A SURVEY ON SMART WATER MANAGEMENT SYSTEMS FOR CONTEMPORARY WORLD AND GREAT BEYOND

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Abstract

Water management has become a pressing issue in today's world, as climate change, population growth, and pollution have created new challenges in ensuring the availability and quality of water resources. To address these challenges, leading technologies are being used to manage water resources more efficiently and sustainably. Smart water management systems are one of the key technologies being used in water management today. These systems use sensors, data analytics, and automation to monitor and control water use in real-time. By identifying leaks, optimizing water use, and reducing water waste, smart water management systems help conserve water resources and reduce costs. Precision irrigation is another technology being used in water management today. This technology uses sensors and weather data to optimize the amount of water delivered to crops, reducing water waste and improving crop yields. Advanced water treatment technologies, like reverse osmosis, ultrafiltration, and UV disinfection, ensure removing contaminants from water as safe for human consumption.

Rainwater harvesting is another technology that gains popularity in water management. By capturing rainwater, this technology reduces the demand for municipal water supplies and provides a source of water for non-potable uses, such as irrigation or toilet flushing. Desalination, which is the process of removing salt and other minerals from seawater, can provide a source of drinking water in coastal regions where fresh water is scarce. Technological advances help desalination more efficient and cost-effective. Water sensors and analytics are also being used to manage water resources more effectively. These technologies can provide real-time data on

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