

Title: Spatial assessment of groundwater over-exploitation in northwestern districts of Bangladesh

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Abstract: Groundwater demand in northwestern districts of Bangladesh is increasing rapidly with the growth of population and the expansion of irrigated agriculture. Development and management of groundwater resources are essential to supply the growing population with sufficient water for economic development as well as for the sustainable environment of the region. In the present study, groundwater recharge-abstraction balance method has been used for the spatial assessment of groundwater development potential. The abstraction of groundwater is estimated from irrigation and domestic water demands in the study area. The net recharge calculated from groundwater table fluctuation data, whereas the abstraction of groundwater is estimated from irrigation and domestic water demands in the study area. The study shows that out of twenty-six sub-districts, groundwater exploitation has reached to a critical condition in fourteen subdistricts. Development of surface water resources and water conservation are essential to reduce the stress on groundwater exploitation.