweigh the costs.

While economic cost-benefit comparisons attempt to make realistic assumptions about the economic value of potential savings, it is clear that social and environmental benefits are not fully reflected and that many of the accrued benefits are not immediate. For example, the economic growth benefits derived from improved education may not be realised until a decade later, once students have become part of the la-

bour force. Consequently, estimates of the economic benefits of investments in water supply and sanitation services are likely on the low side.

Investments in water supply and sanitation are perceived as having lower returns than in other sectors (for example, on roads or energy). Over the years it has become clear that raising the profile of sanitation and hygiene is difficult in part due to the fact that it is a subject shrouded in cultural taboo. In industrialised nations and amongst those in positions of power, this plays out as a reluctance to discuss the looming, ever present sanitary crisis. Lacking the facts, many people have assumed other development issues dwarf the sanitation crisis – there is a lack of public awareness and support for sanitation as a core development concern. Another part of the story is also that technical specialists, civil society actors and others have largely not been able to make a compelling case to decision makers concerning the economic and social benefits of access to water supply and sanitation services.

Message 3

National economies are more resilient to rainfall variability, and economic growth is boosted when water storage capacity is improved.

In many countries there is great scope for continued development of water resources management for large and small-scale water infrastructure to meet food requirements, mitigate natural hazards and promote energy and industry development. The difference in water storage per capita, a measure of water security, clearly demonstrates the need for investment and thus also the unexploited development potential through creating resilience to rainfall variability. For example, Australia and Ethiopia have similar degrees of climate variability, but whereas Australia has over 4,700 cubic meters of water storage capacity per person, Ethiopia has 43 cubic meters. It has also been suggested that annual income lost due to land and water mismanagement stands at around USD 60 to 70 billion a year when preventive, corrective and rehabilitative measures that could prevent such damages would cost no more than 25–50% of the annual losses.

Improved water resource management and water storage capacity makes the economy more resilient to external shocks, such as rainfall variability, and thus provide a stable and sustainable base for increased food and industrial productivity and production to maintain economic growth and development. The case of Kenya illustrates that frequent floods and droughts take a heavy toll on the economy, impeding poverty eradication efforts. These floods and droughts translate to a direct long-term fiscal liability of about 2.4% Kenya's GDP per annum. This implies that GDP would have to grow at an annual rate of at least 5–6% in order to start reducing poverty. In 1996, a good year in Kenya, real GDP growth was 4.1%.

Structural shifts away from water-intensive agriculture and industries could decrease economic vulnerability to water shocks. Equally and sometimes even more important is the shifts towards sectors where the country or a community has a comparative advantage in terms of water use efficiency. Relying on trade in virtual water to meet a country's power supply and food needs could drastically reduce unsustainable water use. Furthermore, it could also mitigate the need for diverting national resources as well as foreign direct investment and aid towards costly water supply projects to support water intensive activity in areas that do not have the necessary water resources.

Investments in water supply and sanitation are perceived as having lower returns than in other sectors (for example, on roads or energy).

Message 4

Investing in water is good business – improved water resources management and water supply and sanitation contributes significantly to increased production and productivity within economic sectors.

The need for reliable access to water and related services is well recognised among businesses. Often less obvious, but equally important to business development, is the role water and related services play in health, employment and economic development. Some of the economic benefits that arise from improved water supply and sanitation include less expenditure on treatment of employees with diarrhoeal disease; increased productivity due to less workers

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Improved water resources management throughout production and consumption cycles is good business practice.

are off sick and; and benefits to industry and agriculture of time-saving. It has, for example, been calculated meeting the MDG on water supply and sanitation will gain 322 million working days, and the annual global value of adult working days gained as a result of less illness would be almost USD 750 million. The biggest potential gain for both economic sectors and households is found in the total convenience time saving – water collection and sanitation access time saved due to improved access – it amounts to USD 64 billion. Studies in Africa indicate that households value their time spent collecting water at around the average wage rate for unskilled labour.

Improved water resources management throughout production and consumption cycles is good business practice. Providing reliable and sufficient water supplies is critical for business development and reduces investment risk. For example, a study in China points at the considerable gains that can be made by improved water quality. The industrial income lost due to water pollution amounted in 1992 to USD 1.7 billion. What is now becoming increasingly clear to many governments is to use reliable access to water resources as a competitive advantage to attract business opportunities. For example, the Malaysian Industrial Development Authority is marketing reliable access to water as a key advantage of investing in the Malaysian economy.

The annual per capita cost to meet the MDG on water supply and sanitation in Bangladesh, Cambodia, Ghana, Tanzania and Uganda ranges from approximately USD 4 to USD 7 per capita on an annual basis.

Message 5

The overall public and private investment needs for improved water supply and sanitation and water resources management are considerable. However, at the country level, meeting such investment challenges is highly feasible and within the reach of most nations.

What would it cost to reach the MDG on water supply and sanitation? WHO estimates that halving the proportion of people without sustainable access to both improved water supply and improved sanitation (i.e. meeting the MDG target) would cost around USD 11.3 billion annually. Access for all to improved water and sanitation services would cost around USD 22.6 billion per year. The World Bank estimated in 2003 that an additional investment of USD 15 billion per year to reach the Millennium target on water and sanitation. There is no "absolute" cost figure, as much will depend upon the technologies adopted and country-specific preferences and conditions. This is of course a considerable global investment challenge that must be met. But broken down into country cost estimates to reach the MDG on water supply and sanitation it is clear that meeting such investment challenges by 2015 is highly feasible. The annual per capita cost to meet the MDG on water supply and sanitation in Bangladesh, Cambodia, Ghana, Tanzania and Uganda ranges from approximately USD 4 to USD 7 per capita on an annual basis.

What would it cost to improve water resources management and infrastructure? Estimations suggest that there is a need for considerable investments to improve water resources management and expand country water storage capacity. The total estimated investment needs for 11 African countries tops USD 200 billion. Countries in Sub-Saharan Africa need to invest between USD 150 and USD 700 per capita to reach a level of water storage infrastructure equivalent to South Africa's. Spread out over the ten years between 2005 and 2015, these investments would amount to USD 15 to USD 70 per capita on an annual basis. The costs for improved water resources management and infrastructure depend on the technologies applied.

It is clear that investing in water is good for business and poverty eradication. The aggregated investment requirements to improve water supply and sanitation and water resources management are challenging and will by no means be easy, particularly in those poor countries plagued by social and political conflicts. But broken down into country estimates it is clear that it takes fairly moderate financing to reach the MDG on water and sanitation.

But how can such improvements be realised? What are the next steps that are required? In the following section, it is proposed that the "call to action" outlined by the United Nations Millennium Project Task Force on Water and Sanitation provides a platform for advancing investments to make lasting improvements.

5.1 What are the Ways Forward?

The water-related challenges and the urgency to resolve them have been confirmed and re-confirmed at the highest political levels. The Millennium Summit and the World Summit on Sustainable Development have made significant headway in identifying the water challenges, and to build momentum for desperately required actions. Currently, there is a high degree of awareness of the water-related social and environmental challenges. Resolving these challenges boosts countries' GDP and reduces poverty. The required actions will not only meet MDG target 10 on water supply and sanitation, but also help meeting other MDGs and the Johannesburg Plan of Implementation commitments.

It is critical that the economic benefits of improved water supply and sanitation and water resources management are understood, clearly articulated and included in national strategic macro-economic decision making. Investments in the water sector – sanitation in particular – must be acknowledged for the economic benefits they generate – the economic benefits outweigh costs considerably.

What are the required steps to action? The United Nations Millennium Project Task Force on Water and Sanitation cites five critical guiding principles or prerequisites to action that must be fulfilled to achieve not only the MDGs but also beyond. These prerequisites provide a starting point for the development of national and local action strategies that target case specific challenges and priorities. Drawing on the material used in this report it is clear that the economic benefits of implementing these prerequisites are highly effective in terms of economic development and growth. Below are proposed ways forward and snapshots of economic benefits that can derive from their implementation.

Prerequisite 1

There must be a deliberate commitment by donors to increase and refocus their development assistance and to target sufficient aid to the poorest low-income countries.

- **Example of economic benefit:** Aid interventions must to a greater extent focus on improved water supply and sanitation and water resources management. As has been shown interventions have considerable impacts that are going far beyond immediate project benefits. Just consider again that for every USD 1 invested in water supply and sanitation the direct and indirect benefits range from USD 3 to USD 34 depending on the region and level of intervention.

Prerequisite 2

There must be a deliberate commitment by governments of middle-income countries that do not depend on aid to reallocate their resources so that they target funding to their unserved poor.

- **Example of economic benefit:** The targeting of improved and extended water supply, sanitation and water resources management constitutes a pro-poor investment strategy. Consider the cholera epidemic that swept Peru in 1991 that cost USD 1 billion to treat and that hit the poorest the hardest. It is estimated that USD 100 million – or a tenth of what was actually spent – could have prevented the epidemic in the first place. Add to this the monetary expenses, the value of lost working days, and the lives lost, and the cost-benefit ratio of preventive investments in water and sanitation become astronomical.

It is critical that the economic benefits of improved water supply and sanitation and water resources management are understood, clearly articulated and included in national strategic macro-economic decision making.

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Prerequisite 3

There must be deliberate activities to create support and ownership for water supply and sanitation initiatives among both women and men in poor communities.

- **Example of economic benefit:** Community ownership and participation are required for successful interventions. Over the last two decades, India has implemented major investment programmes in rural water supply and sanitation. Karnataka was the site of a USD 200 million project that was completed in 2001, providing direct benefits to approximately 5.5 million people. The economic and social benefits were enormous. For one, it is the women who are in charge of providing water for home use, household cleanliness and sanitation. It was therefore the women whose quality of life benefited the most from the improved services. Ranges of different technologies were implemented, including pit latrines, hand pumps/open wells or roof water harvesting schemes. Up to 50% of the households opted for private household systems. The NPV of the project is estimated at USD 85 million, and the economic internal rate of return is over 20%.

It is paramount that decision makers are aware that investment in the water sector is highly effective and that improved water supply and sanitation and water resources management is a part of the economic development business.

Prerequisite 4

There must be a deliberate recognition that basic sanitation in particular requires an approach that centres on community mobilisation and actions that support and encourage that mobilisation.

- **Example of economic benefit:** Community involvement and ownership is key for successful interventions. Estimates indicate that sanitation interventions often have a higher economic impact per dollar invested than water supply interventions. An OECD cost benefit analysis looking specifically at what is needed in order to meet the MDG sanitation target concluded: with a discount rate of 5% and 10%, the NPV of the meeting the MDG sanitation target is USD 400 to USD 312 billion, respectively. The results confirm again that the benefits far outweigh the costs.

Prerequisite 5

There must be a deliberate planning and investment in sound water resources management and infrastructure.

- **Example of economic benefit:** Interventions of improved water management and infrastructure must target poor sections of society. Targeting those with lowest capacities and levels of access to water for various productive uses is sound investment strategy. For example, interventions of providing access to small-scale water technology to poor farmers have huge economic benefits. The direct total net benefits of promoting these technologies have been estimated to be USD 100–200 billion for the estimated 100 million farmers that could adopt these tools. When including indirect benefits in the economy, with a multiplier of 3, the total net benefits can increase to USD 300–600 billion.

The fulfilment of these prerequisites to action is not possible without strong leadership and commitment from government, civil society and business leaders and opinion makers. Leadership sets priorities and instigates the reforms necessary to improve institutional performance and attracts investment. Where strong leadership and commitment have been accompanied by social marketing, significant progress has been made not only in access to water supply, but also to sanitation. It is paramount that decision makers are aware that investment in the water sector is highly effective and that improved water supply and sanitation and water resources management is a part of the economic development business.

Equitable economic growth is absolutely necessary for poverty reduction. Investment in the expansion of water supply and sanitation and water resources management, as discussed in this report, targets resources towards the disadvantaged and provides the infrastructure that is a basic prerequisite to economic participation. Equitable economic growth will not be possible unless water issues are taken on board. Even though there remain many challenges to increased public and private investments in water supply and sanitation and water resources management, the obstacles pale in comparison to the economic and social difference that such investments will make to poor people and to the entire economy.