



# **SATHYABAMA**

## **INSTITUTE OF SCIENCE AND TECHNOLOGY**

**(DEEMED TO BE UNIVERSITY)**  
**12B status by UGC**



**Water quality standards and guidelines for water discharge**

**Protect biodiversity and Planet...**

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# **WATER QUALITY STANDARDS AND GUIDELINES FOR WATER DISCHARGE**

## **1 VISION**

In the origination of our vision, we required to make sure to include water quality as well as quantity.

Our vision includes potable and ditch water and protecting both of those sources. Wastewater discharge standards protect water sources from pollution and mis-management. We do not yet have enough information to estimate how much we can save through conservation or to decide what a reasonable goal for optimal use of water on campus might be in the long-term.

## **1 MISION**

To provide an environment

- That eases the universal development of the individual
- That empowers the students to play a dynamic role in the nation building process and contribute to the progress of humanity
- That disseminates knowledge even beyond the academia.
- That inspires in the students, a feel for frontier disciplines and cultivates a concern for water conservation and environment.

By setting lofty standards in the ever – evolving teacher-learner interface.

## **2 INTRODUCTION**

Water is necessary for all forms of life as well as industries on which humans are reliant, like technology development and agriculture. This global need for clean water access necessitates water resource policy to determine the means of supplying and protecting water resources.

During recent years there has been increasing awareness of, and concern about, water pollution all over the world, and new approaches towards achieving sustainable exploitation of water resources have been developed internationally. It is widely agreed that a properly developed

policy framework is a key element in the sound management of water resources. A number of possible elements for such policies have been identified, especially during the preparation of guidelines as well as during various follow up activities. This policy proposes some general principles for the policy making process and for policy document structure. Some examples of policy elements which support the overall sustainable management of water resources are also given.

### **3 WATER DISCHARGE POLICY GOALS**

The primary goal of our Institute water conservation policy is to achieve water neutrality by 2030. The Institute is implementing water – efficient fixtures in its new constructions in campuses, ensuring 100% treatment and recycling of sewage and rainwater harvesting. Fast campus sewage will be treated using state of art technologies and will be recycled for use in flush tanks and irrigation. Students and staff engagement play a vital role in our water sustainable strategy. Reducing water consumption and protecting water quality shall be the key objectives of sustainable policy of our Institute. The Institute views water from the three inter-related dimensions of efficient conservation, responsible consumption and restoring and retaining surface and groundwater.

One of the critical issues of efficient water conservation is the salty groundwater in many areas of the Institute and the management has implemented standard metering infrastructure and procedures across the campus. Our Institute also integrated rainwater harvesting into the consumption side of the campus water cycle. Our Centre took great initiative in order to improve water governance by giving awareness programs for staff, students and involvement of water plumbers in the campus. For instance water is used in the college in every conceivable way like for department labs, individual purpose, cleanliness, fish and aquaculture needs. Teaching, non-teaching and student community have no idea of how much water is being used or at what cost. It was the consistent effort of the management that will be taking impart in the implementation of efficient methods at various sites in the campus.

#### **4 INITIATIVES BY THE INSTITUTE**

Our Institute is working towards the facilities more and more water sustainable. This has been achieved with the use of water efficient fixtures, waste water treatment technologies, rain water harvesting for monitoring.

- Ensuring improvement of the water and water dependent natural resources at surrounding areas in the campus.
- Installation of Aerators in all new basins across the campuses. Aerators provide a constant flow rate of above 0.5 GPM through variable pressure gauge for optimizing water use to a great extent.
- Flow regulator taps: Installation of flow regulators taps in the toilets at all blocks in University campus.
- Sewage Treatment Plant: Sewage Treatment Plant is functional with the parameters specified by the local pollution control board.
- Water Conservation Storages: With the help of CGWB, The Institute management is working hard to establish a rain water harvesting system with the capacity of 10, 00,000 liters at main campus. The system will be functional by 2022.
- Cement Tanks: Institute also have one cement tank of about 30,000 litres capacity for water harvesting.
- Surface Water Conservation through ponds and wells: Institute has two ponds and supplementary tank. We have a 20,000 litre supplementary tank for fish breeding, one water percolation pit of 10 feet depth for water recharging.

#### **5 RESEARCH AND TRAINING**

For effective and economical management of our water resources, the frontiers of knowledge need to be pushed forward in several directions by intensifying research efforts in various areas, including the following:

- hydro-meteorology
- Assessment of water resources

- Groundwater hydrology and recharge
- Water quality, recycling and reuse
- Prevention of salinity ingress
- Prevention of water-logging and soil salinity
- Water harvesting
- Construction material and technology (with particular reference to roller compacted concrete, fibre reinforced concrete, new methodologies in tunneling technologies, instrumentation, advanced numerical analysis, etc.) • use of remote sensing techniques
- Better water management practices and improvements in operational technologies
- Use of sea water resources
- Risk analysis and disaster management
- Sewage treatment on smaller scales and reuse of water after treatment

Since the overall thrust of the new national water policy is towards people's participation at all stages, the highest priority is given for conducting various training awareness programs for students and staffs.

## **6 FUTURE GOALS**

- Maximize water use efficiency and minimize wastage of water
- All existing buildings to be used for water conservation and rain water harvesting
- Promote appropriate innovative water and wastewater management technologies and services.
- Provide appreciate certificate to students and teachers for efficient water use and conservation.
- Provide above continuous awareness training program to all students , staff and stakeholders of the University and nearby community.
- Conducting outreach programs under the leadership of NSS and other student bodies.
- Encourage research, development and implementation of water conservation techniques in relation to the ecological needs and responses.

- Recycle non-sewage and greywater for on-site use.
- Inform, educate and increase awareness regarding the importance of water to life and the need for conservation and efficient use of water.

Efficient water storage can be a viable solution to water conservation. Understanding relationships between environmental and societal factors and academia's support for water conservation measures can help planners and policy makers to identify obstacles and opportunities to increase the role of conservation and efficiency in making urban water supply systems sustainable. Policy plays a very important role in water conservation as it lays out a government framework for guiding long-term decisions, and evolves in the light of healthy interactions between academia and administrative leadership.