



**KAMARAJ IAS ACADEMY**  
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# Project TAMARA

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**Why is in news?** TDB-DST backs Innovative Waterbody Management Project "TAMARA" with ₹89 Lakh Funding Support

As the world grapples with the challenges of managing dwindling water resources, the endeavours of the Government of India assume even greater significance.

One of the **significant initiatives is the AMRUT 2.0 mission**, which has the specific goal of **preserving valuable water bodies and promoting circular water economy**.

This mission serves a **twofold purpose**: revitalising water bodies and reducing water waste, all while improving urban planning strategies.

This **aligns perfectly with the concept of the Blue Economy**, emphasising the sustainable utilisation of ocean resources for economic development while maintaining the well-being of marine ecosystems.

In a significant **move towards responsible waterbody management and environmental protection**, the Technology Development Board (TDB) is supporting M/s Bariflo Labs Private Limited, Odisha, for their project called **"Development and Commercialization of Intelligent Water Body Management System (IWMS) - TAMARA**.

The board has approved an amount of ₹ 89.00 lakhs for this project, out of the total project cost of ₹ 150.00 lakhs.

At the heart of this project's **innovation is a smart aeration system** enhanced with sensors and IoT-based technology to manage water quality.

This modern approach **not only improves existing methods of treating water and wastewater but also ensures that water bodies and aquaculture ponds** stay clean and healthy for everyone.

At its core, the project introduces an **AI and IoT-driven system** that does more than just monitor the health of water bodies—it actively contributes to their betterment.

## Key elements of the comprehensive system:

**Smart Sediment Aeration System:** This innovation uses robotic systems to move diffuser aerators up and down in water. It helps bring more oxygen to the bottom of water bodies. This system has been tested in real-world conditions and works well in both fresh and salty water.

**Smart Climate-Driven Water Quality Monitoring System:** This system moves around in water bodies and checks the quality of water from the bottom to the surface. It follows important points identified by computer simulations. It helps control the level of nutrients in the water and how much oxygen is in it.

**Smart Weed Harvester System (PLASHBOT):** This system removes unwanted plants from water bodies. It has different parts to find, remove, crush, and move the plants. It uses smart navigation to work smoothly.

**Kamaraj IAS Academy**

Plot A P.127, AF block, 6 th street, 11th Main Rd, Shanthi Colony, Anna Nagar, Chennai, Tamil Nadu 600040

Phone: **044 4353 9988 / 98403 94477 / Whatsapp : 09710729833**

**Communication System and Data Protection:** This system uses a special kind of technology to send and receive data between devices. It keeps the data safe and has been tested in labs to make sure it works well.

The project's approach is based on **using robots, IoT, and artificial intelligence** in a system that understands weather conditions and water quality.

This smart system **also keeps track of oxygen and nutrient levels**, making sure the water is good for aquatic life. This practical solution is a **big step towards managing water bodies** in a better way.

The Technology Development Board reiterates its commitment to driving positive transformations that safeguard our environment.

The board's **vision of supporting TAMARA** shows its commitment to promoting a greener and more sustainable future.

This project is in line with other successful initiatives of the Govt. like Namami Gange and Jal Shakti Abhiyan that focus on revitalizing and protecting India's waterbodies.

The company aims to demonstrate India's determination to provide a water-secure future for its people while also prioritizing ecological resilience.”