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Artificial Recharge of Over Exploited Aquifers of Chauras Belt, Central India

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Abstract

The Chauras Belt is located towards the southern part of Bhandara District, Maharashtra State, India. This belt is covered under two elementary watersheds viz. WG-11 and WGC-6. The watershed WG-11 was categorized as over exploited due to excessive withdrawal of groundwater from its aquifers. The effects of groundwater over exploitation can be gauged through depleting water levels beyond the well depth and water scarcity in this area. To overcome this situation, it was envisaged to augment the groundwater resources of Chauras Belt by artificial recharge of surface water into the vadose zones of over exploited aquifers. In the present study, five drought prone villages namely Lonhara, Palora, Bamni, Mokhara and Bhendala, which are located on the upper reaches of the over exploited watershed WG-11, has been selected for implementing the artificial recharge projects. The surface water storage and spreading structures was not found to be suitable and effective in this area due to 3 to 4 m thick impervious clay capping on the top of alluvium aquifers. Hence, artificial recharge of surface runoff through injection well became the only viable option for augmenting groundwater resources of the Chauras Belt. This work was carried out by conserving the surface runoff and injecting it into the recharge structures, through active community participation. Mini watershed approach was followed for implementing artificial recharge projects in the study area.

Keywords: Groundwater, Over exploitation, Aquifers, Artificial recharge, Chauras Belt, India.