Drinking Water Quality Standards and Regulatory Framework

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Introduction

With drinking water quality standards, we understand all the quality parameters set for drinking water. Taking on the very basic level, we define safe drinking water as that which does not affects any person's well- being or making a person sick. Generally, water which seems clear and is free from any foul smell or taste bad may not necessarily safe to drink. So, in order to ensure water portability, there are several standards and approaches which are set by different state as well as national level agencies. For drinking water quality, we do not have a global level recognised standards but most of the countries follow the guidelines of World Health Organization (WHO) on water quality. Our nation has and follows its own drinking water quality standards as set out and revised by the Bureau of Indian Standards (BIS), Europe follows European Drinking Water Directives, United States follows the United States Environmental Protection Agency (USEPA) standards and China follows its own drinking water standard GB3838-2002 (Type II).

In India there are approximately 75.8 million people which do not have the access to clean water8. The drinking water quality standards in India are defined by the Bureau of Indian Standards (BIS). The BIS Code 10500: Revised 2012 sets the standards for different water quality parameters for drinking water. Some of these are shown in the Table.

Regulatory framework on water

Water is a one of the essential natural resources. However, because of the scarcity of adequate amount of non-polluted water in nature huge costs are spent by the governments to provide minimum subsistence level water to everyone. The regulation of water sharing and its equitable dispersion has become the utmost point of importance. In order to regulate safe drinking water quality various regulation of water in India has been adopted since ages via customary practices, traditional practices and in form of religious practices by communities. Today the written forms of water regulatory laws is much recent and its emerged only because of the irrigation and livelihoods based water usages10. The regulation of drinking water or domestic water supply in India is still at its juvenile stage.

All the regulatory affairs of water are limited to state governments for the respective states, Water being a state subject. Uttar Pradesh and Maharashtra are the first states in India which have already gone ahead with regulatory authorities for water. At the state level, normally the water supply agency or parastatal institutions such as Public Health Engineering Departments (PHED) or Water Boards (e.g. Delhi), or Water Corporations (e.g. UP, Maharashtra) are responsible for planning, designing, implementation and operation and maintenance of the water supply schemes11.

While there are certain concerns in case of rivers which are interstate, tidal and territorial waters are generally regulated by Union Government of India. Union Government of India holds the power to address all the inert state water disputes as per powers entrusted to it through interstate water disputes act of 1956. These are the basic laws and framework which define some of the elements of water quality regulation in India

- **Environment (Protection) Act, 1986:** The following act covers environment (water, air and land) in relation to ecology and living beings, comprehensive in nature and covers a range of issues such as stopping environmental pollution, setting standards for environmental quality, regulating industrial waste and discharge generated, monitoring of the same, dealing with hazardous substances, collect information about the pollution levels in environment and disseminate information about the same. It empowers the government to charge severe penalties for any defaulters or violators of the provisions of this act.
- **The Water (Prevention & Control of Pollution) Act, 1974** Tit involves

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constitution of central and state water pollution control boards (CPCB and SPCB) to protect the water quality of all national water bodies. CPCB and SPCB has the power through this act to monitor water quality and pollution, issue notices to polluters and also if required invoke penal action against violators.

- **Water Cess Act, 1977** Act was brought in order to promote water conservation by strengthening the pollution control boards, in financial terms. The act is used to levy water cess for promotion of water conservation by central government and empower the water pollution control boards financially.
- **The Manufacture, Storage, Import of Hazardous Chemicals Rules, 1989** These set of rules provides a framework of accountability of various agencies and people for safely managing the hazardous chemicals and the procedures for dealing with its spillage.
- **The Hazardous Wastes (Management and Handling) Rules, 1989** These rules give required guidelines for dealing with hazardous waste from the first point of generation to transportation and finally to its safe treatment and disposal. It sets monitoring norms for state governments for hazardous waste management too and empowers them to take action in case of violation of the same.
- **The Municipal Wastes (Management & Handling) Rules, 1999** It defines the responsibilities of municipalities regarding collection, segregation, storage, transportation and safe disposal of municipal wastes.
- **The Bio-medical Waste (Management & Handling) Rules, 1998** These rules define the roles and responsibilities of institutions that generate bio medical wastes in any form such as hospitals etc.12