

Falling Water Tables - Sustaining Agriculture The challenges of groundwater management in India

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Inadequate, unreliable and inefficient supply of surface water for irrigation coupled with availability of government subsidies on pumping equipment, free/ subsidized electricity for groundwater extraction and, the convenience of a switch on-switch off water availability technology under farmer's own control, has led farmers to shift from surface to groundwater source as preferred mode of irrigation water supply. Groundwater pumping has also enabled extension of irrigation to those areas and farmers which were not hitherto served by surface irrigation network. Availability of groundwater coupled with remunerative prices for crop outputs and their assured procurement by government agencies has encouraged farmers to switch their cropping patterns in favor of water intensive crops even in regions of scanty rainfall and precarious groundwater conditions. The absence of any mechanism to monitor and regulate the extraction and use of groundwater has led to overexploitation of groundwater in large parts of India leading to fall in water tables. With marginal cost of pumping groundwater for a farmer close to zero, this has also resulted in inefficient use of irrigation water and low water use efficiency. Nonetheless access to groundwater did help in making India a food secure nation.

Like many other Indian states, the state of Punjab, the food basket of India, is witnessing a steep decline in groundwater tables and severe problems in sustaining its agricultural economy. In 80% of the blocks the groundwater is being over-exploited. While several technological, management and policy options are available to help slow down the rate of decline in water table, in practice these have been slow to be adopted by the farmers. The paper discusses some of the options and constraints in promoting more sustainable use of groundwater in India in general and Punjab in particular.

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