

Safeguarding the Lifeline: Assessing and Strengthening the Urban Water Supply Distribution System in Hyderabad, Telangana State, for Sustainable Development and Public Health

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ABSTRACT

One natural resource that is necessary for human survival is water. Public health and wellness are impacted when there is a shortage of clean drinking water. For humans to survive, water is sometimes even more essential than food. Making sure there is a sufficient quantity of water that is fit for human use, satisfies other societal demands, and advances development place of highest priority and duty held by all governments in contemporary life Lack of water has a negative impact on the expansion of industrial and agricultural activities. It endangers a community's nutrition and overall health, as well as the economic growth of a country. One of the biggest problems still facing the growing urban population is the supply of clean, sufficient drinking water. The goal of a water supply system is to guarantee that users receive a sufficient and safe supply of water at a fair price. When developing and implementing water supply projects, careful planning is essential to promote good personal and home hygiene. It is imperative to prioritize the planning and management (financial and technical) components of systems. The Urban Local bodies (ULBs) are accountable for providing the urban population with potable water. The residents' water demands in this scenario are not satisfied by criteria that are appropriate. The drinking water supply for the entire city of Hyderabad was once derived from Hussain Sagar Lake; but, as of late, the city is dependent on Osman Sagar and Himayat Sagar lakes, in addition to the Krishna, Godavari, Manjira, and Singoor Rivers. This study provides a case study of Hyderabad, where about nearly 8,000 houses receive their water supply from gravity after the source is stored in a service reservoir. Gravity pressure and a sluice valve installed on the feeder main and distribution of water supply, enable the management and supply of drinking water. This study aims to evaluate, investigate, and suggest an effective water



supply distribution system. The results of this study should help establish accurate viewpoints on the several facets of Hyderabad's water management and provide a solid scientific foundation for reforms and other corrective actions.

Keywords: Natural resource, Drinking Water Supply, Distribution and Gravity Supply

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