

Integrated Water Resource Management

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ABSTRACT

Water is a critical, but often overlooked, element in sustainable development. Water is a key ingredient in generating rural livelihoods, growing food, producing energy, encouraging industrial and service sector growth, and ensuring the integrity of ecosystems and the goods and services they provide. Water resource management is set of well coordinated, but controlled and regulated technocratic intervention in the hydrologic cycle undertaken to augment and better regulate the existing water supply for meeting human needs more effectively. The area concerned is rich in mineral deposits having mineral-based industries and in future many industries are likely to come. Increase in industrial activity leads to population growth, more food requirements and more water demands. So there is an urgent need to seek for integrated water resource management approach. This paper seeks application of an integrated modeling frame work for addressing water resource planning and management issue in the "Subernarekha River Basin" of the Jharkhand state, India. In this paper attempts have been made to asses the pros and cons of using the Water Evaluation And Planning Model Version 21, (WEAP 21) based upon Driving force, Pressure, State, Impact, Response (DPSIR), developed by Stockholm Environmental Institute, Boston. WEAP 21 provides a seamless integration of the both physical hydrology of the region and water management infrastructure that governs the allocation of water supplies to meet the range of different water demands. The water management infrastructure was superimposed across the physical watershed, and consisted of a multitude of reservoirs, canals, and diversions, each with their own rules of operation as represented through the allocation logic of WEAP 21.