Long-term groundwater recharge rates across India by in situ measurements

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Details of Tritium Injection approach:

The tritiated water has been injected in the soil layer below root zone or the zero flux plane (0.6-0.8 m below ground level; Rangarajan et al., 2000; Healy, 2010). After a rainfall event, the tritium containing layer moves downward due to infiltration. The vertical displacement of the injected tritium peak is directly proportional to the rate of water infiltration within the studied time period (Rangarajan et al., 2010).

Total GW abstraction (mm)

300
200
150
100
75
50
25

27
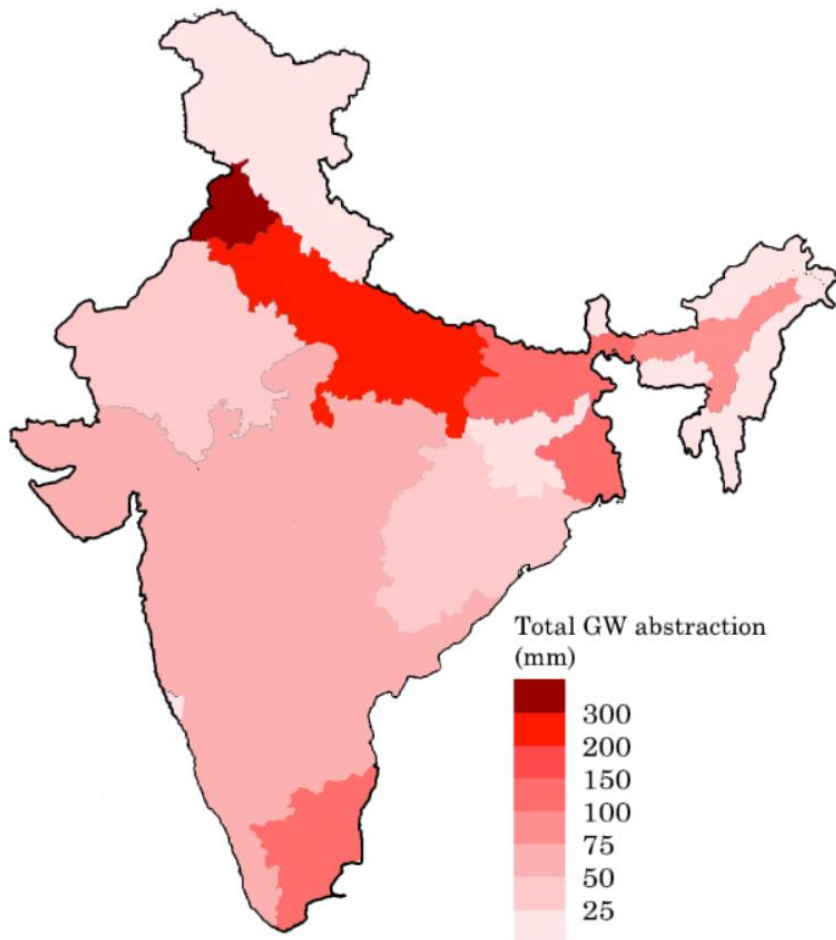
Supplementary Figure 1: Map showing state-wise total groundwater abstraction (10^{-6} km^3 per km^2 of land area) for the year 2009 (*CGWB*, 2012a)
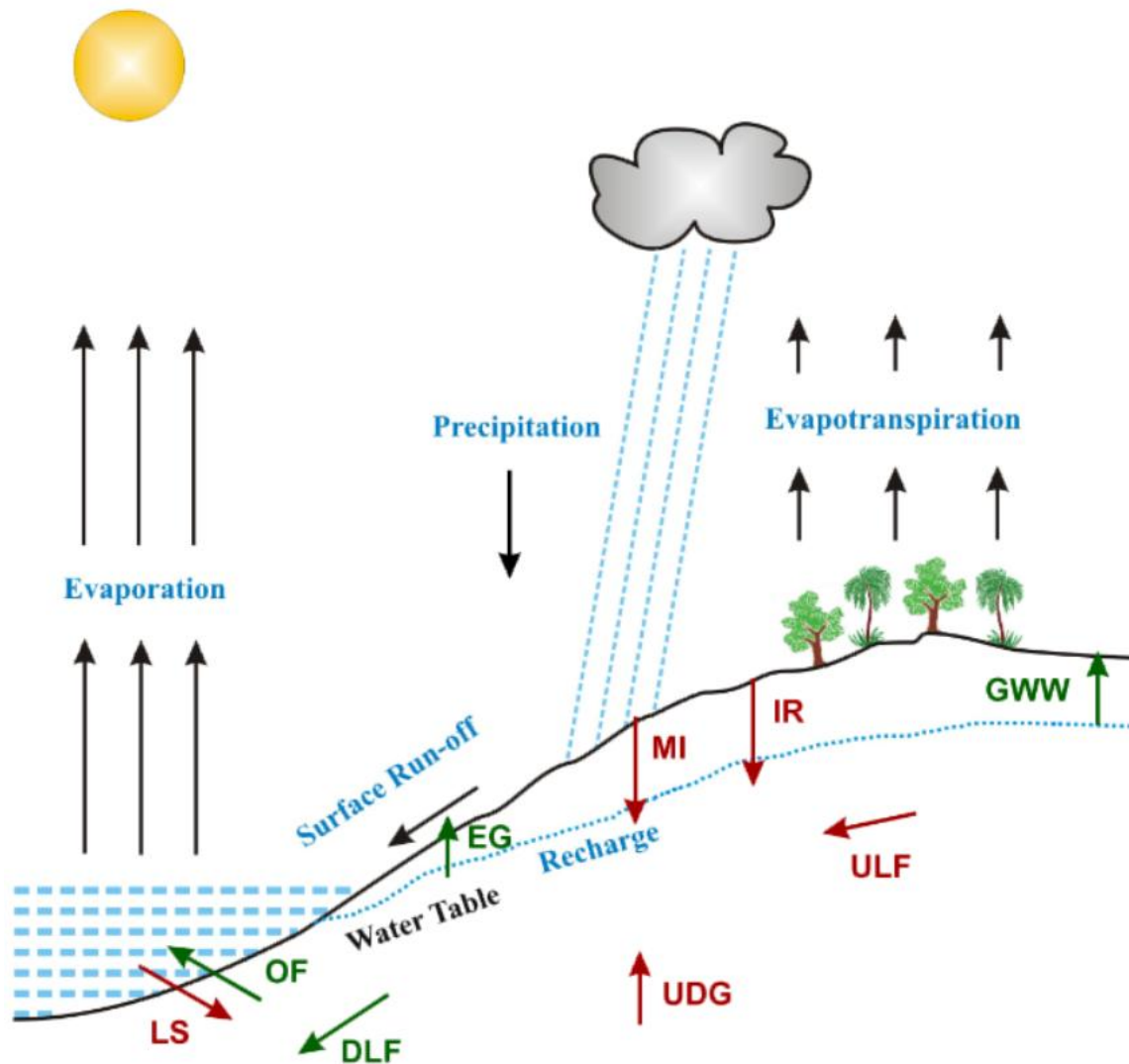
Supplementary Figure 2: Groundwater recharge processes. MI = Meteoric Inflow through precipitation; IR = Irrigational return flow; LS = Lateral seepage from surface water; ULF = Flow from upgradient location along flowpath; UDG = Upwelling from deeper groundwater systems; OF = Outflow by baseflow and discharge; GWW = Groundwater withdrawal; DLF = Flow toward down gradient along flow path; EG = Evaporation from groundwater