

Water and Sanitation: Underpinning the Pillars of Sustainable Development in the context of a Green Economy

UNSGAB contribution to UNCSD 2012

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Executive summary

Good management of water and sanitation is a precondition for sustainable development. It underpins the three pillars of sustainable development and also contributes to a green economy and to poverty eradication. These are compelling reasons to address water and sanitation challenges in UNCSD2012.

UNSGAB believes that the global community must make progress on three major water and sanitation challenges during UNCSD2012.

This paper makes the case for a strong focus and decisions on (i) access to sanitation & drinking water, (ii) wastewater management and (iii) more productive water use in agriculture. It suggests objectives on these issues to be decided in UNCSD2012 and describes potential targets related to them.

Objective 1 – Access to safe drinking water and sanitation. Ensure universal access to sanitation and safe drinking water through the adoption of plans for accelerated implementation of all dimensions of the human right to water and sanitation: safety, availability, accessibility, acceptability, affordability, non-discrimination, participation and accountability.

Objective 2 – Common vision of wastewater management. Governments together decide to strengthen their respective actions on pollution of freshwater by adopting a shared vision of urban, industrial and agricultural wastewater management including collection, treatment and water reuse.

Objective 3 – More food with the water available. Adoption of an internationally agreed political objective linking food production and water use through increasing global water productivity of agriculture.

1. Introduction

The global community is aiming to secure renewed political commitment for sustainable development at the United Nations Conference on Sustainable Development in Rio de Janeiro in June 2012 (UNCSD2012) with a specific focus on poverty eradication in the context of green economy. Good management of water and sanitation underpins sustainable development's social, economic and environmental pillars. Furthermore, water and sanitation also contribute to a green economy and to poverty eradication. Another objective of the UNCSD2012 is to assess the remaining gaps in the implementation of previously agreed goals. Two major gaps are the insufficient progress made for basic sanitation and for the management of water, including provision of drinking water and management of water resources.

These are among the many compelling reasons to take on water and sanitation challenges in Rio. Clear, articulate objectives for sanitation and water must inform the renewed vision for the future that emerges from UNCSD2012. UNSGAB believes that the global community should make real progress on three major water and sanitation challenges, while also making sure that water-related disasters do not reverse any progress made.

This paper makes the case for a strong focus and concrete decisions on access to sanitation & drinking water, wastewater management and more productive water use in agriculture. The paper proposes related objectives to be decided in UNCSD2012 and describes potential targets to support them.

2. The Challenges

2.1 Access to Sanitation and Drinking Water

Since the first Rio Summit in 1992, the global landscape has evolved with the emergence of dominating issues such as urbanization, climate change, financial and food crises, and devastating natural disasters. While global politics, economics and social priorities are in constant flux, one thing has stayed stubbornly constant for the last 20 years: the 2.6 billion people who lack access to improved sanitation facilities, now roughly one third of the global population. The trends are better for access to improved water sources. However, (i) an estimated 884 million people still have no access to improved water sources for their basic needs, (ii) access to improved water sources is decreasing in the urban half of the world and (iii) many more than 884 million people may have access to improved water sources, however, it is not safe for consumption.ⁱ In fact, it is estimated that between 2 and 3 billion people might not have access to safe drinking water.ⁱⁱ This sets up a vicious cycle of ill health and further impoverishment with severe personal, financial and health costs. In addition, water sources might not be close enough to households so that many people, mostly girls and women, continue to endure the time-consuming task of water collection. This hinders their opportunities for education and formal paid employment. Access to safe drinking water and sanitation is recognized by the UN General Assembly as a human right essential to the full enjoyment of life and all other human rights. The creation of any future global development framework must build on this growing international consensus by incorporating the centrality of these two basic services in the three pillars of sustainable development:

1) Social: When feces are not properly contained and treated, they often pollute the water sources, thus leading to illness and death. According to UNICEF, 1.5 million deaths per year, 90% being children under 5, can be attributed to unsafe water, poor sanitation, and the lack of hygiene.ⁱⁱⁱ It is estimated that at any given time, approximately half the people in developing countries suffer from chronic diseases associated with inadequate provision of sanitation and safe drinking water.^{iv} Open defecation is the daily routine for 1.2 billion people globally.^v A healthy living environment, one that supports human dignity and is free of disease-transmitting agents and conditions, is impossible if open defecation is widely practiced. Access to safe, clean toilets brings dignity, equity and safety, particularly for women and girls. Toilets and safe water in schools increase attendance, particularly for adolescent girls. Without sanitation and clean water, sustainable development's social objectives remain unmet.

2) Economic: A growing body of empirical evidence shows that poor sanitation and a lack of clean water curbs economic growth. The World Bank assessed in 2010 the annual economic impact of poor sanitation in a range of countries. It found, for example, that the annual cost of poor sanitation in India was US\$54 billion, translating to around 6.4% of GDP.^{vi} The economic objectives of sustainable development will be greatly advanced by the expansion of basic sanitation services. In addition, providing basic sanitation services such as toilets, operation and maintenance services and reuse of human waste, on a regular basis, creates a market for entrepreneurs, in particular for local and small-scale businesses.

3) Environmental: Clearly, a healthy environment depends on sanitation. When human wastes pollute water sources through open defecation, dumping from buckets or unsafe disposal of latrine effluents, or when wastewater is not collected after use to be diverted from local surroundings, ecosystems and people suffer, and ecosystem services are at risk.

The global community has adopted two Millennium Development Goal (MDG) targets to improve access to basic sanitation and access to safe drinking water.^{vii} While the world is globally on track to meet the drinking water target, it is clear that many who are considered to have access to improved water sources, still do not enjoy water that is safe for human consumption. The MDG sanitation target is arguably the most behind of all the MDGs. This target was endorsed at UNCSD2002 in Johannesburg, thereby putting this neglected issue onto the international development agenda. In 2012 in Rio, countries can honor the legacy of the Johannesburg basic sanitation target, while creating the context for the next logical step, by agreeing on a goal for universal access to basic sanitation. In addition, countries should reinvigorate and upscale efforts by adopting a universal access to safe drinking water goal, as well as setting forth the means to ensure success.

2.2 Management of wastewater: collection, treatment and water reuse

Although many countries have national policies with respect to management of wastewater^{viii}, the global community does not share any common vision on wastewater management. UNCSD2012 is an opportunity to fill this gap.

The MDG sanitation target monitors access to decent toilets, which does not encompass sanitation in all its components. Humans and the planet need more than basic sanitation. We need the pollution resulting from domestic, urban, industrial or agricultural discharge of wastewater to be controlled to protect our health, our economies and our ecosystems.

Worldwide, it is estimated that up to 90% of wastewater is dumped untreated into water bodies^{ix} polluting usable water resources; this exacerbates the impact of water-related disasters such as floods, when invading low-level settlements. These challenges are compounded not only by climate change, but also by the loss of half of the world's wetlands, which severely cripples natural cleaning systems.

While currently there is no absolute shortage of clean water in the world, availability and access to clean affordable water varies widely, with some regions and countries under significant stress. Furthermore, demand is increasing. Water demand has been growing at more than twice the rate of population increase in the last century due to economic growth and changes in consumption patterns. Given this reality, it is imperative to treat water after use. Water reuse is one of the solutions for the future.

Recent publications^x have confirmed the high economic rate of return of investments in wastewater management. Furthermore, there are many linkages with other green growth activities since wastewater management creates opportunities such as:

- a source of energy through burning sludge extracted from wastewater, using calories transported by the wastewater or using wastewater flows to produce hydroelectricity
- a source of water and also a source of nutrients for agriculture both of which can contribute to solving the food crisis
- a source of water to mitigate increasing water scarcity
- a way to improve people's health and nutrition and to protect ecosystem integrity
- a way to improve otherwise polluted lands to benefit economic activities including tourism
- a way to develop peri-urban agricultural activities to increase employment and provide urban centres with food, while reducing transportation and other costs

Currently, there is no internationally agreed target for wastewater collection and treatment, and water reuse; and no system to effectively monitor how much wastewater countries and the global community is treating. UNCSD2012 is an opportunity for the global community to recognize the linkages among wastewater, food and energy by rallying around a common vision of wastewater management, in recognition of wastewater as a vital resource for development.

2.3 Water use in agriculture

It is impossible to address management of water resources and growing water scarcity without addressing water use in agriculture. Currently, 70% of all freshwater withdrawals are used by the agricultural sector for irrigation.^{xi}

Economic progress, notably in the emerging countries, translates into increased demand for diversified diets. World food demand will surge both because of this phenomenon and from sheer population growth. Food production will need to increase by 70% globally and by 100% in developing countries by 2050.^{xii} Yet, both land and water resources, the basis of our food production, are finite and already under heavy stress. Future agricultural production will need to have higher and more sustainable yields if people are to be fed adequately. Given the growing competition for water from industry, agriculture, power generation and people, new sources of water will have to be identified especially if ecosystems are to be maintained and restored. In this context it does not seem possible that irrigated agriculture uses much more water than today. In OECD countries, freshwater use in irrigation is already decreasing.^{xiii}

It is therefore not only desirable but imperative that water systems for agricultural purposes, irrigation in particular but also for livestock care, be more efficient, thereby raising the productivity of farmland. Gaining more yield and value from less water has many benefits: it can reduce the need for “new” water; it can limit and even reverse environmental degradation and ultimately contain the competition for water. Such progresses should not be limited to irrigated agriculture through technological improvement but should encompass the selection of appropriate crops while not losing effective methods of traditional farming.^{xiv}

While the water constraint is still underestimated and undervalued by many food scenarios, the linkage between water and food is increasingly understood. The global community needs to take action to grow more food with less water in order to mitigate current and potential difficulties in the future. Objectives and relevant indicators recognizing the fundamental relationship between agricultural output and water use could energize stakeholders to take a fresh look.

3. The three Water Objectives

These three water Objectives are offered to the UNCSD2012 to help sharpen the substantive discussion on water and sanitation. It is possible that countries will negotiate precise targets against which to quantify progress: in this case, potential targets are hereafter proposed. Making improvements as suggested below will contribute to sustainable development and poverty alleviation as well as to a green economy.

Objective 1 – Access to safe drinking water and sanitation

Ensure universal access to sanitation and safe drinking water through the adoption of plans for accelerated implementation of all dimensions of the human right to water and sanitation: safety, availability, accessibility, acceptability, affordability, non-discrimination, participation and accountability.

Examples of targets:

- universal access to basic sanitation and improved water sources by 20xx
- universal access to safe drinking water by 20yy
- development of good quality services in cities at a rate that exceeds the rate of urban growth

- drinking water networks to supply water continuously (24/7) in order to ensure safety and availability of water

Possible actions

Such targets would need to be supported by the establishment of feasible sets of global, regional and national targets and the adoption of meaningful and measurable indicators to keep track of progress on the basis of five-year rolling milestones. An integrated monitoring programme of the indicators linked to the criteria established for the human right to water and sanitation and the factors determining the enabling environment is to become effective after 2015.

Objective 2 – Common vision of wastewater management

Governments together decide to strengthen their respective actions on pollution of freshwater by adopting a shared vision of urban, industrial and agricultural wastewater management including collection, treatment and water reuse

Examples of targets:

- reduce the percentage of wastewater that is not collected safely from households
- reduce the percentage of wastewater that is discharged into the natural environment without treatment
- increase the percentage of urban wastewater that is treated for safe reuse in agriculture and industrial processes
- reduce the amount of water pollution arising from agriculture
- reduce the amount of water pollution released by industry

Possible actions

- Establish or strengthen national policies and regulations for wastewater collection, treatment and discharge in order to ensure that individual and collective practices and systems are sufficient to protect health of individuals against potential contamination by others and by economic activities and to protect natural ecosystems against harmful pollution
- Get organized to monitor and stimulate at national level progress of wastewater collection and treatment by collective systems and individual facilities
- Get organized to monitor and control potential contamination of drinking water sources by man-made pollution
- Introduce or strengthen laws and other forms of regulation to support the reduction of pollutants and make water reuse possible, including the recovery of positive substances
- Request the United Nations Environmental Program (UNEP) or another UN agency to collect national statistics on wastewater management and report on its global progress

Objective 3 – More food with the water available

Adoption of an internationally agreed political objective linking food production and water use through increasing global water productivity of agriculture

Examples of targets:

- Irrigated agriculture to grow more food with the same amount of freshwater and without over-abstracting water tables
- 70% of irrigated land using technology that increases crop per drop by 20xx
- Organizing urban use of water to allow its reuse in agriculture in all water scarce areas

Endnotes

ⁱ UNICEF and WHO – Joint Monitoring Programme (JMP), “Progress on Sanitation and Drinking-Water, 2010 Update.” The JMP defines “improved” access to water as use of the following sources: piped water into dwelling, yard or plot; public tap or standpipe; tubewell or borehole; protected dug well; protected dug well; protected spring; rainwater collection.

ⁱⁱ Statement by the Independent Expert on the Issue of Human Rights Obligations related to safe drinking water and sanitation C. de Albuquerque at the 15th Session of the Human Rights Council, 15 September 2010

ⁱⁱⁱ UNICEF and WHO, (2009) “Diarreah: why children are dying and what can be done.” 2009.

^{iv} UN Millennium Project Task Force on Water and Sanitation, (2005) “Water and Sanitation: Health, dignity and development: what will it take?” pg. 20.

^v Idem, “Progress on Sanitation and Drinking - Water 2010 Update.” pg. 12.

^{vi} Water and Sanitation Programme, World Bank, (2010) “Economic Impacts of Inadequate Sanitation in India.”

^{vii} The official MDG targets for water is to half, by 2015 the number of people lacking access to safe drinking water, and for sanitation to half by 2015 the number of people lacking access to basic sanitation.

^{viii} Some countries have reflected national policies regarding wastewater in Integrated Water Resource Management and Water Efficiency Plans. These Plans were called for in 2002 in Johannesburg in Article 26 of the World Summit on Sustainable Development Action Plan.

^{ix} Corcoran, E., C. Nellemann, E. Baker, R. Bos, D. Osborn, H. Savelli, (2010) “Sick Water? The central role of wastewater management in sustainable development. A Rapid Response Assessment. » United Nations Environment Programme, UN-HABITAT, GRID-Arendal, pg. 9.

^x OECD, (2011) “Benefits of Investing in Water and Sanitation: An OECD Perspective.” OECD Publishing.

^{xi} World Water Assessment Programme, (2009) “The United Nations World Water Development Report 3: Water in a Changing World.”

^{xii} FAO High-level Expert Panel, (2009) “How to Feed the World 2050.”

^{xiii} OECD, (2008) “Environmental Performance of Agriculture in OECD Countries since 1990.” OECD publishing, pg. 94.

^{xiv} Comprehensive Assessment of Water Management in Agriculture, (2007) “Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture.” London: Earthscan, and Colombo: International Water Management Institute.