

Augmenting ground water potential in hard rocks through artificial recharge

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In Maharashtra State of India 82% of the area is covered by heterogeneous piles of rock- Deccan basalt. The geohydrological characters of these rocks are very erratic. There are variations in these characters due to different basaltic flows occurring at water shed and mini water shed areas. Even within the same flows the characters vary laterally as well as vertically. As a result there remains wide spread uncertainty in the occurrence of ground water through out this basaltic terrain. To overcome the resulting scarcity of ground water, large number of percolation tanks have been constructed in this hard rock terrain with the intention that the stored water would percolate underground. But, till date, out of 22000 percolation tanks so constructed for the purpose around 35% of the tanks are found to be percolating less than 15% of the total stored water. Hence they have been declared as poorly permeable. Keeping this grave situation in mind, Geoforum, a purely academic and voluntary organization has undertaken this task of investigating such poorly permeable percolation tank, with a view to study in detail the geohydrological setup of the flow in the area. Such a study would help in ascertaining the root cause of this poor permeability of the tank. Such an undertaking entails study of nature of subterranean rocks there upon to suggest the suitable method of artificial recharge befitting those percolation tanks whose stored water stands on the impervious rocks which hide a considerable thickness of permeable layer. The method has proved to be quite successful in two districts of Maharashtra, India viz. Aurangabad and Jalna, particularly where upper impermeable layer has limited thickness.