India is one of the largest groundwater users in the world, with an estimated abstraction of around 230 billion m³/year. Nationally, groundwater accounts for 85% of India’s rural domestic water requirements, 50% of its urban water requirements and more than 60% of its irrigation requirements (World Bank 2010). The increasing dependence on groundwater as a reliable source of water has resulted in its large-scale development in various parts of the country, while appropriate consideration has not been given to the recharging capacities of aquifers in addition to other environmental factors. Considering the importance of groundwater for human and food security in India, IGES, in collaboration with TERI University, has conducted a case study to promote sustainable groundwater resource management in the Mewat district (Haryana state). Groundwater is the prime source of water in the Mewat district, where some aquifers are already exploited to a critical level due to over-abstraction.

We used both primary and secondary information for this study. We collected secondary data from various sources including government departments, online databases and published reports and journals.
Primary data was collected by means of sample surveys, focus group discussions, field observations and stakeholders’ workshops.

The study has found that groundwater is very limited in the district; only 61 out of 503 villages in Mewat have fresh groundwater (others are naturally saline), but these sources are mostly situated along the steeper Aravali hills. Groundwater recharge is naturally low because of the topography and low rainfall. People use the groundwater intensively for domestic and farming purposes. Due to overexploitation, the saline groundwater is slowly spreading towards the fresh groundwater, which is depleting fast by 300-500 mm every year. Consequently, the water in many previously freshwater wells has salinised.

Low recharge is one of the causes of rapid depletion, so planned recharging of groundwater could be a promising solution. However, measures to increase recharge need to go hand in hand with a reduction in demand. Farmers need to change their water use in keeping with what is available by changing their crops and switching to more efficient irrigation systems. Groundwater management can be best done at the basin level, with aquifers being used for multi-year storage systems and surface storage structures for short-term storage. Other corrective mechanisms include moving from a resource development to a resource management mode.

Based on the existing facts, surveys, discussions, and workshops, we have summarised our findings as follows:

- Fresh groundwater is very limited in Mewat. The district is under stress due to overexploitation, low rainfall and lack of proper management.
- Policy distortion caused by the adoption of flat rate pricing for agricultural power is accelerating the trend of overexploitation, and in some cases groundwater is in overuse for irrigation.
- Policies and programmes promoting the productive use of saline groundwater and alternative farm practices (bee keeping, mushroom cultivation etc.) would reduce stress on groundwater and encourage better use of waste land.
- Policy preparation and enforcement schemes to ensure the quality and sustainability of drinking water, such as the “Rajiv Gandhi Drinking Water Project” are necessary.
- Specific policies promoting community participation in rainwater harvesting and recharging could improve groundwater resource status.
- Groundwater management could further be strengthened through existing farmers’ clubs, which encourage the extension of technology and promoted growth of an informal groundwater market. These clubs are often promoted by agricultural departments.

References:

IRRD. 2008. An Assessment of Development Indicators in Rural Mewat, IRRD, Seghal Foundation.
