BRIEFING NOTE

Global Water Partnership

Integrated Urban Water Management

Water security is under threat in urban areas. The very nature of urbanization contributes to water stress: rapid population growth, inadequate planning, pollution, poverty, and competing demands on the resource. Urban water consumption is likely to double by 2025. And climate change is expected to cause significant changes in precipitation patterns which will affect the availability of water and induce water related disasters.

Current models of urban planning and water management have already failed or likely to fail from the perspective of cost effectiveness, technical performance, social equity, and environmental sustainability. More is needed than simply improving the performance and efficiency of the component parts of the water system. A paradigm shift is required at the system-wide level. Integrated Water Resources Management (IWRM) provides a framework for interventions over the entire water cycle and a reconsideration of the way water is used (and reused). And IWRM addresses tradeoffs among water users: agriculture, industry, household, and ecosystems.

An integrated approach to urban water resources management calls for new objectives that recognize the mutual benefits of water resources, energy, and land use management. More governments recognise the importance of taking such an approach to address the challenges of cities. There is a growing consensus around the principles of Integrated Urban Water Management (IUWM) which include the following:

Involving all key players: Critical to the success of the IUWM is the early and continuous integration of all stakeholders in the planning, decision making, implement-ation and monitoring process, in a structured way. Roles and responsibilities need to be clearly defined. The main barriers are institutional because of a highly fragmented division of responsibilities and tasks. Regulatory changes are required to avoid a sector perspective.

Considering the entire water cycle as one system: Water sources, supply, wastewater, and storm water should be contextualized within an urban water framework and a wider basin level catchment area. This allows us to understand the relationship between the components of the urban water system, as well as upstream and downstream relationships and impacts on the ecosystem.

Assessing a portfolio of water sources: A portfolio of options such as surface water, groundwater, rainwater, and storm water as well as less obvious water sources such as black

water (wastewater) and grey water (wastewater other than sewage, such as sink drainage or washing machine discharge) should be considered as potential sources. The goal is to diversify sources and increase availability for different uses. When considering the demands for water, it is important to match water of a certain quality to its intended use. Consumer behavior needs to be taken into consideration in water consumption and waste management as it can affect water resources management.

Maximizing the benefits from wastewater: By employing innovative technologies, water, energy, biogas, and nutrients can be reclaimed from waste streams and reused. Recycling and reuse can be fostered by more decentralized systems. Low cost technologies with limited dependence on energy can contribute significantly to improving the sustainability of wastewater systems.

Designing adaptive systems: When developing an IUWM strategy, it is important to recognize uncertainties such as climate change and its impacts. There is a need to build flexible systems that cope with uncertainty and are able to adapt to changing conditions.

Given its experience, mandate, and demand from it Partners, Global Water Partnership (GWP) proposes to focus its IUWM agenda around the following five main areas:

Urban Water Partnerships: Promoting the involvement of key stakeholders in strategic planning, agreements on water allocations, pollution control measures, as well as in efficient water use, water savings, transparency issues, and a citizen's card system.

Urban Water Catchment Management: Considering the entire water cycle as one system, linking the management of urban water to IWRM Plans in the broader basin context; assessing all water sources availability; assessing water demand and use; providing water fit for different purposes; regulatory changes are required to promote a more integrated approach.

Waste as a Resource: Maximizing the benefits from wastewater by employing innovative technologies, condominial sewage systems, wetlands, and decentral-ized wastewater treatment in which water, energy, biogas and nutrients are reclaimed from waste streams and reused locally for productive use, including urban agriculture. Wastewater should not be wasted water!

Integrated flood management: strengthening the resilience to climate change related extreme events and conducting vulnerability assessments.

Low cost, high impact solutions: WASH systems do not have to be pricey to be effective, as proven by many examples around the world. For instance, one such program brought sanitation to 150,000 people and clean water to 400,000 in Lilongwe, Malawi. In India, Bangla-desh, Kenya, and Uganda similar programs help house-holds buy drinking water and toilets through micro-financing.

GWP will initiate programs to support integrated approaches in urban water management through its Regional and Country Water Partnerships.

RESOURCES FROM THE GWP TECHNICAL COMMITTEE

- *Integrated Urban Water Management*, Background Paper 16 (2012)
- *Towards Integrated Urban Water Management*, Perspectives Paper (2011)
- *Managing the Other Side of the Water Cycle: Making Wastewater an Asset*, Background Paper 13 (2009)
- *Urban Water and Sanitation Services, an IWRM Approach*, Background Paper 11 (2006)