

7th International Ground Water Conference (IGWC-2017)

GROUND WATER VISION 2030

Water Security, Challenges & Climate Change Adaptation

December 11-13, 2017, New Delhi, India

Under the aegis of

NATIONAL HYDROLOGY PROJECT

Ministry of Water Resources, River Development & Ganga Rejuvenation
Government of India



Editors

Narayan C. Ghosh

Anupma Sharma

Surjeet Singh

Organized by:

National Institute of Hydrology, Roorkee, India

Central Ground Water Board, New Delhi, India

in association with

Association of Global Groundwater Scientists, India

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Groundwater Governance for cities in Maharashtra

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Abstract

Urbanisation is rapidly taking place in India. According to the World Bank Report 60% of Population of India will living in the Urban Areas i.e cities or towns by 2030. According to the 2011 Census, the urban population grew to 377 million showing a growth rate of 2.76% per annum during 2001-2011. The level of urbanisation in the country as a whole increased from 27.7% in 2001 to 31.1% in 2011. The urban transition is considered one of the major challenges, requiring a massive expansion in urban infrastructure and services and creating a pressure on the Natural Resources.

According to the research and the surveys conducted by various sources it is observed that today the urban settlements are dependent on Groundwater for 30% - 35% of its total usage. The reasons for the same are many. And this usage is projected to increase to 50 % in the coming years.

Groundwater in Urban Areas is a matter of concern today and will be a serious one in the future. In Maharashtra there are 44 first tier cities and 33 second tier cities according to the 2011 Census. These towns and cities are expanding and developing exerting pressure on the groundwater. The groundwater development is largely happening in the private individual arena without effective control of any authorities. Thus Governing the Groundwater has become a growing challenge in large part of the urban areas where the water table is sinking steadily and silently. Added to this pressure is the climatic variability which influences the Groundwater in the cities. The relationship between the changing climate variables, increasing urbanisation and groundwater is different from the rural context and is a complex one. Understanding the Groundwater performance has just been probed in a handful of metropolitan cities, but not in institutionalised manner.

The research presents the objective by doing case studies of selected 2nd and 3rd tier cities in Maharashtra w.r.t the Groundwater performance. A detail research w.r.t the population growth, usage in the last five years, the governing authorities for Groundwater and the laws/rules for the usage is conducted in selected cities at varied locations spread over the state. The Groundwater Act was published on 3rd December 2009 and Maharashtra Water Resources Regulatory Authority is constituted for the development and management of groundwater. The role and function of this authority along with the other important authority i.e the GSDA are understood. Following are the observations and conclusions drawn. There is lack of knowledge amongst the users of this invisible and invaluable source of water. Basic awareness to manage this source of water is poor. There is absence of scientific approach, technical support and financial assistance, lack of administrative backup for the Development and Management. Limited Human resource to work for the same is also a major hurdle at all levels i.e from the urban local body level, at the city level to the District level or the state level and with the Groundwater survey and development office. Considering the importance and negligence towards this source of water it is necessary to reform Groundwater regulation for the Urban Areas. This reformation, must be coupled and tied with improved Institutional arrangements at the State level, District level and the Local Authority level and should be strengthened with capacity for implementation and enforcement.

Keywords: *Cities, Groundwater Act, Reformation, Urbanisation.*

1. Urbanisation in India

The challenge of sustainable cities w.r.t groundwater is especially relevant for a highly populated and rapidly growing economy, such as India's, which is undergoing rapid urbanization. Number of towns has increased from 1916 in 1901 to 2422 in 1951 and then to 4689 in 1991. Percentage of million plus cities w.r.t total urban population of India has also increased drastically from 6% in 1901 to 19% in 1951 and further to 33% in 1991 (Maiti, Agrawal, Hum, 2005). According to the findings of McKinsey Global Institute in India, by