



SDG 6

Water and Sanitation Management

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WATER AND SANITATION MANAGEMENT

Prevention of Water Pollution

Steps to prevent the contamination of water systems, including pollution resulting from accidents or incidents within the university (Year 2024):

Nakhon Si Thammarat Rajabhat University has implemented an environmental policy focused on resource conservation and pollution prevention. This includes reducing water consumption through water conservation activities, reusing and recycling water, using water-saving equipment, and improving water use efficiency within campus buildings.

The university has participated in the Green Campus or Green University ranking program, integrating sustainability principles into all university operations, including teaching and research, to ensure long-term pollution prevention.



The Environmental Science Program encourages students to carry out research projects that aim to monitor water quality annually. This involves collecting samples from wastewater and natural water sources within the university and comparing the results with national wastewater quality standards.

The findings from the 2024 academic year indicate that most water samples still exceeded the wastewater quality standard, particularly in the dormitory areas, where Biochemical Oxygen Demand (BOD) levels were relatively high due to high water usage. In other campus areas, BOD levels were only slightly above the standard, possibly due to the faster water flow, which increases oxygen levels and the presence of aquatic plants that help absorb pollutants.

Nevertheless, the study provides essential baseline information for the university. Currently, Nakhon Si Thammarat Rajabhat University is constructing and implementing an internal wastewater treatment system to address the issue of wastewater quality exceeding the standard limits.



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Water in the Community

Learning Opportunities in Water Management – Empowering Local Communities to Learn About Effective Water Management

The Environmental Science Program, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, has carried out a Tap Water Quality Analysis Project under the Strategic Project for Local Development.

In this activity, the project team worked with the water supply division of Phrom Lok Subdistrict Municipality to address potential contamination issues in the tap water production process. The main aim was to ensure that the water produced meets the community's tap water quality standards and that local residents have access to clean, safe, and hygienic water.



The analysis showed that the physical and chemical qualities of tap water produced by Phrom Lok Subdistrict Municipality met the quality standards set by the Provincial Waterworks Authority. However, biological quality testing revealed the presence of *E. coli* bacteria in both the upstream and raw water collection points, where chlorination had not yet taken place. After the chlorination process, *E. coli* was no longer detected. Nonetheless, coliform bacteria were found in all sampling points, exceeding the standard limits.

The research team submitted the analysis results to Phrom Lok Subdistrict Municipality, along with recommendations for improving tap water quality. The findings were also shared with local homestay enterprise groups to promote community involvement in monitoring and supporting the municipality's ongoing water management improvements.



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Supporting Water Conservation Beyond the University

The university has supported water conservation initiatives beyond its campus through the efforts of the Environmental Science Program, Faculty of Science and Technology. The program has carried out academic service activities for local schools, including:

- **A water quality analysis workshop** covering chemical, biological, and physical aspects of water quality for Grade 8 students at **Kalyanee Nakhon Si Thammarat School**.
- **An academic service activity titled “Young Water Detectives”** as part of the project *“Love the Forest, Love the Earth”* for Grade 4 students at **Nakhon Si Thammarat Municipality International School** was held at the **Marine and Coastal Resources Learning Center Region 2** in Pak Nakhon Subdistrict, Mueang District, Nakhon Si Thammarat Province.



These activities aim to raise water conservation awareness among youth and foster a sense of responsibility toward sustainable management of natural resources within the community.



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Collaboration for Water Security

Partnerships with Local, Regional, National, or Global Governments for Water Sustainability (2024)

The Environmental Science Program, Faculty of Science and Technology, Nakhon Si Thammarat Rajabhat University, has signed a Memorandum of Agreement (MOA) on Research and Academic Service Collaboration with the Bang Khan Subdistrict Administrative Organization for the Community Forest Management Project in Ban Phru Toei.

Under this collaboration, the Environmental Science Program conducted a study on the surface water quality within the Ban Phru Toei community forest area, located in Bang Khan Subdistrict, Bang Khan District, Nakhon Si Thammarat Province. Water samples were collected from five locations within the community forest over a three-month period to analyze three aspects of water quality: physical, chemical, and biological.



The analyzed parameters included temperature, total dissolved solids (TDS), pH, hardness, and dissolved oxygen (DO), along with surveys of aquatic insect larvae and bioindicator species.

The Environmental Science Program notified the Bang Khan Subdistrict Administrative Organization of these findings to assist in assessing and improving surface water quality in the area. The results aim to support planning and development initiatives focused on maintaining appropriate water quality standards for sustainable community use.

