

# Can Water Supply and Sanitation be a 'Preventive Medicine'?

## Key Points and Policy Recommendations



**There is growing investment in water supply, sanitation and hygiene, yet this has not addressed the growing threat from infectious diseases, especially in rapidly growing economies.**



**Case studies in these countries reveal 'on-site' household based disengaged interventions have only increased the threat to human lives.**



**Failure to contextualize the international goals and poor understanding of the complex institutional settings have posed challenges to implementing water supply, sanitation and hygiene as a 'preventive medicine'.**



**International goals are 'super norms' which international, national and regional actors should strive to contextualize and innovate the socio-technical and institutional dimensions by playing 'politics with principle' for an integrated water, sanitation and hygiene to reduce the threat from infectious diseases.**

The importance of water supply and sanitation for improved human health had gained prominence in the developing world thanks to the Millennium Development Goals (MDGs). Increasing population, rapid urbanization, agricultural developments, globalization, industrial development and poor wastewater regulation have affected the quantity and the quality of water around the world. These activities have not only exhausted existing water resources but also triggered contamination of water, spreading infectious diseases.

World-wide, development agencies have increased their investment in water supply and sanitation as a preventive medicine to address the growing threat from infectious disease. This investment also gained momentum from the MDGs (UN Millennium Project, 2005). In spite of these improvements, improved health from these interventions are rare (IBRD/WB, 2010, p. x).

Drawing on the experience from several case studies in rapidly growing economies (See Water International, 2013), the Policy Brief concurs the failure of water supply and sanitation intervention in improving human health. It finds that national and international development agencies have considered the water supply and

sanitation (WSS) goals as global targets, without meaningful local adaptation. Further, most of the interventions targeted by international agencies have been aimed at the household-based technologies of drinking water, sanitation and hygiene, and/or even developing markets for some of the companies promoting these improvements. More so, they failed to comprehend the complex institutional environment, which has significantly hampered water supply and sanitation to serve as a 'preventive medicine'.

The international goals have been the driving force behind the international community's striving for a common cause. They have mobilized both national and international agencies to increase aid flow, develop various policy measures and generate consistent figures on water supply and sanitation to secure human health (Waage et al., 2010). The Policy Brief calls on international, national and regional actors to consider the international goals as 'super-norms' which they should strive to contextualize by playing 'politics with principle' to innovate the socio-technical and institutional dimensions for integrated water, sanitation and hygiene and to reduce the threat from infectious diseases.

## Complex institutional terrain

Ideally, WSS combine to represent an integrated system that involves capturing, transporting, treating, effectively supplying and disposing of water through an appropriate socio-institutional environment that is hygienic, equitable and sustainable. Many of the interventions in rapidly growing economies are merely on-site, household-level interventions that are either technocentric, focused on on-site drinking water and sanitation technologies and in-house treatment, or socially engineered public participation, training households on hand washing and awareness building measures, emulating the result-based targets of the MDGs.

Such interventions often blame the community for the chaos, while immunizing the state and international agencies from their crucial responsibility of ensuring safe drinking water, basic sanitation and environmental hygiene (Saravanan, 2013-ZEF WP 124).

In these countries, we see water pipes carrying water that makes people sick, and gleaming toilets (installed without connections to sewer systems) drowning people in an unhygienic environment; what looks like progress

towards a 'preventive medicine' actually poses a threat to human lives.

WSS in rapidly growing economies is influenced by the particular institutional setting and by local organizations, policies and political actors. Perpetuation of the colonial legacy of segmented planning, inadequate land-tenure arrangements, neoliberal policies, unregulated expansion of urban growth and vote-bank politics, have found opportunities to exploit the long-standing structural arrangements.

In the process, the city's water infrastructure faces inefficiencies in the distribution of water, poor design of water networks, growing illegal water connections, land and water encroachment, increasing physical water loss and unduly high electric consumption. This has led to mixing of sewerage water, frequent waterlogging, increasing illegal water connections and poor solid waste management providing a conducive environment for the breeding of water- and vector-borne diseases (WVDs). Though the problems of poor WSS are known to disproportionately affect the poorer segments of society, poor solid waste management, high population mobility, inadequate housing and an interconnected but inefficient infrastructure could further lead to WVDs enveloping middle- and higher-

class residential areas in urban regions.

In rural areas intensification of agricultural activities has resulted in extensive contamination of water, poor drinking water coverage, inadequate sewage and sanitation systems accelerated with economic growth, migration and population growth leading to health risks associated with biological or microbial pollutants (e.g. large intestine bacilli, hepatitis B virus, cholera virus, typhoid and E. coli) and chemical pollutants (e.g. heavy metals, fluorine, arsenic, benzene and oil).

There have been successful initiatives from non-governmental and government agencies, however, without adequate institutional arrangements and legislative support, such interventions are prone to fail.

The complex institutional environment has remained a major hurdle with respect to improving water supply and sanitation in poorer areas and lessening the chances of WVD.

### Playing politics with principle for improved water supply, sanitation and hygiene

The Post-2015 concept marks a

significant improvement over the MDGs, by emphasizing universal access to drinking water and sanitation and treating all municipal and industrial wastewater prior to discharge (UN, 2013). Given their simplicity, clarity and intentions, the post-2015 goals can enable various actors to wield and negotiate their differential powers to contextualize and implement these goals – i.e. to play politics by principle. Buchanan and Congleton (1998, p. xii) argued that

*“politics by principle constrains agents and agencies of governance to act nondiscriminatorily, to treat all persons and groups of persons alike, and to refrain from behaviour that is, in its nature, selective. Within the limits of such constraints, politics may do much or little, and it may do what is done in varying ways.”*

International agencies could play politics with humanity to facilitate the WSS as a preventive medicine by drawing lessons from their own backyard. While there is no dearth of household-based technologies or community-based alternatives for WSS, there is inadequate attention to a binding international law framework or even 'soft' law within the United Nations context underlying the water reforms (Cullet, 2012). Worse, there is a dearth of initiatives from the

international community to build the socio-institutional capacity necessary for addressing WSS and public health in the countries that need assistance.

While the strategic priorities of international agencies are important, they have to be meaningfully aligned with humanitarian motives, displaying solidarity and enlightened self-interest (Bandara, 2012). Even more, they have to communicate these in a transparent and accountable manner to the recipient countries without hampering their development and security.

National agencies could play politics to develop mechanisms to regulate and to facilitate the power dynamics of actors within their respective countries. The inheritance of colonial legacy is exploited by contemporary actors (a growing middle class, politicians, the poor, urban planners, private companies and bureaucrats), resulting in a vicious cycle with which national and regional bodies must come to terms. They have to craft appropriate policies, legislation and regulations to translate vision and goals into practical reality, and especially create effective evaluation mechanisms. Their role, through politics for development, will ensure the security and advancement of their fellow citizens.

While the inadequacies of the contemporary approach towards WSS are clear to local authorities, their hands are often tied by highly interwoven political and bureaucratic processes. Local authorities and civil society should be given the freedom to play politics with responsibility and bring humanitarian international and national interest to each local context. Building adequate spatial information systems at local levels to monitor water safety and disease-related issues, and for working alongside civil society for a collective initiative could bring about awareness and significant changes among the communities. Such an information system can be used as a spatial decision-support system for politicians, key agents, and local workers to model various alternatives and development scenarios and identify the best long-term choices.

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## IMPRESSUM

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The Global Water System Project seeks to answer the fundamental and multi-faceted question:

How are humans changing the global water cycle, the associated biogeochemical cycles, and the biological components of the global water system and what are the social feedbacks arising from these changes?

GWSP is a joint project of the four Global Environmental Change Programmes: DIVERSITAS, the international programme of biodiversity science, the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP) and the World Climate Research Programme (WCRP).

