World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:10, No:02, 2016

Groundwater Monitoring Using a Community: Science Approach

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Abstract : In addressing groundwater depletion, it is important to develop evidence base so to be used in assessing the state of its degradation. Groundwater data is limited compared to meteorological data, which impedes the groundwater use and management plan. Monitoring of groundwater levels provides information base to assess the condition of aquifers, their responses to water extraction, land-use change, and climatic variability. It is important to maintain a network of spatially distributed, long-term monitoring wells to support groundwater management plan. Monitoring involving local community is a cost effective approach that generates real time data to effectively manage groundwater use. This paper presents the relationship between rainfall and spring flow, which are the main source of freshwater for drinking, household consumptions and agriculture in hills of Nepal. The supply and withdrawal of water from springs depends upon local hydrology and the meteorological characteristics- such as rainfall, evapotranspiration and interflow. The study offers evidence of the use of scientific method and community based initiative for managing groundwater and springshed. The approach presents a method to replicate similar initiative in other parts of the country for maintaining integrity of springs.

Keywords : citizen science, groundwater, water resource management, Nepal
Conference Title : ICSWRM 2016 : International Conference on Sustainable Water Resources Management
Conference Location : London, United Kingdom
Conference Dates : February 25-26, 2016