ICES 2024

TITLE OF PROJECT: GIS BASED UTILITY INFRASTRUCTURE MANAGEMENT: NEW PANVEL CASE STUDY

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ABSTRACT (150-300 words):
Utility infrastructure management is the process of planning, designing, and maintaining networks and networks that offer basic services like water, electricity, gas, and telecommunications etc. GIS technology can help with problem-solving for utility infrastructure management, minimizing the possibility of utility outages, accidents, delays, or significant repairs. Cooperatives and municipal utility agencies can utilize GIS to manage and improve utility services, increasing productivity, dependability, and public awareness. The research's goal is to develop a management model for the water, sewer, and road networks. Road, sewer, and water utilities are identified by network analysis. The approach for data collection and processing employed in a case study on the utility infrastructure mapping of Sector 1 to 18 New Panvel, Navi Mumbai, India using GIS is described in this work. Water, sewer utility network research was carried out and a road network dataset was constructed using ArcGIS 10 software. The mapping of utility infrastructure using GIS can help to optimize the route for water and sewer connections, reduce costs, and identify the locations of subsurface utilities. The maps show the road network, water network, and sewer network, as well as the locations of subsurface utilities. The graphs that depict the length of all sectors with different diameters have been described based on the utility maps. The road network can be used for the alignment of new constructions. The study concludes that the developed maps can be a valuable tool for utility infrastructure management in New Panvel, displaying the many kinds of sewer, water, and road networks in the research area.

KEYWORDS: GIS, Utilities Services, Water Network, Sewer Network, Road Network.

CATEGORY: REMOTE SENSING (GPS/GIS)