

## Annual Report on SDG14 Life Below Water

### 14.4 Water sensitive waste disposal

#### 14.4.3 University Policy on Preventing and Reducing Marine Pollution from Land-Based Activities

Marine and coastal ecosystems in the **Songkhla Lagoon basin** are increasingly affected by **land-based pollution**, including wastewater from aquaculture, community craft industries, and domestic sources. Untreated discharges from **shrimp farms** and **handicraft dyeing** areas contribute to nutrient enrichment, chemical residues, and sedimentation, which threaten water quality, biodiversity, and community health. Studies by the Faculty of Law at Thaksin University also identified **gaps in Thailand's effluent control regulations**, noting that smaller shrimp farms (< 10 rai) are not required to build treatment ponds, leading to persistent water pollution and conflicts with local communities. Thaksin University recognizes the critical role of land-based pollution control in protecting coastal and marine ecosystems, particularly in the Songkhla Lagoon and the Gulf of Thailand.

Thaksin University addresses this problem through an **integrated research and innovation approach**, combining **legal reform, community participation, and local-material innovation**.

The concept is to reduce pollutant discharge at its source by promoting legal recommendations for uniform water-quality control across all shrimp-farming scales, encouraging **community-based wastewater treatment** using local materials (krajud), and building awareness and collaboration between academia, government, and local stakeholders to protect aquatic ecosystems.

The results from the activities conducted in the past year show that 1) reduced chemical and wastewater discharge into natural waterways surrounding the campus. 2) Strengthened local awareness of marine pollution impacts through training programs and outreach campaigns. and 3.) Supported collaborative research with the Ministry of Natural Resources and Environment on marine waste reduction in Songkhla Lagoon.

In summary, Thaksin University maintains have activities to protecting aquatic ecosystems, wildlife habitats, and community well-being within southern Thailand's coastal and lagoon systems.

## Researchers at Thaksin University Develop Bio-based Wastewater Treatment Innovation for Sustainable Songkhla Lake Basin



Researchers from Thaksin University, in collaboration with the Phanang Tung community in Phatthalung Province, transformed wastewater pollution from the Krajoed dyeing process into a sustainability innovation. The project developed biochar from leftover Krajoed scraps to naturally treat wastewater and reduce chemical pollution. Used biochar is also turned into ergonomic craft tools to prevent finger injuries among weavers, representing a true Zero-Waste

model. The initiative began in 2024 (B.E. 2567) and supports sustainable development and community well-being.

Public evidence: <https://www.tsu.ac.th/home/details.php?id=5572>

## Research on Legal measures to control the environmental impact of marine shrimp farming

มาตรการทางกฎหมายที่ควบคุมผลกระทบต่อสิ่งแวดล้อม  
ที่เกิดจากการประกอบอาชีพเลี้ยงกุ้งทะเล  
Legal measures to control the environmental  
impact of marine shrimp farming

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Public evidence: [https://law.tsu.ac.th/upload/files/1687497790\\_1661242448\\_1.มาตรการทางกฎหมายที่ควบคุมผลกระทบต่อสิ่งแวดล้อม.pdf](https://law.tsu.ac.th/upload/files/1687497790_1661242448_1.มาตรการทางกฎหมายที่ควบคุมผลกระทบต่อสิ่งแวดล้อม.pdf)