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Study links parched villages to groundwater use in urban areas of Pune dist

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Pune: Urbanisation and rampant use of groundwater in Pune district is depriving villages in the upper Bhima sub-basin of water to drink and for irrigation, scientists have said. The joint research done by the Indian Institute of Science, Education and Research (IISER), Pune, the Society for Promoting Participative Ecosystem Management, Pune (SOPPECOM) and the International Institute for Applied Systems Analysis (IIASA) in Austria said that water scarcity is due to high urban use of groundwater, poor irrigation facilities and biodiversity reduction in the upper Bhima sub-basin affecting the livelihood of local communities.

The scientists primarily suggested that water, forests as well as agriculture in the Upper Bhima Basin have to be looked at in an integrated manner when forming policies and projects relating to the area. Due to a lack of infrastructure for the adequate supply of water, urban areas as well as industries depend excessively on groundwater for their requirements, the study said.

“There has been an increased dependency on groundwater by farmers, which has been the cause for the level of groundwater to decrease so rapidly,” Bejoy Thomas, the co-author of the study and associate professor at IISER Pune, said.

Over the years, rapid changes have resulted in loss of forest cover and led to surface water run-off, decrease in groundwater recharging systems and water availability.

“The increase in paved surfaces or concreting in our cities has led to more surface run-offs in urban areas without any water percolation and this will, in time, be the cause of flash floods. Diversion of water from irrigation for urban areas also leads to this conflict,” founder of SOPPECOM and co-author KJ Joy said.

It has threatened the livelihood of hirda farmers in the upper sections of the sub-basin who depend on a single crop as they lack irrigation facilities.

“The rampant drinking water shortage is because distribution is quote unequal. Water does not remain in the hilly terrains and there is no sub-basin to hold it there. The people in these areas depend on tankers except during the monsoon. The mid-region farmers utilize the water and most of it is also pumped to urban areas like Pune which causes a large gap in water distribution for the locals,” Kiran Lohakare, a co-author and Soppecom member said.

Construction of dams has led to submergence of forest cover and loss of terrestrial biodiversity.

Structural interventions like barrages have impacted the ecosystem.

“Now, exotic species of fishes such as tilapia have taken over instead of native species,” Radhika Kanade, lead author and researcher at Soppecom, said.

The team is working on suggestions to improve the situation for the farmers. “Smaller income families face bigger challenges due to these environmental changes. We want to develop a model in order to help improve the situation and support them,” Susanne Hanger-Kopp, research scholar from IIASA, said.

Source:

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