

## Physico chemical pollutants in Arkavathi River








### Why in News?

A report conducted by Paani.Earth in collaboration with the International Centre for Clean Water on pollution levels in the Arkavati has revealed alarming levels of physicochemical pollutants.

- **Report Findings** - The study quantifies the risks of emerging pollutants from seven sites along the Arkavathi and its tributary, the Vrishabhavathi River.
- Pollution levels in the Arkavati has revealed alarming levels of physicochemical pollutants, pesticides, heavy metals, and hazardous organic compounds.

*The Central Pollution Control Board's Water Quality Criteria focus only on physicochemical properties of water rather than hazardous pollutants.*

- The analysis focused on
  - 3 categories for water (Physicochemical Properties, Pesticides, and Industrial and Hazardous Organic Pollutants) and
  - 2 categories for sediment (Heavy Metals, and Physicochemical Properties).

Test Type	What Testing Shows	Categories Tested by Paani
 <p>WATER</p>	<p>Point in time record of pollutants and pollution levels. Requires repeated testing to show trends.</p>	<ul style="list-style-type: none"> <li>  Physicochemical Properties e.g. pH, Temperature           </li> <li>  Pesticides e.g. DDT, Sulfotep           </li> <li>  Industrial and Hazardous Organic Pollutants e.g. Fluorene, Chrysene           </li> </ul>
 <p>SEDIMENT</p>	<p>Provides a historical record of chemicals and pollutants in an ecosystem that accumulate over time</p>	<ul style="list-style-type: none"> <li>  Heavy Metals e.g. Lead, Mercury           </li> <li>  Physicochemical Properties e.g. Phosphorus, BOD           </li> </ul>

- It exceeds both Indian and international standards and guidelines.
- **Notable High pollutants - Pesticides** - Harmful substances with health impacts such as **Heptachlor and DDT** found at levels as high as 25022 times US guidelines.
- **Heavy Metals** - Toxins such as **Mercury** found in sediment at levels up to 26 times above

Canada's Sediment Quality Guidelines.

- **Industrial Pollutants** - ***Polycyclic aromatic hydrocarbons (PAHs)*** from industrial burning such as Dibenz[a,h]anthracene found at 3076 times US guidelines.
- **Nutrients** - Excessive ***phosphorus*** levels causing eutrophic conditions at all sites.
- **Health concerns** - It can cause severe risks to human and aquatic health, including cancer and hormone disruptions.
- Heavy metals also contribute to the development of antimicrobial resistance (AMR), posing an additional threat to public health and the environment.

## References

1. [The Hindu | Physicochemical pollutants in Arkavati](#)
2. [Paani.earth | Hidden Pollution in the Arkavathi](#)

