Health Indicators of sustainable water in the Context of the Rio+20 UN Conference on Sustainable Development

Initial findings from a WHO Expert Consultation: 17-18 May 2012

Key messages:
Measurement of access to safe and climate resilient drinking-water resources, as well as sanitation, is increasingly critical in an era of continued population growth and climate change. Ensuring access to safe, resilient and sustainable water and sanitation will accelerate attainment of multiple environment and health-related goals for sustainable development.

- **Indicators of access to safe drinking water** require greater refinement to reflect the large, continuing gaps in access to safe drinking water among the world's poorest populations, and measure progress towards attainment of the universal right to water.

- **Monitoring access to adequate climate-resilient water and sanitation systems** is particularly critical in light of the increasing impacts of temperature change and extreme weather on water sources, sanitation systems, and human health.

- **Greater inclusion of public health agencies in Integrated Water Resource Management (IWRM)** will accelerate the broader application of IWRM, which provides a comprehensive and multisectoral approach for the identification and management of water-related health risks.

1. Linkages between sustainable water policies and better public health

Ensuring access to safe, resilient and sustainable water and sanitation will accelerate sustainable development on multiple dimensions such as health, development, and the environment. The critical linkages between these three domains are not always appreciated. For instance, the current Millennium Development Goal (MDG) target for sustainable access to safe drinking-water and sanitation is part of MDG 7 – ”ensure environmental sustainability”. ¹ Yet, this same target is critical to achievement of multiple health and development-related MDGs goals including: eradicate hunger (MDG 1); reduce child mortality (MDG 4); improve maternal health (MDG 5) and combat HIV, malaria, and other diseases (MDG 6).

In the case of the current MDG drinking water target for ”halving by 2015 the proportion of population without sustainable access to safe drinking water and basic sanitation”, important progress has been made. Over 2 billion people have gained access to improved water sources from 1990 to 2010. Yet, 2.5 billion people still live without improved sanitation facilities, and 15 per cent of the population (1.1 billion people) still practice open defecation.²

Despite this progress, current targets and indicators also do not capture critical aspects of trends and concerns for health:

- **Safety and reliability of drinking water supplies and the sustainability of both water supply sources and sanitation facilities are not addressed by the current set of indicators used to track progress** –as per the latest report by the United Nations Children’s Fund (UNICEF)/World Health Organization.

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¹ Current indicators used to monitor progress towards the drinking water and sanitation target include: 1) access to an “improved drinking water source”; and 2) access to “improved sanitation”.

Health Organization (WHO) Joint Monitoring Programme (JMP), responsible for monitoring the MDG 7 drinking-water and sanitation target;

- **Achieving the MDG 7c target** – "halve the proportion of people without sustainable access to safe drinking-water and basic sanitation" – will not necessarily reflect trends vis-à-vis access and water quality for those in greatest need. The indicator currently being used by JMP only measures “access to an improved water source” at a very high level of aggregation (e.g. urban versus rural, but not by socio-economic sector). Moreover, "improved sources" may or may not actually be "safe drinking-water." Thus, a causal link to improvement of health is difficult, particularly with regard to the poorest one-fifth of any country's population.

- **Available health evidence indicates that rates of access to safe drinking-water still remain very low within countries among more vulnerable groups.** According to the WHO, unsafe water, sanitation and hygiene is one of the four leading causes of illness and death and increases the number and severity of infectious disease cases, particularly among populations in low-income countries.  

- **Among more vulnerable groups, health and equity impacts are likely to be even higher** (e.g. impacts on health due to water quality as well as due to the time and personal risks involved in water collection).

- **Sustainability of water resource management**, which is critical to long-term sustainability of drinking water supply as well as to other water resources vital to health and the environment, needs to be considered, particularly in an era of climate change.  

**Advancing the right of access to safe water and sanitation**

Post-MDG work on water and sanitation is driven by two issues: the need to ensure continuity in pursuing human development goals and the 2010 United Nations General Assembly resolution on the universal human right of access to safe water and sanitation (64/292). This resolution, approved in 2010, re-affirmed “the importance of equitable access to safe, clean drinking water and sanitation as an integral component of the realization of all human rights”, including those related to good health. A subsequent resolution approved by the United Nations Human Rights Council in 2010 went further, saying that the right to water is also part of international law. Governments have the primary responsibility of ensuring that progress is made towards realizing that right among every member of the population, particularly vulnerable and marginalized group members.

In regard to future indicators on health, access to water, and sustainable development, a focus on inequities of access within countries, and not only between countries, and implications of these inequities on health will also become increasingly important.

It is of vital health importance that a new monitoring framework is created that recognizes these concepts, allowing for the targets and associated indicators to evolve with the trends over time towards the "progressive realization" of goals. This setting would harness the latest technical knowledge regarding science-based targets and indicators that best reflect incremental improvements in access and associated health gains at different levels (national, regional, and global), thereby supporting the ultimate goal of universal access.

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2. Core health indicators that can monitor progress and identify success

**Water supply and access**
- Proportion of population that has access to a sustainable safe water supply and hygienic sanitation in the household;

**Integrated Water Resource Management (IWRM)**
- Percentage of financial resources dedicated to IWRM in relation to other water resource management functions;
- Percentage of countries that have an IWRM policy framework and legislation, which specifically reflects public health concerns;

**Flood and drought/climate resilience (as both health impacts and hazard indicators)**
- Percentage of population protected from extreme weather events and with access to weather and climate-resilient infrastructure (e.g. adequate housing and transport);
- Percentage of population that has access to climate resilient safe water sources and hygienic sanitation facilities;
- Percentage of health services that have a reliable safe water supply and adequate sanitation, both of which are resilient to extreme weather related events;

**Strategic approaches**
- Percentage of countries that have the policy framework, institutional infrastructure and human resource capacity to carry out a Health Impact Assessment (HIA), either as a stand-alone or as part of Environmental Impact Assessment (EIA);
- Number of health impact assessments performed in a year, by country (as an absolute number and as a percentage of all water resource development projects entering the planning cycle).

3. Added value of these health indicators

Policies that ensure universal access to safe, affordable and reliable water and hygienic sanitation as well as protection of all water sources under the principles of Integrated Water Resources Management (IWRM) can contribute to the progressive realization of the right to water and sanitation.

Access to water and sanitation is covered by JMP. Post-MDG processes launched by a JMP consultation in 2011 in Berlin⁵ are also covering a range of policy issues relevant to monitoring aspects of the water supply and sanitation sector at the national level; related policy issues are currently reported on in the WHO-led UN Water *Global Analysis and Assessment of Sanitation and Drinking-water (GLAAS)*.

JMP and GLAAS monitoring so far address all aspects of access to water and sanitation, from practical to policy levels, but the mandates do not involve the monitoring of health outcomes related to access to safe water and hygienic sanitation (e.g. diarrhoeal diseases). Additionally, current monitoring does not focus on water aspects of health beyond drinking water issues. Human exposure to floods and droughts is associated with health impacts falling outside of the remit of JMP. Other issues also not considered by JMP include water resource management, irrigation, wastewater

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use and other water uses. These issues could be usefully captured in the Rio+20 discussions and in post-2015 sustainable development indicators.

The indicators on flood and drought/climate resilience are of special relevance. The urgency of securing access to safe and sustainable water supplies and sanitation services becomes more acute under changing climate and climate variability as does the need for comprehensive adaptation in the water sector. In 2002 at World Summit on Sustainable Development (WSSD), Member States committed to the principle of IWRM for comprehensive risk management. This commitment was, to some extent, followed up by the Global Water Partnership (GWP). The Intergovernmental Panel on Climate Change (IPCC) *Fourth Assessment Report*, subsequently confirmed that IWRM provides a comprehensive water supply and quality risk management plan when it is applied, and that greater inclusion of public health agencies in IWRM will accelerate its broader application. In addition, the latest evidence from the IPCC highlights risks of more frequent and intense extreme weather events such as floods, cyclones and droughts alongside increasing temperatures. Given the fact that these trends will have a direct impact on water sources and sanitation systems, the monitoring of access to adequate water and sanitation systems will provide information central to the monitoring of sustainable development trends that ensure good public health.

### 4. Feasibility of data reporting

- The water supply and access indicator suggested relates to the current JMP indicator that reports for all countries; however, the provided indicator is disaggregated to capture disparities in urban and rural access;
- Flood and drought/climate resilience indicators for all countries can be developed based on JMP data that is overlaid with climate data.
- Feasibility of collecting other proposed indicators will depend upon country/institutional policies and capacity.

### 5. Cross-cutting issues for further consideration

While the importance of the need to address the differentiated impacts of climate change on women and girls is recognized, current data sources used for JMP do not show gender dimensions of access to safe drinking water and basic sanitation. Against the backdrop of the universal human right of access to safe water and sanitation, JMP is exploring ways of gathering information at the individual level so that discrimination against various social groups can be highlighted and addressed.

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