

# Analyse and Design of Equitable Water Supply for Rural Water Distribution Network

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**Abstract:** *The most important need of all living things is water. Industrial, household, and irrigating uses all involve the use of water. A water distribution system should be created in the most straightforward method possible to accommodate the growing population. Better living conditions can be provided by an adequate installation. The distribution pipe shouldn't allow the water's quality to decline. A good water distribution system uses less loss to deliver enough pressure at each distribution point. A good water distribution system meets customer demand at the appropriate time. Water distribution network planning and analysis could be a challenging procedure. Groundwater and surface water are just two of the many sources of water used by water supply systems. In most cases, the water is then cleansed.chlorinated for disinfection and occasionally fluoridated. Treated water is either gravity-fed or pumped to a reservoir, which may be on the bottom or elevated like a reservoir. The distribution system is subsequently fed with the water. Pipelines, tanks, basins, pumps, valves, and other hydraulic infrastructure components are included in the water distribution system. Distribution mains, arterial mains, storage basins, and system components such as valves, hydrants, mainline metres, service connections, and backflow preventers are all crucial for producing water for consumers. The pipes that make up the distribution complex are known as distribution main. Their function is to deliver water to customers from water sources or water treatment facilities. A service connection joins the distribution system mains to other plumbing systems or a private building. the ocean. A distribution system is made up of a network of pipes, tanks, and other components that transport drinking water while also serving to protect buildings such as houses, schools, hospitals, workplaces, and other structures from fires.*

**Keywords:** Fluoridated, Backflow Preventers, Hydrants, Basins

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