

IDENTIFICATION , CONSERVATION AND MANAGEMENT OF AQUIFERS IN INDIAN HIMALAYAS.

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Present paper, for the first time emphasise the need for identification, conservation and management of aquifers in Indian Himalayan mountain ranges for sustainable development of water resources. Contrary to Indo-Gangetic plains and peninsular part of India the source of recharging is rainfall and storage is in a form of a basin, however the behavior of aquifer is quite different in the Himalayas where recharging is by snow melt and is continuously flowing in the form of an ancient channel (referred to as a paleochannel) in the latter. These channels fed by melting snow are very well developed in sedimentary rocks and metamorphic rocks (of sedimentary origin) . Lithology and structure of these beds can be very easily analysed by studying the out- crop sections in detail for the identification and locating the position of aquifer. However in igneous rocks, fractures and joints are good indicators for the groundwater movement and occurrence in Himalayas. Besides this, role of natural springs and geo-botanical evidences are discussed as an indicator for identification of aquifers. Once the groundwater indication / location is accurate, its conservation and management becomes a very simple thing. Present paper analyses importance of these indicators in various hydro stratigraphic zones in Himalayas, identified by Arya (1996) and discusses various methods adopted for conservation and management to solve the drinking water problem on sustainable basis, especially in the higher altitude mountain ranges of Ladakh and Lahaul Spiti Himalayas, where average height is more than 3000 meters