

WU Social Engagement: Innovation of field surveys and plants data collection in old-growth forest areas in the case of Walailak University Botanical Park

The expansion of urban, agricultural, and industrial areas in Thailand has rapidly reduced forested regions across the country, significantly impacting the biodiversity of plant species. Many plant species are disappearing from various areas, affecting not only the ecosystem but also diminishing traditional knowledge of natural resources.

The Walailak University Botanical Garden has been entrusted with the mission of conserving and promoting natural resources under the Royal Initiative Plant genetic conservation project under the royal initiative of her Royal Highness Princess Maha Chakri Sirindhorn. The project emphasizes three frameworks and eight activities, with the first activity focusing on the protection of resources within the learning framework. The Botanical Garden has designated an area of 79,456 square meters (49.66 rai) within Walailak University as an original forest area. This area, characterized by swampy conditions during the rainy season and dryness during the dry season, boasts high biodiversity. Numerous plant species, such as *Dipterocarpus alatus*, *Lagerstroemia floribunda*, *Wrightia arborea*, and *Vitex pinnata*, thrive in the area. However, the exploitation of plants for herbal and food purposes has compromised the area's integrity and reduced its potential as a natural learning site.



To support and enhance the potential of this original forest area as a sustainable natural learning site, the Botanical Garden has collaborated with the Academic Service Center and the School of Engineering and Technology to conduct various activities aimed at developing Walailak

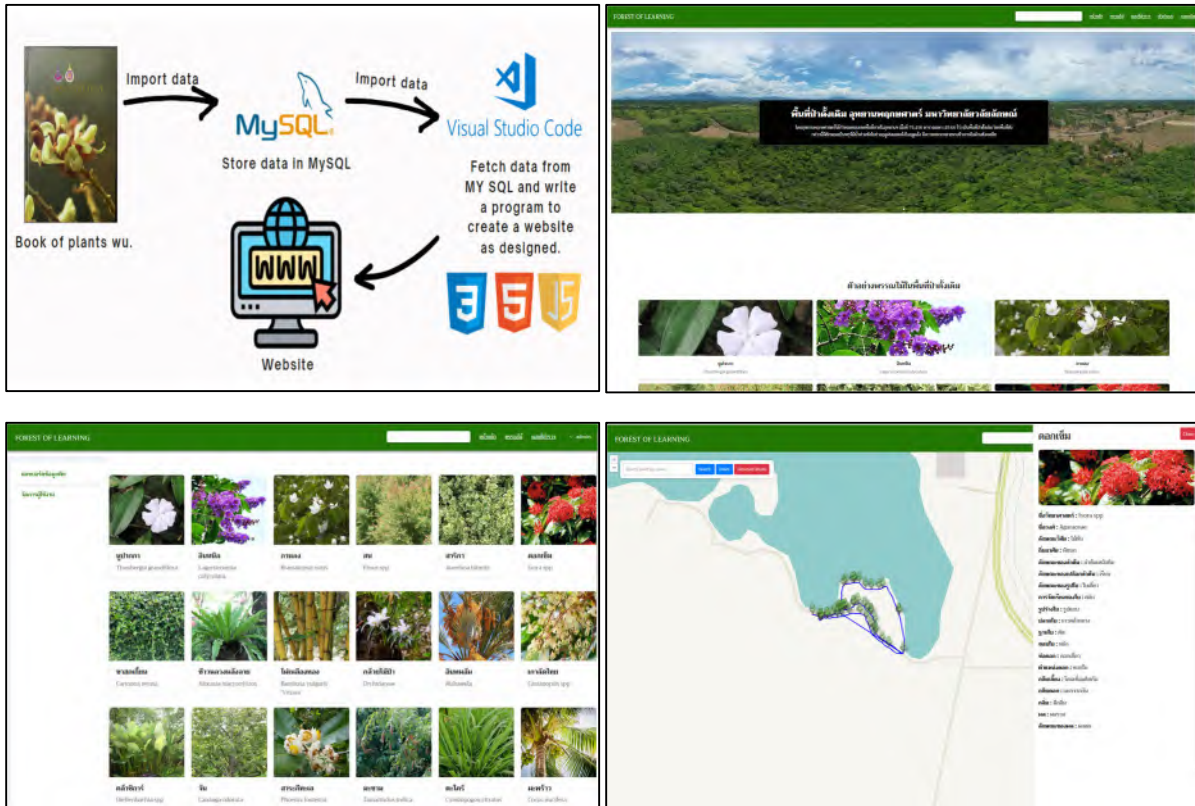
University's original forest into a valuable learning resource. These activities are designed to conserve and restore natural resources while promoting learning and understanding of the importance of traditional ecosystems, leading to sustainable conservation of natural resources.

1. Survey, Collection, and Cataloging of Plant Species in the Protected Area



2. Development of a Web Application for Recording Plant Species Coordinates and Details

- This involves developing a prototype website for cataloging plant species and creating automatic survey routes, which also cover plant species surveys in school botanical gardens.



3. Development of Learning Paths in the Original Forest Area, Walailak University Botanical Garden

- This activity involves selecting survey routes identified in the first activity to be used as learning paths within the original forest area. Representative trees, growing close to these paths, will be selected as important species, with identification signs and boundary markers along the learning paths to facilitate education within the original forest area.



