

Draft Policy on Rain Water Harvesting in Urban Areas of Karnataka

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1. Introduction

His Excellency, the President of India, in his address to the joint session of the Karnataka Legislature on the occasion of Suvarna Karnataka celebrations, had recommended taking up of various projects in the State to enable the State to achieve its full potential. One of the issues that (H.E. emphasized was the need to take up rainwater harvesting in urban areas on a systematic basis) emerged was the one relating to Rain Water Harvesting.

The State of Karnataka is the 8th largest State in the country. It has an Urban Area of 5110 Sq. kms comprising of 226 Urban Local Bodies. Karnataka is one of the most rapidly urbanizing states in India growing at a high growth rate of 2.80%. The problem is of paramount importance to Karnataka as the rate of urbanization is very high. The urban population in Karnataka is expected to grow from the present level of 33.95% upto 37.55% by the year 2011. The normal annual rainfall ranges from 562 mm to 4119 mm. However the situation is precarious in the State as 67% of the Sate receives less than 750 mm annual rainfall. In view of the predominantly arid and semi-arid conditions, the Sate is second only to Rajasthan as the most drought prone State. The number of districts susceptible to drought in Karnataka is 20 out of 27 districts.

Increasing urbanization has resulted in greater pressure on the infrastructure needs of urban areas. The problem is of paramount importance because of the high rate of urbanization in Karnataka. The supply of adequate quantity of potable water on one hand and managing the flooding of streets during monsoon on the other has become Herculean tasks for the ULBs. Urban areas, including major cities, are becoming increasingly dependent on ground water as Surface Water supply is inadequate and unable to cater to the needs of the entire urban population. 27% of the urban population depends on bore wells. This has resulted in rampant and unhindered extraction of ground water leading to depletion of ground water resources.

Rainfall is the only source for replenishment of the ground water but the slope of the terrain causes most of the rainwater to run off. Only a small percentage of it infiltrates into the aquifer. As open spaces in the cities are being increasingly covered by metalled roads, pavements, cement concrete drains and buildings, infiltration is getting reduced day by day. There is an urgent need to address the serious issue of dwindling ground water resources. Urban water bodies to are being reduced at an alarming level . To combat and reverse the process Karnataka was the first state to set up a Lake Development Authority for the preservation of lakes and tanks in cities. However more work needs to be done and quickly to address the decline of surface water bodies.

To overcome the situation it is necessary to conserve rainwater and provide facilities for

rainwater harvesting in a systematic and sustainable manner. Rain Water Harvesting is the process of systematically collecting and storing rainwater for future productive use.

In this regard, the National and State Water policies state as follows:

- The National Water Policy 2002 as adopted by parliament elucidates the need for bringing water resources available in the country in to the utilizable water resources category to the maximum possible extent. Further, the National Water Policy states that the non-conventional methods of utilization of water, inter basin transfer, artificial recharge of ground water and desalination of brackish water or seawater as well as traditional conservation practices such as RWH, including rooftop RWH need to be practiced to further increase the utilizable water resources.
- The Karnataka State Water Policy (Ref:RWH and water conservation 6.21 & Ecology 6.22) states that the efficiency of utilization of water will be improved and awareness about water as a scarce resource fostered. RWH & water conservation will be encouraged. Conservation consciousness will be promoted through education, regulation, incentives and disincentives.

Therefore, complying with the National and State Water Policies and ensuring holistic management of water resources it is necessary to implement RWH.

Accordingly, the Rain Water Harvesting Policy is being evolved to ensure the fullest utilization of this precious resource for human and ecological purpose.

2. Principles of RWH

The principle of catching water where it falls is called RWH. It mainly consists of two techniques

- a. Storage of rainwater on surface for future use: Rainwater stored in lakes/tanks/ ponds/check dams/weirs/ underground sumps/ rain barrels/ on the ground tanks and overhead tanks etc. for direct use.
- b. Recharge of groundwater: Recharged to ground through ponds, water bodies, recharge pits, recharge wells, bore wells, soak pits, recharge trenches etc.

3. Policy objectives

The objective of the urban rainwater harvesting policy is to ensure the (best) possible beneficial use of rainwater endowment on the entire urban area of Karnataka. It is also an objective of the policy to involve multiple participants including government and private institutions and all citizens as stakeholders in the appropriate management of rainwater.

It is expected that through the implementation of this policy rainwater harvesting will

- Preserve and enhance surface water bodies in urban areas
- Provide supplemental water for the urban area needs
- Augment soil moisture for urban greenery
- Recharge ground water
- Mitigate urban floods
- Prevent salinity ingress and improve quality of groundwater
- Provide environmental and ecological benefits to the urban area including fostering bio diversity

4. Policy Statement

- a. RWH shall be made mandatory and will be introduced in phases in all areas covering the Municipal and Planning boundaries.
- b. The Urban Development Department shall facilitate the formation of a State level Advisory Committee, which will monitor the entire process of RWH implementation at the State level. This committee will also comprise of a technical cell, which will provide the necessary technical support for implementation of RWH. This Committee shall be chaired by the Principal Secretary, UDD and shall meet at least once in three months to review the status of implementation of RWH.
- c. The UDD shall facilitate the formation of District level RWH Committee in all the districts for monitoring the implementation of RWH. The District Level RWH Committee shall comprise of representatives from all the concerned Government Departments involved in urban water management like Lake Development Authority, Central Ground Water Board, Mines and Geology Department, Town Planning Department, KUWSDB etc and two members each from the NGOs, Academic institutions and field experts. This committee shall be chaired by the concerned Deputy Commissioner of the district. The committee shall be responsible to prepare, implement and monitor the town / city wise RWH Action Plans. The Committee shall meet regularly at least once in three months to review the status of implementation.
- d. Nirmiti Kendras would serve as Nodal agencies at district level, which would provide the necessary information as well as assist in the implementation as per the requirement of the ULBs. The DC would identify other centers, which can work as Nodal agencies in places where Nirmiti Kendra's are not available.
- e. Specifications will be prescribed for storage and recharge of rain water at all scales (Micro to Macro)
- f. Required legislations/amendments along with incentives and disincentives will be derived to facilitate the implementation of RWH
- g. Make it mandatory for every ULB/Planning Authority to identify, demarcate, protect and maintain the water bodies that come under their jurisdiction.

5. Roles and responsibilities

- State Level Advisory Committee – Frame the State Policy, prepare Technical Guidelines, Manuals and monitor the overall implementation of RWH
- Technical Cell – Provide the necessary technical inputs for preparing the manual, collect information on worldwide trends, current practices, drawings, legislations, etc
- District RWH Committee – Formulation and implementation of RWH Action plans.
- Nirmiti Kendras / other nodal agencies – provide the necessary technical inputs to the District Committees and ULBs for implementation of RWH Action Plans

6. Strategy for implementation

RWH will be taken up in different phases for effective implementation. The strategy will consist of the following:

- To introduce/ amend byelaws keeping in mind the topographical, hydro-geological, and climatic conditions with in a prescribed time frame along with the incentives and disincentives for implementing RWH.
- Town Planning Department to emphasize on RWH while preparing the ODP and CDP both at building level and at larger urban area level.
- To publish RWH guidelines and conduct awareness campaigns, orientation programmes, etc. for various stakeholders (Bulk consumers, residents, etc)

- To construct model demonstration projects for public buildings, educational institutions, parks, open spaces, etc on RWH to disseminate the idea to various stakeholders.
- The District Level Committee to prepare an Action Plan for every ULB with technical support from the Nodal Agency for implementation of RWH.
- To tie up financing under the existing financial schemes and budgetary provisions at various departmental levels for the implementation of RWH.
- To identify and preserve the traditional and existing water sources by all concerned departments (ULBs, UDAs, etc)
- To give importance for RWH in all forthcoming water supply projects in the state.

7. Stakeholders

- All households and residents of urban areas
- Educational institutions including research and development (private & public)
- All Government agencies and private agencies
- Industrial establishments
- Community Based Organizations

8. Legislative support

- Amendments to Karnataka Municipalities Act, Karnataka Municipal Corporations Act and Town and Country Planning Act, along with Rules, to adopt RWH for the old as well as new constructions including foot paths, roads, buildings, parks, open spaces, water bodies etc.
- To empower the Karnataka State Pollution Control Board to enforce RWH in all the industries in the State.

9. Implementation Time frame

- The Town / City wise Action Plan shall be finalized within six months from the date of issue of the State Policy on RWH
- The Action Plans shall be implemented by the respective ULBs within a period of three years from the date of issue of the State Policy on RWH
- An endeavor shall be made to implement RWH in all the Government Buildings within three years from the date of issue of the State Policy.