

## **Sanitation and Pollution Abatement in IWRM**

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Excellencies, fellow water professionals, ladies and gentlemen (to be amended accordingly). Good Afternoon. It is a real pleasure to be here in Stockholm for Water Week, and, it is an honor to speak with you briefly about sanitation and pollution abatement in IWRM.

**Water** is crucial for survival on this planet. This statement is nothing new. We all know and accept it. We also know that, water scarcity is already being felt in countries and regions around the globe. The hardest hit are the poorer countries in Africa, Asia and Latin America. Water impacts all aspects of life: health, nutrition, transport, energy, gender equality, industry, job creation, human security, ecosystem health. The list is endless.

So, I assume you would agree that we need to manage it well for poverty reduction and for sustainable development. Sadly, though, we are not being as responsible as we should be about managing water today, and it will become more and more difficult to tackle related existing and emerging issues such as achieving the MDGs, food security and adaptation to climate change, while also addressing demands for storage and allocation.

Water has so many positive uses – domestic consumption, waste disposal, recreation, tourism, power generation, industry, etc. – all things that both rich and poor countries need to support their economic growth and social development.

Unfortunately, water can also have a negative impact on life. Floods, hurricanes, and droughts cause havoc, and create shocks to economic growth. In general, industrialized countries are better equipped to manage these shocks than developing countries. They have storage and conveyance systems to help them adjust as needed. But economic development is constantly being challenged in the poorer developing countries that do not have the infrastructure and systems to help them tackle these water related shocks and improve their resilience to them. In Kenya, in 97/98 for example, the winter floods cost \$2.39 billion of infrastructure damage. Then drought in the same country, from 1998 to 2000 cost them \$2.41 billion - about 16 % of GDP. It never ceases to amaze me how something that can be so life

sustaining, can at the same time be so destructive. Yet, we do not take water management seriously enough.

We cannot afford to leave things as they are. If poor countries are to achieve their economic and social development goals, we need focused action and we need it now. We need to work on issues such as better management systems, strategic allocation and sharing of the resource, and dealing with its destructive impact on life. Indeed, all countries have to work towards achieving water security<sup>1</sup>, without which, survival on this planet will be increasingly difficult. Rich countries will continue to be secure; the economic gap between rich and poor will grow.

This brings me to sanitation. Let me offer a simple definition for our reflections this afternoon. Good sanitation is the management of human waste (excreta to be specific) in hygienic and environmentally sound ways. Management can take several forms and there are affordable options for everyone. It can be the containment and treatment of human waste in pits, pour flush toilets, compost toilets, septic tanks, and it can also be the collection and treatment of sewage.

Back in 1980, the world declared the International Drinking Water Supply and Sanitation Decade..... In 1990, the world acknowledged that it had really only been a drinking water supply decade. Today, as countries work towards achieving the MDGs for water and sanitation, we have to admit that we still have not been able to make the real progress which everyone anticipated. Concerted efforts to achieve universal sanitation have proved effective in some countries, for example in parts of India, Bangladesh and Ethiopia. However, what is needed is the commitment of decision makers at the regional and national levels to make these achievements sustainable.

It is sad to note how few developing countries are predicted to achieve their MDG sanitation goals. Some 2.6 billion people today still lack an adequate means of disposing of their human waste. Every 20 seconds, a child dies as a result of the poor sanitation conditions to which they are exposed.

Poor sanitation combined with a lack of safe drinking water and inadequate hygiene contributes to the terrible sickness, loss of productivity and death in developing countries. Children, women and men are all vulnerable. Nearly 80% of the unserved live in Sub-Saharan Africa, East Asia and South Asia.

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<sup>1</sup> Water security is defined as the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, environments and economies.

Unfortunately, experts predict that, by 2015, 2.1 billion people will still lack basic sanitation. Furthermore, at the present rate of delivery of sanitation services, sub-Saharan Africa is not expected to reach the target until 2076. That is a long time to wait to achieve development goals!!

Human waste is permeating our environment and making sustainable management of water resources all the more difficult. Excreta, waste water, sewage, can all end up in streams, rivers, and water bodies (if improperly treated and disposed of), which are the water resource for communities downstream. Those riparian communities are therefore exposed to diarrheal diseases, dysentery, and other excreta related diseases. Communities who cannot afford to treat their water supply adequately, before they use it will surely have to deal with these diseases.

People just don't like to talk about or deal with human waste.... They just want it out of the way. Out of the way usually means that human waste ends up in receiving waters, or in the ground, leading to pollution where the water table is high. Proper management of human waste/excreta is therefore very important for the management of water resources.

Excreta, or human waste which is disposed of in the ground, can be rendered safe if pits or disposal points are at safe distances from the water table and other water sources, so it doesn't pollute them. In rural communities with lots of space and low groundwater tables, this is more easily achieved than in crowded urban areas.

Where sewers are the mode of collection of human waste, adequate treatment is needed, again to avoid contaminating the receiving waters with bacteria, viruses, eggs etc..... In the developing world roughly 90 percent of sewage is discharged untreated into rivers, polluting them. Water pollution from poor sanitation costs Southeast Asia more than \$2 billion per year. The environmental costs from water pollution in Indonesia and Vietnam are more than \$200 million per year, primarily from loss of productive land.

In Romania, it is estimated that at least 25% of the groundwater pollution from nitrates originates from pit latrines and poorly functioning septic tanks. Furthermore, in 2005, of the 1310 wastewater treatment plants in the country, less than 40% were working well. Municipal water utilities are now the main polluters of surface water in many countries in Eastern Europe, Caucasus and Central Asia because of poor wastewater treatment.

When systems for management of human waste are improved and work, environmental cleanliness is improved and streams, rivers, lakes and underground aquifers are protected from pollution.

Human waste is not the only contributor to water pollution. In addition to receiving waters being polluted directly or indirectly from untreated or poorly treated sewage, contaminated grey and storm waters also find their way into receiving waters. These waters are also polluted by industrial effluents, even though more and more countries around the world are working to ensure that local industries treat their wastewater before disposing of it. In rivers and streams which receive industrial and organic wastes, there can be excessive growth of weeds and/or eutrophication, leading to obstruction of the productive uses of rivers and lakes, for fishing, recreation and transport.

Countries are taking pollution control more seriously now than before. In Tunisia for example, most municipal wastewater receives biological treatment in oxidation ditches and waste stabilization ponds before being discharged into receiving waters. In addition, 30 to 40% of the treated wastewater is used for agriculture and landscape irrigation, as a way of improving water management. This is good, but progress is slow in many other countries where basic sanitation is still lacking.

While there have been advances, progress is hampered by population growth, persistent poverty, insufficient investments to address the problem and the biggest culprit: a lack of political will. Dealing with sanitation has generally been a low priority. – It seems helping families in a community to have access to improved sanitation isn't as attractive as supplying water when it comes to looking for votes!!

Because water is so crucial for development, countries need to allocate and manage it – both before and after its “use” -- strategically in the light of national development goals. Addressing the challenges we face requires a better appreciation of the role of water in sustainable development. In particular, it requires a better understanding of the role of water throughout the whole water use cycle. It requires greater awareness among decision-makers about the positive and negative roles that water can play in economic development. It requires effective communication and shared decision-making among different agencies, organizations, interest groups and communities in ways that overcome both administrative boundaries and rural-urban divides. It requires thinking beyond individual sectoral needs, evaluating costs and benefits in a comprehensive way to ensure decision making that makes sense in environmental, social and economic terms.

The Integrated Water Resources Management (IWRM) approach helps countries address these issues. It is a systematic approach for the sustainable development, allocation and monitoring of water resource use in the context of social, economic and environmental development objectives. The (IWRM) approach recognizes that water is essential for development, so we had better manage it well. It acknowledges that water use and management in modern society is complex, and that water needs to be managed throughout the whole water use cycle from water supply to treatment and re-use. It addresses the fact that water has both economic and social components and is also an integral part of the natural environment on which humans depend. It can help to support countries deal with their sanitation and pollution abatement challenges, which is an important part of working towards achieving water security.

The International Year of Sanitation is running out. Decision makers need to focus on this priority and give it the support and financing it needs. We must redouble our efforts to convince them that even the poorest can safely dispose of their wastes and improve their hygiene practices. They just need help.  
Thank you.