

Managing blue and green water – A case of Bhopal

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Bhopal City was once known for its surface water resource has come under grey that is semi – critical zone for ground water development. Urbanization has increased the water and land demand resulting in water resource depletion, cutting of trees and climate change. Impact of climate change is on both terrestrial eco – system and atmospheric composition leading to change in hydro- eco system. The regional consequences of change in hydro-cycle results in loss of vegetation, increase in runoff, urban flood, change in stream flow and carbon cycle. These changes can be managed by blue and green water. Conservation and management of blue water can be done through rainwater harvesting. Green water provides large storage for vegetation. Green water storage and green water fluxes between soil, vegetation and the atmosphere depends largely on land cover and management (Hoff, 2008). This approach emphasizes on the management of precipitation and green plantation that is hydro- eco cycle for society and nature. Second aspect of climate change that is change in atmospheric composition can be done by managing sink through parks and open spaces.

Looking Bhopal, the metro urban habitat, with an eye of blue, green and gray infrastructure, there are three aspects to be dealt with that is land, water bodies and built form. After studying the Development Plan 2005 and analyzing the chronological development of the city it is observed that the city can be grouped into developed, semi - developing and open area or buffer zone. This area are divided into two zones, providing scope for managing the green and blue water as they have different geo-hydro and physical character and different developmental constraints. Densely water built area has more land mass and less of green lungs which limit the scope of managing blue water through roof-top rainwater harvesting. Semi- developed area have hillocks of different altitudes along south –West and North –West. It has isolated as well as continuous patches of developed land situated within planning area, which have been put to various urban uses. The proposals in the form of strategies for semi developed area are categorized as per the land forms- hill top, hill slope and valley. The natural drainage system is used for ground water recharge. The surface run off is controlled by plantation along slopes. Buffer zone in context of Bhopal is said to have maximum of open areas with little built forms. Therefore, development could be planned taking into cognizance of geo-hydrology of the area, natural resource, drainage pattern and so on. Thus managing the natural resource base is essential for protecting the land, water and living resources on which human life and development depends.

Biography

Presently Purna Sheolika is a Research Scholar from School of Planning and Architecture, Bhopal. Earlier to this was working as Head of Department in Bagulla Mukhi College of Architecture and Planning, Bhopal. She completed her master's from MANIT Bhopal in 2007 and graduation from MITS Gwalior in 1993.

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