

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 Arkavathi 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 Arkavathi 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
	Point in time record of pollutants and pollution levels. Requires repeated testing to show trends.	 Physicochemical Properties e.g. pH, Temperature  Pesticides e.g. DDT, Sulfotep  Industrial and Hazardous Organic Pollutants e.g. Fluorene, Chrysene
	Provides a historical record of chemicals and pollutants in an ecosystem that accumulate over time	 Heavy Metals e.g. Lead, Mercury  Physicochemical Properties e.g. Phosphorus, BOD

- 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](#)

