

Annual Report on SDG6 Clean Water and Sanitation

6.5 Water in the community

6.5.1 Educational opportunities for communities on good water management

Thaksin University actively integrates **community-based learning** and innovation to promote **responsible water use and pollution reduction**. Faculty members and students from the Faculty of Science and Digital Innovation (SciDI) regularly conduct outreach programs with **local craft and weaving communities** in the Songkhla Lake Basin and Thale Noi area, focusing on sustainable **dyeing practices and wastewater treatment**.



Through field visits and participatory workshops, students, lecturers, and local artisans jointly explore **eco-friendly solutions** under the concept of “**Waste-to-Value and Water Security for Community Livelihoods.**” Activities include:

- Demonstrating the use of natural dyes and promoting safer chemical-handling methods to reduce environmental impact.
- Training community members to prepare reed-based activated carbon for dye-wastewater filtration using simple, low-cost equipment.
- Co-developing and testing prototype filtration units for treating and reusing colored wastewater.
- Sharing environmental monitoring techniques for measuring pH, turbidity, and COD of treated water.



The engagement emphasizes experiential learning, where university students apply **environmental chemistry and green-chemistry principles** directly in real community contexts. These projects not only strengthen students' environmental awareness and practical skills but also empower local groups, especially women's weaving cooperatives to implement **Zero Waste–BCG (Bio-Circular-Green Economy) models** within their livelihoods.



This initiative has led to measurable community benefits, including **reduced wastewater discharge, safer dyeing operations, and increased reuse of treated water for non-potable applications** such as cleaning and plant irrigation. It exemplifies how higher education can catalyze social innovation, linking research, teaching, and outreach to achieve SDG 6 (Clean Water and Sanitation).

Public evidence:

- <https://mgronline.com/south/detail/9680000104232>
- <https://www.journalistthailand.com/83550/>
- Research Paper
<https://doi.org/10.1016/j.diamond.2025.112618>