



Rainwater harvesting practices & potentials

briefing note

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Background and context

Unplanned urbanisation, unharnessed industrialisation, rapid population growth and improper implementation infrastructural development programme triggered the phenomenon of water scarcity in cities and towns of Bangladesh.

Major cities, particularly the capital Dhaka, has been facing serious water crisis during dry summer over past few years. Since the city is mostly dependant on groundwater to serve its citizens, the groundwater table is declining at a rate of three metres every year.

Between 1991 and 2008, the groundwater table has dropped by more than 53 meters in Mirpur area alone. On the other hand, waterbodies are disappearing from the city to meet the increasing demand of housing and more paved areas resulting reduction of natural vertical recharge of groundwater. Over-extraction and lack of natural recharge have been identified as the key causes for phenomenal declination of groundwater table.

The source of safe drinking water is limited in the coastal areas of Bangladesh, particularly in the South-western part of the country, due to intolerably high salinity and arsenic contamination. The latest Multiple Indicator Cluster Survey (MICS-2009) reveals that about 20 million people of the country are still at risk

of drinking arsenic contaminated water above the acceptable level. In many places, people travel as long as 7-10 kilometres per day to fetch water for household consumption and other usages that increases the workload of women and girls.

The Chittagong hill tracts region is evidently different from the other parts of the country geologically, ecologically and culturally. A significant portion of the poor indigenous communities living in the remote hilly areas do not have adequate access to safe water.

Due to hilly topography and difficult hydro-geological conditions, construction of water supply facilities is difficult and expensive. Average consumption of water is extremely low due to long distances of water facilities and uphill journey.

Rainwater harvesting: a potential way forward

The potentiality of rainwater harvesting to address household level water scarcity as well as to enhance groundwater recharging has already been tested in the context of Bangladesh and in many other countries in the Asian and African regions. Particularly in the coastal areas of Bangladesh, indigenous knowledge and practices of using rainwater as an alternate source of drinking water for long. The Government of Bangladesh and its

development partners have also been promoting rainwater as an alternative source of potable water in response to arsenic problem.

Bangladesh receives an annual average rainfall of 2150 mm which is almost three times more than the world average (800 mm). The potentiality of this huge rainfall remains mostly unutilised since using rainwater for drinking and other household usages is still not socially and technologically very familiar in Bangladesh.

In the CHT and in urban areas it is only a recent phenomenon although it is now widely agreed that use of rainwater will reduce the pressure on groundwater supply to a great extent which may also contribute to reduce the problem of water logging in the urban areas. It is anticipated that if utilised properly, rainwater has the potentiality of meeting many of the challenges being faced by the urban areas in relation to increase access to safe water and some other urban environmental problems.



Recent initiatives in Bangladesh

Recently, the Institute of Water Modelling (IWM) in Bangladesh has conducted a pilot study for Dhaka Water and Sewerage Authority (DWASA) to assess the possibility and potentiality of groundwater recharging and concluded that if done properly, it could arrest further decline and to a great extent increase the water table in Dhaka.

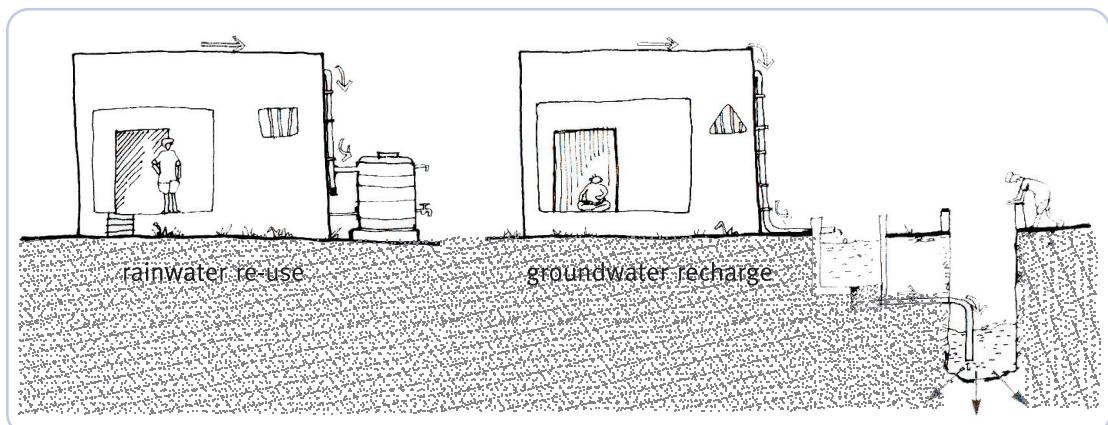
With support from Unicef, the University of Dhaka has done a pilot study in saline intruded coastal belt about the possibility of using rainwater as an alternative source of potable water and observed huge potentiality.

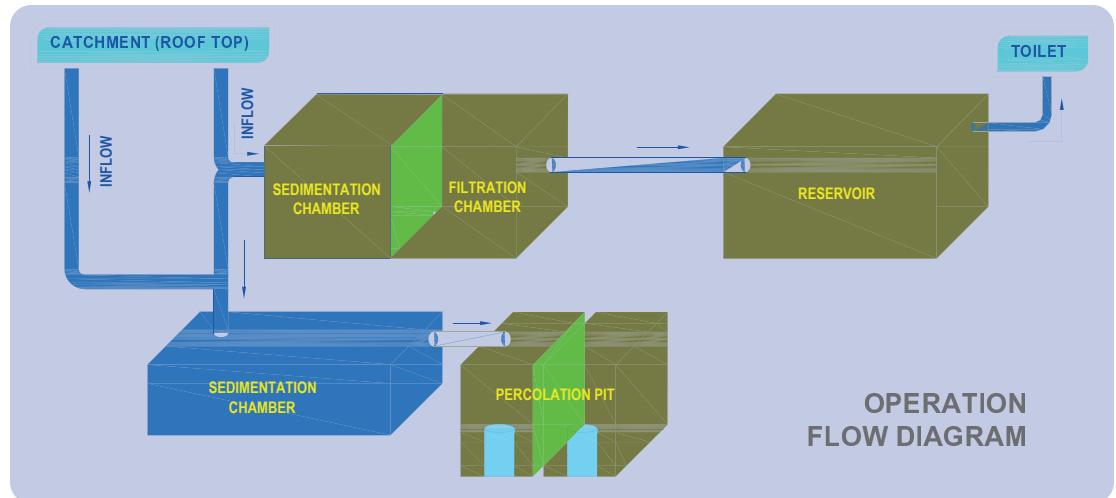
WaterAid in Bangladesh constructed demonstration rainwater harvesting plants at strategic locations- Bangladesh University of Engineering and Technology (BUET), Public Works Department (PWD), Independent University Bangladesh (IUB) and Training premise of an NGO Village Education Resource Centre (VERC). This initiative aims to

demonstrate the use of rainwater harvesting for flushing at lavatories, other purposes expect drinking and a portion of rainwater being used for groundwater recharging.



Mainly to popularise rainwater harvesting and to create a pool of human resources on the subject, WaterAid in Bangladesh in collaboration with the Centre for Science and Environment (CSE), India has taken a systematic approach and trained more than 62 people, both academicians and practitioners, so far on urban rainwater harvesting.





Bangladesh convention on rainwater harvesting

WaterAid in Bangladesh in collaboration with Institute of Water Modelling (IWM), Bangladesh University of Engineering and Technology (BUET), RAiN Forum and with support from Centre for Science and Environment (CSE), India, is organising the ‘First Bangladesh convention on rainwater harvesting 2012’.

The convention intends to provide a platform for rainwater harvesting research and development stakeholders in Bangladesh to popularise rainwater harvesting, knowledge sharing on technical and non-technical aspects as well as its sustainability in the context of Bangladesh.

The convention aims to support practitioners in sharing practical approaches and lessons learnt to promote good practices. This will help improving current practices of rainwater harvesting, allow participants to interact in a formal and informal setting and engage more actively.

