



Analysis of Water in Ulsoor lake

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Why in news?

The **National Green Tribunal (NGT)** has directed the **constitution of a joint committee** to take **samples of water from Bengaluru's Ulsoor lake** and neighbouring areas.

- It has been reported that the water quality has come down due to illegal activities being carried out while discharging untreated sewage, effluents and the dumping of garbage into the water body.
- Such activities affect the quality of the water and the ecology and aquatic life, much required for ecological sustenance.

Components of Water Analysis

- **Biochemical Oxygen Demand**
 - BOD is the amount of dissolved oxygen used by microorganisms in the biological process of metabolizing organic matter in water.
 - The more organic matter there is (e.g., in sewage and polluted bodies of water), the greater the BOD; and the greater the BOD, the lower the amount of dissolved oxygen available for higher animals such as fishes.
 - The BOD is therefore a reliable gauge of the organic pollution of a body of water.
 - One of the main reasons for treating wastewater prior to its discharge into a water resource is to lower its BOD—i.e., reduce its need of oxygen and thereby lessen its demand from the streams, lakes, rivers, or estuaries into which it is released.
- **Chemical Oxygen Demand**

COD is a method of estimating how much oxygen would be depleted from a body of receiving water as a result of bacterial action

- **Coliforms**
 - Water pollution caused by fecal contamination is a serious problem due to the potential for contracting diseases from pathogens (disease causing organisms).
 - The presence of pathogens in the water is determined with indirect evidence by testing for an "indicator" organism such as coliform bacteria.
 - Coliforms are bacteria that are always present in the digestive tracts of animals, including humans, and are found in their wastes. They are also found in plant and soil material.
- **Presence of any heavy metals like Arsenic, Phosphorus, etc.**
 - Heavy metals are known to induce cardiovascular diseases, developmental abnormalities, neurologic and neurobehavioral disorders, diabetes, hearing loss, hematologic and immunologic disorders.
 - Studies have shown that toxic heavy metals can interfere with absorption and use of nutritionally essential metals such as iron, calcium, copper, and zinc.

The National Green Tribunal

- **NGT** was established in the year **2010** under the **National Green Tribunal Act 2010**.
- It was **established for**
 - Effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources
 - Enforcement of any legal right relating to environment
 - Giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto.
- It is a specialized body equipped with the necessary expertise to handle environmental disputes involving multi-disciplinary issues.
- The Tribunal is guided by **principles of natural justice**.

Source: TH