

World Water Monitoring Day

18TH SEPT 2023

INTRODUCTION:

Water is one of the most important and basic natural resources. Water is not only one of the most essential commodities of our day-to-day life, but the development of this natural resource also plays a crucial role in economic and social development processes. While the total amount of water available in the world is constant and is generally said to be adequate to meet all the demands of mankind, its quality and distribution over different regions of the world are uneven and cause problems of scarcity and suitability. It is therefore imperative that man develops, uses, and manages this scarce commodity as rationally and efficiently as possible. In order to execute this task, accurate and adequate information must be available about the quality of this natural resource under constantly changing human pressures and natural forces. Water quality monitoring is one of the first steps required in the rational development and management of water resources. In the field of water quality management, there has been a steady evolution in procedures for designing systems to obtain information on the changes in water quality. The monitoring comprises all activities to obtain information with respect to the water system.

Water Quality:

Water quality is a complex subject, that involves the physical, chemical, hydrological, and biological characteristics of water and their complex and delicate relations. From the user's point of view, the term "water quality" is defined as "those physical, chemical or biological characteristics of water by which the user evaluates the acceptability of water". For example, drinking water should be

pure, wholesome, and potable. Similarly, for irrigation dissolved solids and toxicants are important, for outdoor bathing pathogens are important and water quality is controlled accordingly. Textiles, paper, brewing, and dozens of other industries using water, have their specific water quality needs.

What is monitoring?

Monitoring is a process to periodically collect, analyze, and use the information to actively manage performance, maximize positive impacts, and minimize the risk of adverse impacts.

Water Quality Monitoring:

Water quality monitoring is an important aspect of overall water quality management and water resources development. A well-planned and well-managed water quality monitoring system is required to ***signal, control, or predict*** changes or trends of changes in the quality of a particular water body so that curative or preventive measures can be taken to restore and maintain ecological balance in the water body. Monitoring is essential for the successful implementation of environmental legislation: to ensure that standards and criteria set by ***CPCB/SPCBs/PCCs*** are maintained on a continuing basis.

Background

- Water Monitoring Day was proclaimed by ***America's Clean Water Foundation (ACWF)*** as a global educational outreach program in 2003.
- It points out the importance of water monitoring and an awareness of water pollution issues as well as the problems that come from overusing and misusing water.

Purpose of Water Quality Monitoring:

Monitoring water quality is important in our sea, our rivers, on the surface, and in our ports, for both companies and the public, as it enables us to assess how they are changing, analyze trends, and to inform plans and strategies that improve water quality and ensures that water meets its designated use. There are several indicators determining water quality which include dissolved oxygen, turbidity, bioindicators, nitrates, pH scale, and water temperature. Five major purposes of water quality monitoring are as follows:

- Monitoring water quality helps to identify specific pollutants, certain chemicals, and the source of pollution.
- Identifying trends, short and long term in water quality.
- Environmental planning methods: water pollution, prevention and management.
- Compliance with international standards.
- In emergencies, water quality monitoring is a necessity.

NATIONAL WATER QUALITY MONITORING PROGRAMME (NWMP)

Water quality management is performed under the provision of the Water (Prevention and Control of Pollution) Act, 1974. The National Water Quality Monitoring Programme (NWQMP) facilitates the evaluation of the nature and extent of pollution and the effectiveness of pollution control measures, water quality trends, and prioritization of pollution control efforts.

In collaboration with the Central Pollution Control Board, the Nagaland Pollution Control Board under the NWMQP monitors 28 stations comprising 4 major Rivers (18 stations) namely Dzu in Kohima, Dhansiri & Chathe at Dimapur, and Milak at Mokokchung on a monthly basis and the Groundwater source (10 stations) from Kohima, Dimapur and Peren is monitored on half yearly basis (April and October).

The Board follows the Monitoring Protocol as recommended by the Central Pollution Control Board. Apart from field observations, 22 Core and General Parameters (physicochemical) on a monthly basis and an additional 8 parameters of Trace Metals on a half-yearly basis are measured/analyzed at the Nagaland Pollution Control Board Laboratory.

Additionally, to provide long-term biological data reflecting the quality of surface waters, biomonitoring has been initiated under NWQMP to assess the health of rivers and streams by evaluating the composition of resident biological communities. It involved monitoring of 3 stations in 3 rivers namely Dzu in Kohima, Dhansiri at Nagaland- Assam border Dimapur, and Chathe at Medziphema, Dimapur in January, April, and October.

Did you Know?

According to the World Health Organization (WHO), 1 in 3 people don't have access to safe drinking water. This number equals 2 billion people.

