

Impact of Groundwater Recharge Structures in Saurashtra and Kutch

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This paper evaluates the impact of a large scale programme of construction of groundwater recharge structures by the Government of Gujarat in participation with local communities in Saurashtra and Kutch. There is significant positive impact on water level in wells, duration of time for which water is available, provision of both supplementary as well as protective irrigation services, increase in the number of hours during which water is pumped per day during both kharif and rabi seasons, increase in land under cultivation in the crop seasons, as well as improvements in cropping intensities.

I Introduction

Gujarat is a water scarce state and suffers from periodic droughts. The major source of irrigation is groundwater resource, exposing it to the vagaries of the monsoon as well as risk of over-exploitation (Shah 2000). Despite the existence of 184 major and medium irrigation schemes in the state, parts of Saurashtra, Kutch and North Gujarat suffer from severe water scarcity. Over-exploitation of ground water due to scarcity of surface water has led to a situation where at present 40 of the 226 talukas in Gujarat are over-exploited (groundwater development exceeds annual replenishable limit), ten are dark (groundwater development exceeds 85 per cent of annual replenishable limit), and seven are saline (GoG 2013a).

Although Gujarat began construction of Groundwater Recharge Structures (GRS) such as check dams prior to 2000, progress was slow with only 2500 of such dams constructed until 1999. Failure of the monsoon in Gujarat in the year 2000 led to an acute shortage of drinking water in Saurashtra, Kutch and North Gujarat. Of the then total capacity of 2200 mcm of water in the 113 existing

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