Scientists at IIT (ISM) Develop Absorbers to Remove Arsenic from Groundwater

Why in News?

- In a recent research, scientists from IIT (ISM) Dhanbad have succeeded in developing an **adsorbent** that helps in removing arsenic from groundwater.

Key Points

- Associate Professor of Environmental Science Engineering Department Dr. S.R. A four-member team of researchers led by Samaddar claims that arsenic can be removed through the coating of nano-manganese on calcinated laterite soil arsenic.
- Researcher Roshan Prabhakar and two MTech students Somparna Ghosh and Ali helped in the research.
- Dr. Samaddar pointed out that arsenic has been identified as a first-class human carcinogen and the World Health Organization has set its permissible limit in drinking water at 10 micrograms per litre.
- Dr. Samaddar said that we have developed an absorption based scalable treatment system for the resource deprived community living in rural areas .
- He said that nano-based adsorption systems have been popular among researchers for the removal of arsenic ions, but since nano-absorbers are expensive to synthesize, this research uses cheap and readily available laterite soil as the base material for nano coating.
- Dr. Samaddar pointed out that the treatment of 1000 liters of water with a concentration of 200 ppb requires about 0.70 kg of laterite nano manganese, most of which contains laterite clay particles. It can help in removing arsenic from groundwater in different parts of the country on a percentage basis.