WALAILAK UNIVERSITY

SDG REPORT 2025-2026



Times Higher Education Sustainability Impact Ratings 2026

SUSTAINABLE DEVELOPMENT GOALS

Sustainable Growth in Education and Green Environment



WALAILAK UNIVERSITY

WU SDG MOVE

"WALAILAK UNIVERSITY

THE LAND OF LIBERTY AND GLORY

THE FASCINATION OF NATURE

THE TREASURE OF WISDOM

THE LIGHT OF KNOWLEDGE

THE SPIRIT OF THE LIGOR EMPIRE"



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WALAILAK UNIVERSITY

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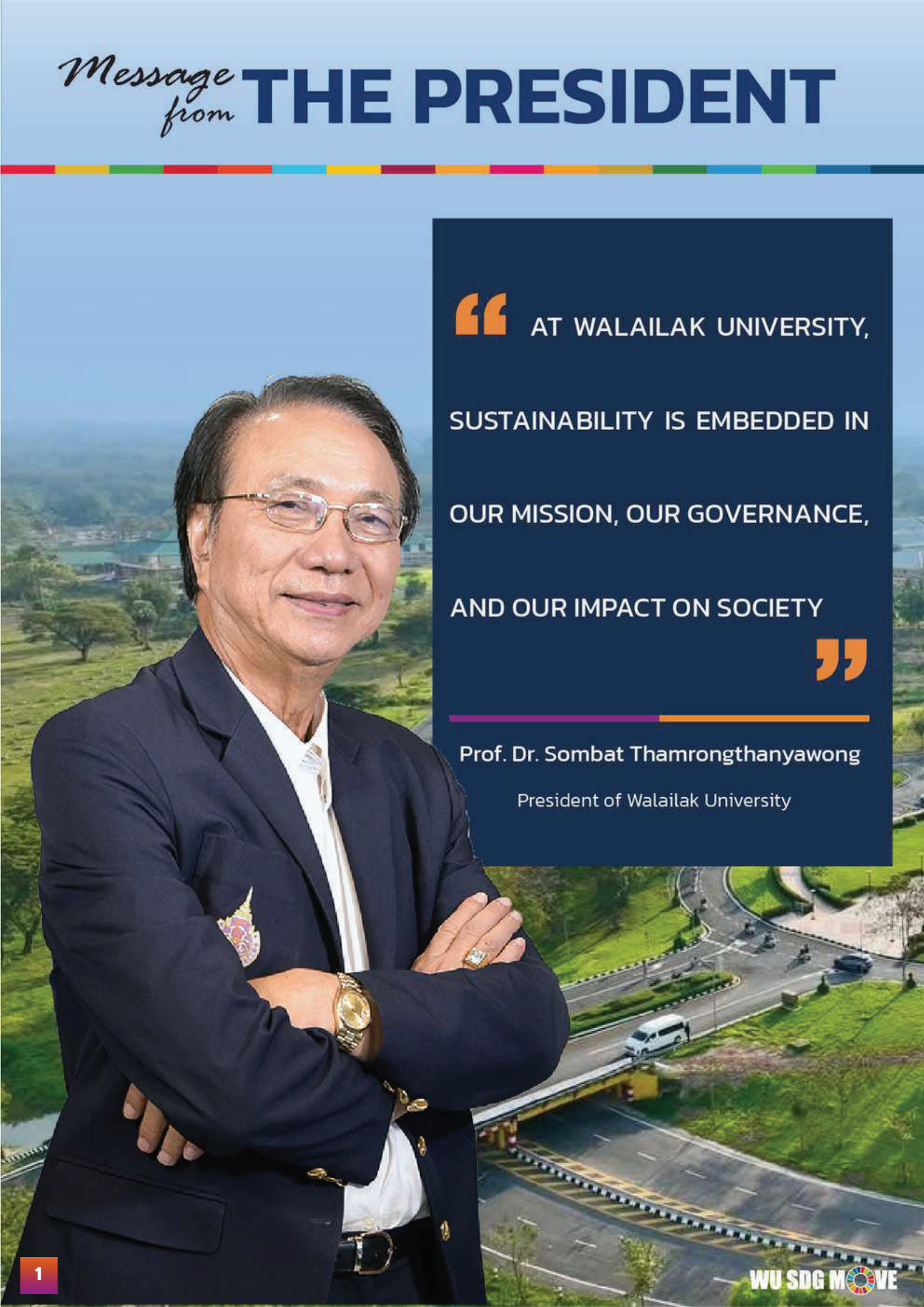
Message from THE PRESIDENT



"AT WALAILAK UNIVERSITY, SUSTAINABILITY IS EMBEDDED IN OUR MISSION, OUR GOVERNANCE, AND OUR IMPACT ON SOCIETY"

Prof. Dr. Sombat Thamrongthanyawong

President of Walailak University

Message from THE PRESIDENT

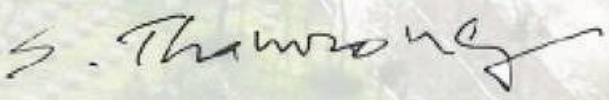
As the global community advances toward the 2030 Agenda for Sustainable Development, it is clear that sustained and collective effort remains essential. The year 2025 unfolds amid a complex global polycrisis—marked by geopolitical uncertainty, climate change, armed conflict, food insecurity, and the rapid acceleration of Artificial Intelligence (AI). These interlinked challenges underscore the critical responsibility of higher education institutions to lead through research excellence, transformative education, meaningful community engagement, and responsible institutional governance.

As a research-intensive university in Thailand, Walailak University (WU) is committed to advancing knowledge that delivers measurable societal impact. We aspire to be a driver of solutions that respond to local, national, and global priorities, in alignment with the Sustainable Development Goals. Our approach is grounded in collaboration, partnerships, and shared responsibility, ensuring that environmental sustainability, social inclusion, and economic resilience are addressed in an integrated manner.

The year 2025 represents another significant milestone in WU's development. Our continued progress has been recognized internationally through two Global Good Governance (3G) Awards for 2025: the 3G Excellence Award for Green Campus and the 3G Championship Award for Sustainable Development. These honors reflect our institutional commitment to sustainability leadership and good governance. In parallel, we have sustained outstanding research performance, maintaining the No. 1 position in Thailand for the highest proportion of publications in Q1 and Q1-Q2 journals for three consecutive years since 2023. This achievement reinforces our role as a leading research institution. Furthermore, we are honored to receive the Thailand Talent Award 2025: Outstanding Research Organization, presented by Thailand Science Research and Innovation (TSRI). Additionally, WU announced an updated total of 800 Advance HE/HEA-certified lecturers under the UK Professional Standards Framework (UKPSF)—the highest number in Thailand. This achievement underscores the university's strong commitment to student-centered learning, fostering critical, analytical, and synthetic thinking in teaching and learning processes.

This report presents a comprehensive reflection of our policies, initiatives, and outcomes that contribute to the Sustainable Development Goals. Beyond celebrating achievements, it demonstrates how WU embeds sustainability into its core missions and translates commitment into tangible impact for society.

Looking ahead, I remain confident in our collective capacity to address emerging global challenges. With strong partnerships, evidence-based innovation, and a shared vision, WU will continue to advance sustainable development and contribute meaningfully to a more equitable, resilient, and sustainable future for all.



Prof. Dr. Sombat Thamrongthanyawong

President of Walailak University

Message from VICE PRESIDENT



"CARBON NEUTRALITY IS NOT OUR DESTINATION—IT IS OUR RESPONSIBILITY, AND 2030 IS OUR COMMITMENT."

Assoc. Prof. Dr. Warit Jawjit

Vice President of Walailak University

Message from VICE PRESIDENT

The year 2025 represents a pivotal milestone in Walailak University's (WU) long-term commitment to climate action and sustainable development. In alignment with global efforts under the 2030 Agenda for Sustainable Development, the University has formally declared its commitment to achieving carbon neutrality by 2030, reaffirming its leadership in advancing green university development in Thailand and the region.

This landmark commitment serves not only as a strategic direction but also as a powerful catalyst for collective action across all sectors of the University. It calls upon our academic units, administrative divisions, researchers, students, and partners to work in an integrated and continuous manner toward transforming WU into a national model of a low-carbon, climate-resilient, and environmentally responsible university. While Thailand's national target for carbon neutrality is set for 2050, WU is confident that its strong foundation in research, innovation, and academic services enables the University to move decisively ahead of the national timeline.

Over the years, WU has consistently demonstrated leadership in addressing climate change through education, research, academic services, community engagement, and environmental stewardship. One of the University's most significant contributions has been its collaboration with provincial and municipal authorities in southern Thailand to develop comprehensive climate change action plans. These initiatives have strengthened local capacities by establishing greenhouse gas (GHG) emission inventories, climate risk and vulnerability assessments, and evidence-based action plans that prioritize climate adaptation, mitigation, and resilience. WU has also strengthened its climate action efforts through the adoption of renewable energy technologies on campus, including floating solar systems, solar panels, and electric vehicles.

In addition, WU has expanded its institutional role by serving as a verifier for government organizations, contributing to the transparency, accuracy, and credibility of reported greenhouse gas emission reductions.

In 2025, we further advance our stewardship efforts through the establishment of a Solar Floating system. This initiative marks a significant step in increasing the share of renewable energy consumption on campus, reducing carbon emissions, and demonstrating innovative solutions that integrate clean energy with sustainable water resource management.

I encourage all stakeholders to join in advancing this critical agenda. By working together with determination and shared responsibility, we can drive meaningful change and contribute to a low-carbon and sustainable future at both national and global levels.



Assoc. Prof. Dr. Warit Jawjit
Vice President of Walailak University

Message from CAS DIRECTOR



"THE HAPPY TREE MODEL TRANSFORMS ACADEMIC SERVICES INTO LASTING IMPACT FOR PEOPLE AND COMMUNITIES"

Asst. Prof. Dr. Amonsak Sawusdee

Director of the Center for Academic Services

Message from VICE PRESIDENT

Guided by the vision "To Unfailingly Address Community Needs," the Center for Academic Services (CAS) has adopted the Happy Tree Model as a comprehensive framework for delivering academic services to communities at the local, regional, national, and international levels. This model integrates five interconnected dimensions—health, education, natural resources and the environment, social and arts, and career development—ensuring a holistic and people-centered approach to sustainable development.

Through this framework, CAS continues to advance the Sustainable Development Goals (SDGs), underpinned by our core values of Excellence, Equity, Engagement, and Sustainability. These values guide our efforts to translate academic knowledge into tangible benefits for society and to foster inclusive and lasting impact.

In 2025, CAS has implemented 175 SDG-related projects, generating more than 40 bodies of knowledge across all five dimensions of the Happy Tree Model. These initiatives involve over 250 Walailak University (WU) researchers and extend their reach across all provinces in Southern Thailand, as well as other regions of the country. This reflects the University's strong commitment to community engagement, interdisciplinary collaboration, and evidence-based solutions to societal challenges.

The year 2025 also marks the launch of the Walailak–Nakhon Si SDG Series, a neutral and inclusive platform that brings together stakeholders from all sectors to exchange perspectives, foster collaboration, and advance the SDGs in diverse thematic areas. This initiative further strengthens public access to SDG knowledge and encourages collective action toward sustainable development.

It is with great pleasure that I present the WU Sustainable Development Goals Report 2024–2025, which provides an overview of our efforts to support and promote sustainability both on campus and beyond. The achievements highlighted in this report are the result of collective contributions through research, academic services, outreach, teaching, and institutional stewardship.

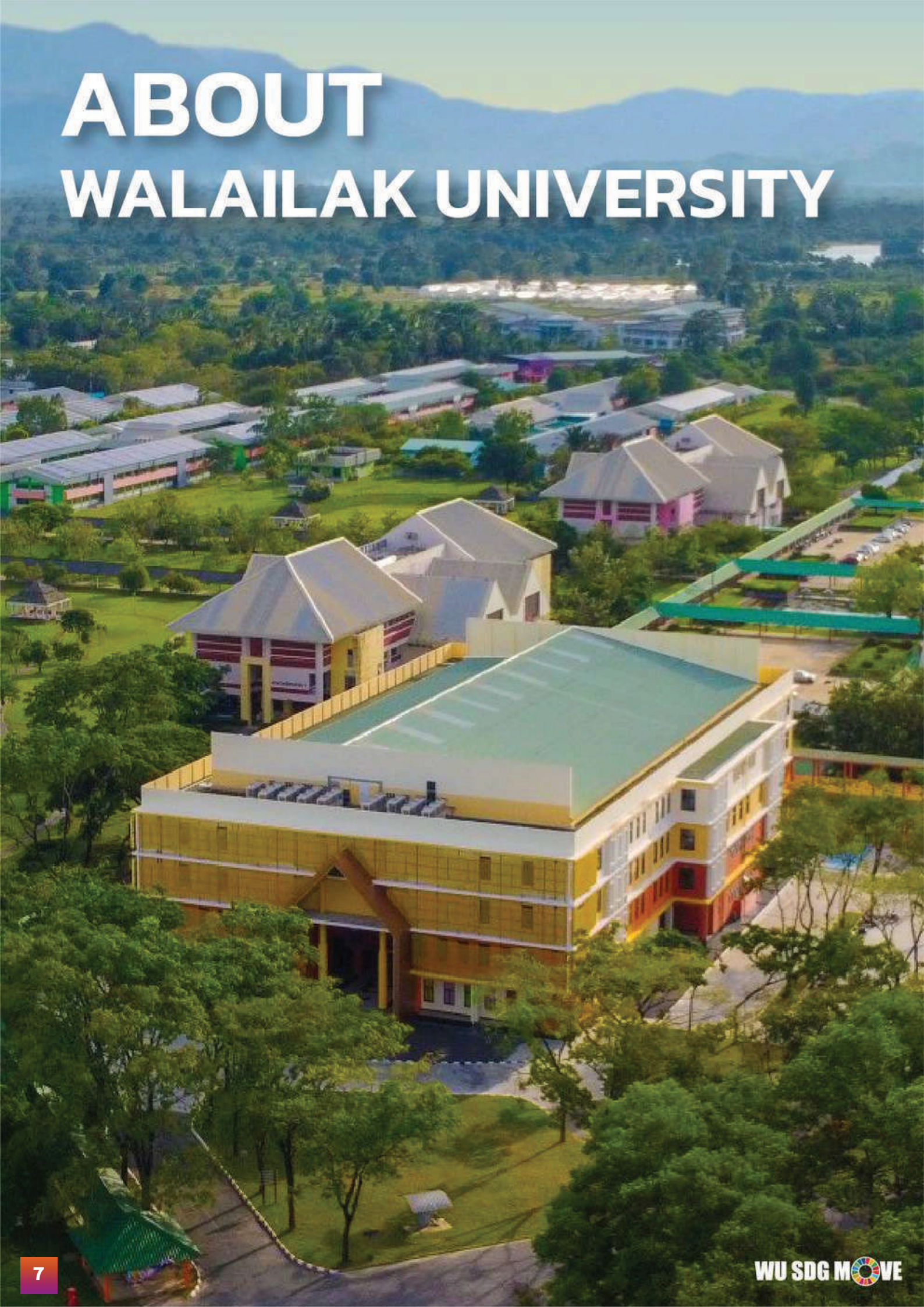
I hope this report will serve not only as an informative record of our progress, but also as an inspiration and a reaffirmation of WU's unwavering commitment to realizing the United Nations 2030 Agenda for Sustainable Development and its Sustainable Development Goals.



Asst. Prof. Dr. Amonsak Sawusdee

Director of the Center for Academic Services

ABOUT
WALAILAK UNIVERSITY



March 29th, 2024 marked 32 years since Walailak University (WU) was established. For over 30 years, we have facilitated many progressive steps of development and advancement through aspects through the prism of research and innovation, stewardship, outreach, and teaching.

WU has been adopting the United Kingdom Professional Standard Framework known as UKPSF from the United Kingdom to strengthen the analytical and synthesis skills of the students. All lecturers (100%) at Walailak University have been trained on the UKPSF framework at a variety of levels, ranging from Associate Fellow, Fellow, Senior Fellow, and Principal Fellow. Currently, WU is the only university in Thailand that declares that all subjects are instructed under the UKPSF framework and integrated with the SDGs. WU also hosts the largest number of UKPSF-certified academic staff.

Vision

To be an institution of good governance, to be a leading source of knowledge, the best local, and the excellent in the global.

Aspiration

We aspire to explore, search for, preserve, and transfer knowledge in order to generate and maintain our academic improvement and excellence. This aspiration aims to bring forth the citizens with knowledge and virtue for the never-ending benefit of the nation and mankind. We are strongly committed to building a graduate embedding the following qualifications.

1. To become an up-to-date citizen of national and global, that possesses democratic ideology, great knowledge, and wide perspectives.
2. To be an academic or vocational expert with knowledge, capacity, and skills in the interested fields and can efficiently apply those in their profession.
3. To be a "Graduate" who has consciousness, morality, and work ethic.

Mission

WU has 4 main missions as the followings.

1. To produce and develop the labor to deliver the international standard and the needs in developing the national economy and society.

2. To study, explore, research, and develop the new knowledge that will create quality graduates who are efficient in becoming self-reliant and also excellent in international competition.

3. To provide academic services to the public and private sectors including giving consultancy, and suggestions for research, development, technology, and survey. We also offer training and development to cultivate the innovation for economic and social development of the nation and region.

4. To conserve and restore the arts and cultural heritage including customs, traditions, pure art, and applied arts to set the example for the locals as a comprehensive learning institution. For more information, please visit the university website: www.wu.ac.th

SUSTAINABILITY AGENDA

BLUE CARBON-FOCUSED RESEARCH

- Genetic information of berried female blue swimming crab *(Portunus pelagicus)* from a crab bank project and wild crabs in Bandon Bay, Thailand



- Exploring Spatial and Temporal Variations in Stem-Mediated Greenhouse Gas Emissions from Different Species of Mangroves



- Driving Mangrove Recovery: Community Engagement and Socio-Economic Shifts in Aquaculture Areas



- Integrating Satellite and UAV Imagery for Mangrove Aboveground Biomass and Carbon Stock Modeling



GREEN INNOVATION FOR SUSTAINABILITY

- Low-Cost AIoT Landslide Warning System



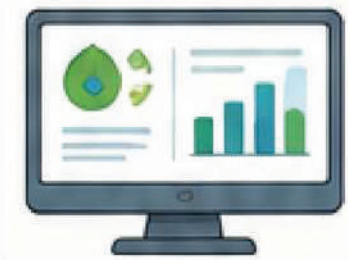
- Pak Phanang Basin Indigenous Rice Development



- Activated Carbon for Energy Storage from Rubberwood Sawdust



- Technology on Monitoring the Health of Natural Resources



SUSTAINABILITY AGENDA

OUTREACH AND ENGAGEMENT

	Global	in Thailand
Empowering Dialogue for Peace in Thailand's Southern Border Provinces	5	1
Nora Online Dance Course	14	2
Blue Swimming Crab Bank Initiative	27	3
Health Promotion and Rehabilitation through Physical Therapy Science	35	3
Early Childhood Equity Education Project (ECEEP)	69	4
Technology Clinic: Services to Elevate Communities Toward Sustainability	23	4
Living Weir Initiative for Water Security	73	4

STEWARDSHIP

- Green Policies
- Well-being Policies
- Transparency Policies
- Renewable Energy Initiative: Solar Floating, Wind Power, Clean Energy, Biogass
- Commitment to Carbon Neutrality by 2030
- Plastic Reduction Policy
- Free Meal Grants
- No Gift Policy

TEACHING

UKPSF

The United Kingdom Professional Standards Framework (UKPSF)

Subjects and Courses based on SDGs

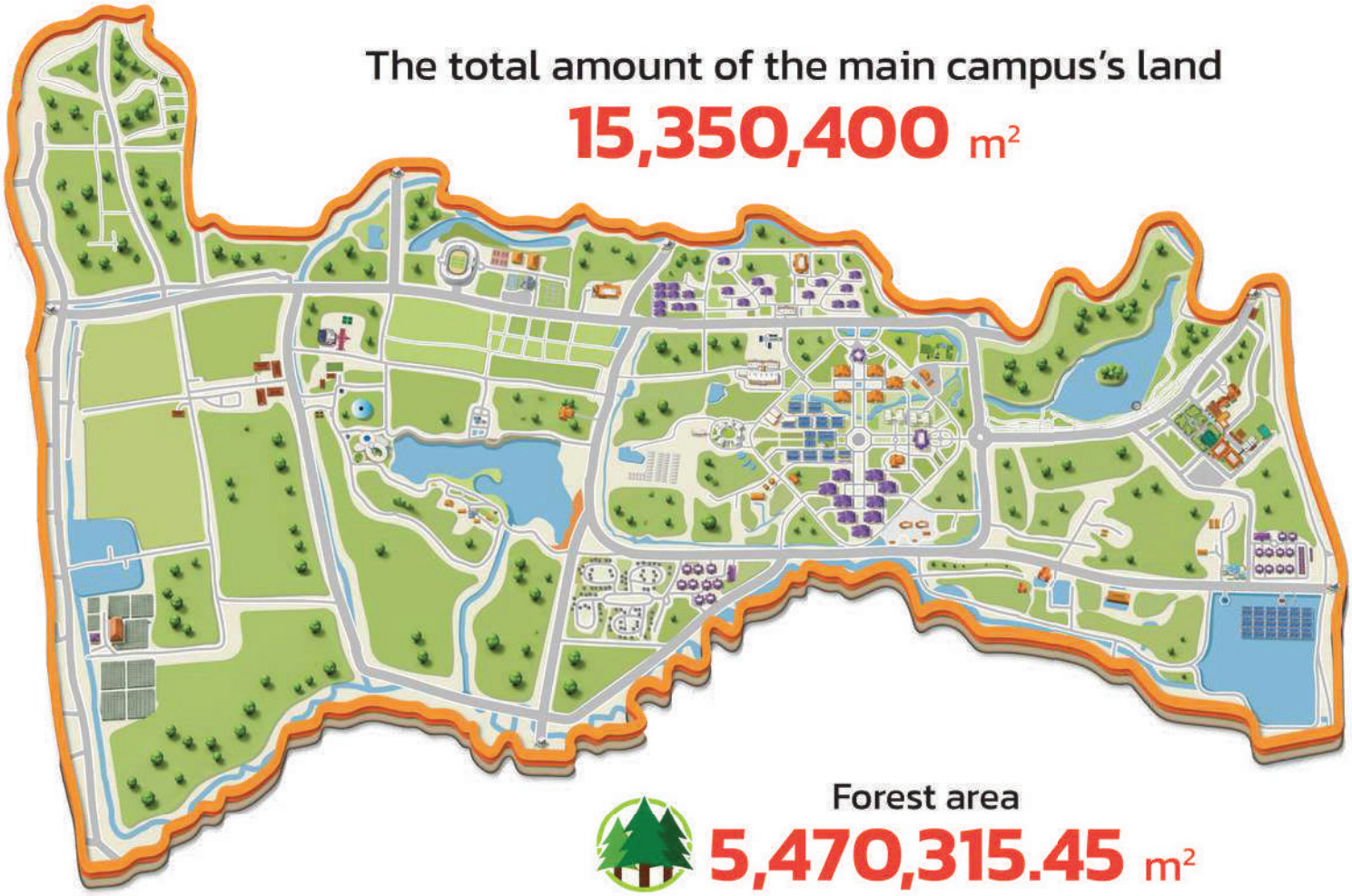
WUMOOC Endless Sources Of Knowledge

Lifelong Learning: WU MOOC

Smart Classroom

Active Learning integrated with SDG goals

DATA OVERVIEW AT GLANCE



The total amount of the main campus's land

15,350,400 m^2

Forest area

5,470,315.45 m^2





The Total Carbon Footprint

9,444.97

metric tons







Reduced Greenhouse Gas Emission from all scopes

3,351.44 tCO_2e





The total water conservation area

4,633,435.12 m^2





The total amount of renewable energy used

3,776,564.70 kWh/year (31.64%)

DATA OVERVIEW AT GLANCE

Greenhouse Gas Emission Reduction Program

Renewable-content
2.28 tCO_2e/year

Solar Energy
1,585 tCO_2e/year

Electric Vehicles (EVs)
39.07 tCO_2e/year

Virtual Meetings
69.79 tCO_2e/year

Reduction of chemicals
21.71 tCO_2e/year

Forest area
5,470,315 m^2

Use of electricity
39,519.41 GJ

The number of sustainability-related courses
2,867 (100%)

The number of SDG project
172

The number of national awards successful communal engagement
5

SDGs among the Top 30 Worldwide



5 GENDER EQUALITY
WORLD RANK **#5**
Score 82.1
Thailand #1



11 SUSTAINABLE CITIES AND COMMUNITIES
WORLD RANK **#14**
Score 89.3
Thailand #2



2 ZERO HUNGER
WORLD RANK **#23**
Score 85.3
Thailand #4



14 LIFE BELOW WATER
WORLD RANK **#27**
Score 87.8
Thailand #3

WU PROGRESSIVE ENGAGEMENT IN THE TIMES HIGHER EDUCATION SUSTAINABILITY IMPACT RATINGS

Walailak University (WU) began its formal engagement with the Times Higher Education (THE) Impact Rankings in 2021, marking a significant milestone in the University's commitment to advancing the United Nations Sustainable Development Goals (SDGs). Since its first participation, Walailak University has demonstrated consistent and measurable progress, reflecting a strategic institutional approach to sustainability, community engagement, research excellence, and global responsibility.

In 2024, WU achieved its strongest performance to date, rising to the 101–200 global range and securing joint 5th place nationally among 77 Thai universities. Participating in eight SDGs, the University ranked among the world's top 100 universities in six goals, including SDG 6 (1st in Thailand), SDG 14 (2nd in Thailand), SDG 11, SDG 17, SDG 4, and SDG 2. This milestone reflected the maturation of institutional systems supporting sustainable development, including curriculum integration, research alignment, academic services for communities, and cross-sector partnerships. The results affirmed WU's growing international recognition as a leading institution for sustainability-driven development.

The University reached a historic peak in 2025, entering the global Top 100 for the first time with an overall ranking of 93rd worldwide among 2,526 universities from 130 countries. Most notably, WU achieved the No. 1 global ranking in SDG 5: Gender Equality, despite it being the first year of submission for this goal. This outstanding achievement demonstrated the University's leadership in gender equity, inclusive policies, women's empowerment, and support for diversity across its academic and administrative structures. In addition, Walailak University earned Top 50 across its academic and administrative structures. In addition, Walailak University earned Top 50 global rankings in five SDGs—SDG 2, SDG 3, SDG 4, SDG 14, and SDG 17—and placed in the Top 100 globally for SDG 6 and SDG 11, further reinforcing its comprehensive and balanced contributions to sustainable development.

In 2026, WU achieved its highest-ever performance in the THE Sustainability Impact Ratings, rising to 47th place globally among 1,646 universities from 116 countries, compared with 93rd place in 2025. The University was ranked 3rd among 69 Thai universities, with its overall score increasing from 89.7 to 92.8 WU demonstrated outstanding performance across multiple SDGs, with four goals ranked among the world's top 30: SDG 5: Gender Equality (5th globally and 1st in Thailand), SDG 11: Sustainable Cities and Communities (14th globally and 2nd in Thailand), SDG 2: Zero Hunger (23rd globally and 4th in Thailand), and SDG 14: Life Below Water (27th globally and 3rd in Thailand). The University also achieved strong global rankings in SDG 3: Good Health and Well-Being (35th), SDG 4: Quality Education (69th), and SDG 6: Clean Water and Sanitation (73rd). This achievement reflects the continued strengthening of WU's sustainability ecosystem, driven by strategic institutional policies, research excellence, community engagement, and the integration of sustainability principles into teaching, services, and organizational culture.

REPORT THE IMPACT RANKINGS 2025



2026 TIMES HIGHER EDUCATION IMPACT RANKINGS



WU HAPPY TREE MODEL AND THE SDGS

Social engagement is one of the primary missions of Walailak University (WU) through the work of the Center for Academic Services. The center is responsible for setting its main operational direction toward social engagement for sustainability with stakeholder participation to improve the livelihood of communities and people in the area. To pursue the mission, Walailak University has formed a model called the "WU Happy Tree" based on the United Nations Sustainable Development Goals. The model is a strategy for social services by developing research projects and innovations to make a positive social contribution, regardless of ethnicity, religion, disability, immigration status, or gender. The WU Happy Tree encompasses five significant branches that aim to provide expertise and technical services to Thai society, integrating with the 17 Sustainable Development Goals that play a significant role in the development of social services in communities. Moreover, in order to be a truly global institution, WU has a solid commitment to provide social services to international communities, not just Thai communities, with no racial, national, or religious boundaries.

These five areas are as follows:

1. Career Opportunity for Sustainable Local Economic Development



WU is committed to fostering sustainable employment opportunities for local communities, enabling individuals to earn a livelihood and improve their quality of life in alignment with their needs, religious beliefs, community context, and capabilities. Through the application of academic excellence and research-based solutions, WU actively addresses community challenges while generating meaningful employment across diverse sectors.

One notable example is the development of Siam Ruby pomelo production and processing, where Trichoderma was applied to enhance fruit quality and reduce reliance on chemical inputs, resulting in lower production costs and increased income for farmers. In addition, sustainable model communities established under a Royal Initiative Project of the late His Majesty the King have achieved national-level recognition and awards.

Another flagship initiative focuses on enhancing the capacity of local mangosteen farming through smart farming approaches. The initiative promotes sustainable agricultural practices by developing organic fertilizer from mangosteen leaves to nourish mangosteen trees and producing biochar from mangosteen peels to create additional value from agricultural waste.

The initiative has generated positive impacts on the local economy by increasing farmers' production capacity by 80%. It has also reduced production costs and minimized reliance on chemical fertilizers, contributing to more sustainable and environmentally friendly mangosteen farming practices.







2. Happiness in Health: Building Community Power for the Nation



Walailak University Hospital plays a vital role in strengthening community health systems by prioritizing accessible and inclusive health services. Continuous progress has been made in health consultations, mobile medical services, studies on older persons' well-being, and the establishment of elderly care networks in Nakhon Si Thammarat and neighboring provinces.

Furthermore, researchers and academics from health sciences-related schools actively conduct outreach programs that deliver free health knowledge and services to local communities. These initiatives cover a wide range of fields, including physical therapy, local medicine production, basic elderly care, and preventive health practices. Collectively, these efforts enhance community well-being, promote healthy lifestyles, and contribute to long-term public health resilience. Additionally, The University has collaborated with partners to establish a Prototype Physical Therapy Center, which will serve as a center for clinical services, professional training, and community-based rehabilitation.



3. Access to Equal Education Opportunities

In line with its core teaching mission, WU provides academic services to schools and communities throughout Nakhon Si Thammarat Province. One example is Chumchonmai School, located in the Satit Walailak Pattana Community, which serves as a prototype project for teaching and learning enhancement. The university has supported curriculum design and strengthened foreign language education, including English, Chinese, and Malay, to better prepare students for a globalized world.





In addition, the King's Philosophy of Sufficiency Economy Learning Center Project enables students to acquire essential life skills, engage in farming and business planning, and generate income to support their families.

WU also implements the Early Childhood Equity Education Project (ECEEP), which aims to ensure that all children have access to quality pre-primary education by 2030. By integrating expertise from the School of Physical Therapy, the program enhances children's Executive Functions (EF) and motor skills, leading to a 40% increase in EF development, thereby strengthening early learning foundations and educational equity.

4. Resources and the Environment: Protecting the World for Future Generations

WU aligns its research directions with the Sustainable Development Goals and the National Economic and Social Development Plan, with a strong emphasis on environmental sustainability. A prominent initiative is the blue swimming crab conservation project, which established crab banks in Nakhon Si Thammarat and Surat Thani Provinces. To date, more than 60 crab banks have been developed, benefiting over 60 coastal communities by supporting marine conservation and sustainable livelihoods.







Research outcomes from the project have informed aquaculture zoning policies, increased blue swimming crab harvests, and promoted balanced marine and coastal ecosystems. In parallel, WU implements a water resource management project addressing flooding, drought, landslides, and sinkholes. Academics continuously provide scientific data and technical support to provincial authorities, strengthening evidence-based water management and disaster risk reduction.

Another outstanding initiative is the construction of artificial fish habitats, which provide safe ecosystem for juvenile marine species, protecting them from fishing pressures while supporting biodiversity restoration. It also raises public awareness about the critical role of oceans as both a vital food source and an essential ecosystem for the planet.

In recognition of these achievements, Assistant Professor Dr. Amonsak Sawusdee, the project leader, received the Public Sector Excellence Award (PSEA) at the NRCT Forum 2025 in the categories of Research and Innovation for Utilization and the Government Excellence Award, presented at the NRCT Forum 2025.







This award highlights the strong collaboration between WU and local communities in managing marine resources through knowledge-driven approaches.

5. Social and Cultural Foundations: Preserving Heritage and Promoting Peaceful Societies

Nakhon Si Thammarat is renowned for its rich and ancient civilization. WU actively documents, preserves, and communicates regional identity through research-based mechanisms that showcase local heritage and community uniqueness. Educational media developed for archaeological sites such as Tumpang, Khao Kha, and Mokhalan are based on academic research and utilize virtual reality and 3D modeling technologies to engage children, youth, and adults. These innovations also promote cultural tourism and context-sensitive social development.





The university has also launched initiatives to preserve and revitalize Menora (Nora) Dance, a significant cultural heritage of Southern Thailand. The Nora Online Course provides accessible learning resources, enabling the public to study and practice traditional movements while ensuring the art form remains relevant and sustainable for future generations.

In 2025, WU established the Tumpang Museum as a center for preserving Southern Thai culture and arts. The museum serves as a platform for researchers across Southern Thailand to exchange knowledge, strengthen collaboration, and deliver academic services that benefit Thai society. By integrating research, education, and community engagement, the center bridges cultural heritage preservation with sustainable social development.





In addition, The University implemented a cultural conservation project to preserve Daeng Temple in Khao Phra Bat Subdistrict, Chian Yai District, Nakhon Si Thammarat Province. The project aimed to promote the preservation of intangible cultural heritage, including local folklore, traditions, customs, and cultural practices associated with the temple. It also supported the conservation of the Pah Pa Robe-Offering Ceremony at the place of worship of the Satit Walailak Pattana Community, strengthening community participation and safeguarding local cultural identity for future generations.

WU HAPPY TREE MODEL AND THE SDGS





Walailak Park @WU

WU'S SUSTAINABILITY STRATEGY FRAMEWORK: THE HAPPY TREE MODEL FOR SUSTAINABLE DEVELOPMENT

Walailak University (WU) has developed a comprehensive sustainability strategy framework, seamlessly integrating it with the WU Happy Tree Model to advance the Sustainable Development Goals (SDGs) at various scales—local, regional, national, and international. This innovative model addresses five key dimensions of sustainable development: career development, health and well-being promotion, equal education provision, resource and environment protection, and art and culture preservation. The holistic approach embodied in the Happy Tree Model aims to foster sustainable communities through a well-rounded and multifaceted strategy that ensures long-term impact.

The Four Steps of the Happy Tree Model

The WU Happy Tree Model's sustainability strategy framework is structured around four critical dimensions: Diagnostics, Development, Engagement, and Measurement. Each dimension plays a vital role in guiding the university's sustainability initiatives, ensuring that they are data-driven, inclusive, and effective.

Diagnostics



In the Diagnostics phase, WU leverages data collected from extensive surveys, research outcomes, and existing databases to conduct a thorough evaluation of its sustainability efforts. This data-driven approach allows the university to create a comprehensive overview of its sustainability landscape, identifying strengths, gaps, opportunities, and potential strategic directions. By utilizing evidence-based assessments, WU ensures that its sustainability initiatives are grounded in real-world needs and are aligned with global sustainability standards.

Development

The Development phase is where strategic planning takes center stage. WU brings together faculty members from diverse disciplines—such as biology, physiotherapy, linguistics, marine science, and more—to collaboratively design strategies, action plans, and policies that promote sustainable development across all levels. This interdisciplinary collaboration ensures that the strategies are robust and consider multiple perspectives, making them more likely to succeed.



Furthermore, WU actively fosters partnerships with non-governmental organizations (NGOs), government agencies, the private sector, and other educational institutions. These partnerships are essential for pooling resources, sharing knowledge, and driving collective action towards achieving the SDGs. The university's commitment to collaboration ensures that its sustainability initiatives are not only comprehensive but also scalable, reaching broader communities and having a more significant impact.

Engagement



In the Engagement phase, WU and its partners actively involve stakeholders and communities in the implementation of sustainability strategies, policies, and action plans. This phase is crucial for translating strategic visions into tangible outcomes that benefit society. Through research projects, outreach programs, academic services, and other targeted support initiatives, WU works closely with communities to drive positive change.

By engaging with local communities, the university ensures that its sustainability efforts are tailored to the unique needs and challenges of the areas it serves. This localized approach helps to build trust and fosters a sense of ownership among community members, which is vital for the long-term success of any sustainability initiative.

Measurement



The final dimension, Measurement, focuses on assessing the impact and effectiveness of the implemented strategies and actions. WU employs various evaluation methods to determine the success of its sustainability initiatives, identifying which solutions and activities generate the most significant positive impacts on community development and sustainable growth. In addition, WU applies Social Return on Investment (SROI) analysis to evaluate the social, economic, and environmental value generated by each SDG-related project. This approach enables the university to measure the broader benefits of its initiatives, including improvements in community well-being, income generation, capacity building, and resource efficiency, beyond financial outcomes alone. The findings from SROI assessments and other evaluation processes support evidence-based decision-making, allowing WU to continuously refine its strategies and ensure that its sustainability initiatives remain relevant, impactful, and responsive to evolving societal and environmental challenges.

Expanding the Reach of the Happy Tree Model

WU's commitment to sustainability extends beyond its immediate community. The university is actively involved in global networks and initiatives, sharing its Happy Tree Model as a best practice example for other institutions aiming to contribute to the SDGs. WU participates in international conferences, publishes research on its sustainability strategies, and engages in collaborative projects with universities around the world. This global engagement not only enhances the university's reputation but also amplifies the impact of its sustainability efforts.

WU's Sustainability Strategy Framework, anchored in the Happy Tree Model, represents a forward-thinking approach to addressing the complex challenges of sustainable development. By integrating diagnostics, development, engagement, and measurement, WU ensures that its sustainability initiatives are both effective and impactful. Through collaboration, innovation, and a deep commitment to community well-being, WU is paving the way for a more sustainable future, both locally and globally.



DEVELOPMENT OF WALAILAK UNIVERSITY POLICIES IN ADVANCING SUSTAINABLE DEVELOPMENT

Walailak University (WU) has demonstrated a strong and systematic commitment to sustainable development through the continuous development and enhancement of institutional policies. Since 2022, the University has progressively strengthened its policy framework to align with national priorities, global sustainability agendas, and the United Nations Sustainable Development Goals (SDGs). This policy-driven approach reflects WU's role as a responsible higher education institution that integrates sustainability into governance, operations, and community engagement.

In 2022, WU established foundational policies focusing on environmental management, sustainable consumption, and lifelong learning. Key policies addressed the protection of non-smokers' health through the designation of specific smoking areas, the promotion of lifelong learning, water reuse guidelines, and the reduction of single-use plastic waste. The University also introduced comprehensive policies on food preparation and sustainable consumption, waste and hazardous waste management, and action plans targeting sustainable commuting and plastic waste reduction for the period 2022–2025. These policies laid the groundwork for responsible resource use, environmental protection, and health-conscious campus practices.

Building on this foundation, 2023 marked a phase of policy refinement and expansion. WU introduced a policy on remote working to support flexible work arrangements and enhance work–life balance. Environmental policies were further strengthened through the revision of the single-use plastic waste and disposable item reduction policy, alongside new policies on landfill waste reduction, recycling, and marine pollution reduction. These efforts underscored the University's commitment to circular economy principles and the protection of marine and coastal ecosystems, which are highly relevant to the local and regional context.

In 2024, WU significantly broadened its policy scope to emphasize social sustainability, equity, and inclusive governance. Policies on employment and labor management, gender equality, non-discrimination, and anti-harassment were enacted to promote fair treatment, dignity, and equal opportunities for all members of the University community. Environmental commitments were reinforced through the revision of the marine pollution reduction policy and the update of the non-smoker protection policy to address newly legalized cannabis and the prohibition of electronic cigarettes.

In addition, regulations on public transportation and student vehicle usage were introduced to support sustainable mobility on campus. The University also revised maternity and paternity leave regulations to better support family well-being and work–life balance.

Through the continuous development and revision of these policies, WU has demonstrated a clear commitment to integrating sustainability into institutional governance. This evolving policy framework supports environmental protection, social equity, health and well-being, and responsible consumption, while ensuring that the University remains responsive to changing legal, social, and environmental contexts. Collectively, these policies serve as a critical mechanism for translating the University's sustainability vision into concrete action, contributing meaningfully to the achievement of the Sustainable Development Goals at local, national, and global levels.

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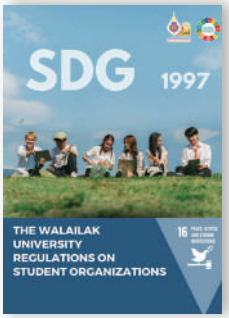

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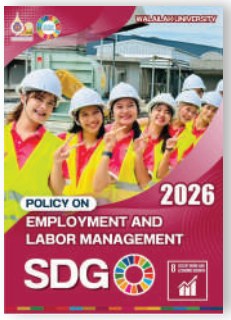

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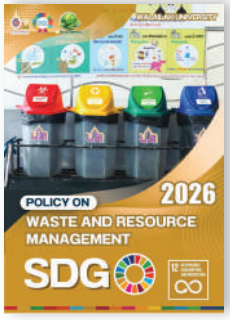

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INTEGRATING SUSTAINABILITY IN EDUCATION



Walailak University (WU) believes that education for sustainable development can offer an inclusive approach to supporting students' sustainability competencies, a crucial matter for the 21st century. It also creates the atmosphere of a culture of sustainability which enables students to develop knowledge, skills, and motivation to give precedence to sustainability.

One of WU's main missions is to create a new strategy to support the integration of the Sustainable Development Goals into all subjects.

Since 2022, WU has continuously integrated sustainability concepts into its education system. In that year, WU incorporated the Sustainable Development Goals (SDGs) into 2,199 courses, providing students with opportunities to develop knowledge and awareness of sustainability issues.

In the academic year 2023, WU further enhanced its curriculum by updating courses across the university to strengthen students' understanding of sustainable development. The revised curriculum emphasizes environmental conservation, sustainable use of natural resources and energy, waste and hazardous waste management, climate change, and international collaboration to address global challenges.





Through these ongoing efforts, WU aims to equip graduates with a comprehensive understanding of the SDGs, Thailand's 20-Year National Strategy, and the National Economic and Social Development Plan. WU continues to adopt a holistic approach to education, preparing graduates with the knowledge, skills, and responsibility needed to contribute to sustainable development and address emerging environmental and societal challenges.

In addition, learning in the classroom is not enough to raise awareness of the SDGs. WU encourages students to learn outside the classroom through outreach engagement projects. Education is more than the acquisition of knowledge. Thus, learning outside the classroom gives them the opportunity to learn and experience what problems society is facing, whether they are economic, environmental, or social. Moreover, it serves as a vehicle to develop the capacity to raise awareness of being a volunteer and create greater impacts for local, regional, national, and international communities.



WU MOOC is another mission of WU to provide lifelong learning for the public. It can be accessible by the general public for people to start creating a strong foundation for a knowledge-based society, regardless of race, ethnicity, skin color, religion, economic status, or other kinds of social diversity. WU also encourages the public to explore the endless possibilities of discovery, skills, and rewards, both professionally and personally.







Beyond on-campus learning, WU actively supports students in applying academic knowledge to address the Sustainable Development Goals (SDGs) within local communities, enabling them to gain practical, real-world experience. One key example is the Youth Power Initiative for Local Development (Aomsin Yuwaphat) supported by the Government Savings Bank (GSB), through which WU provides students with opportunities to design and implement development projects in close collaboration with local communities. In 2025, WU offered 2,982 courses across the campus, all aligned with the Sustainable Development Goals (SDGs), representing an increase of 115 courses compared to the previous year.



In 2025, the Tourism Development Initiative of Chai Mai Island received "The Best of the Best" Award in the final round of the Aomsin Yuwaphat Competition. The project focuses on developing eco-tourism routes, enhancing the community's image and marketing channels through digital media and online platforms, and strengthening community products and souvenirs. In addition, the initiative promotes community learning and implements a waste bank project, which plays a vital role in addressing marine waste management and supporting sustainable tourism development.





WALAILAK UNIVERSITY LAUNCHES SIRIN MUSEUM, SOUTHERN THAILAND'S LARGEST NATURAL HISTORY MUSEUM



Walailak University (WU) has marked a significant milestone in environmental education with the soft opening of the Maha Chakri Sirindhorn Natural History Museum, widely known as the SIRIN MUSEUM. Now recognized as the largest and most comprehensive natural history museum in Southern Thailand, the facility stands as a major center for learning, research, and biodiversity conservation.

The museum's name was graciously bestowed by Her Royal Highness Princess Maha Chakri Sirindhorn in 2021. Guided by the concept "Following the Path of the Conservationist Princess: From Mountain Peaks to the Deep Sea," the SIRIN MUSEUM is designed to serve as a premier hub for natural history education, showcasing Thailand's diverse ecosystems and rich biological heritage.



The museum comprises eight exhibition zones, offering visitors an immersive journey through interconnected ecosystems across the region. The exhibitions highlight the university's research and illustrate the ecological linkages from the peaks of Khao Luang Mountain, through the Pak Phanang River Basin, and onward to the Gulf of Thailand.

Beyond its academic mission, the SIRIN MUSEUM is a source of pride for the people of Nakhon Si Thammarat and the wider southern region. The facility enhances eco-tourism, supports lifelong learning, and elevates local natural heritage to international standards, reinforcing Walailak University's role as a leader in sustainable development and environmental stewardship. The total number of visitors in 2025 was 37,225.







WALAILAK UNIVERSITY DEVELOPS GREEN PUBLIC SPACES FOR SUSTAINABLE LEARNING, RECREATION, AND COMMUNITY ENGAGEMENT

Walailak University (WU) has continuously developed and maintained green spaces to promote environmental sustainability, public well-being, biodiversity conservation, and community engagement. Through the development of areas such as Walailak Botanic Park, Walailak Park, and the French Style Garden, the University provides accessible green areas that are open free of charge to students, staff, local communities, and visitors.



Walailak Park, completed during 2017–2018, is the largest university park in Thailand, covering approximately 100.79 acres. Located near the university entrance, the park serves as a green lung for recreation, health promotion, and environmental learning. The area includes cycling and jogging tracks, open spaces for outdoor activities, water bodies, landscaped areas, and natural habitats that support biodiversity. The park welcomes members of the University community, residents of Tha Sala District, and visitors seeking a peaceful environment for relaxation and social activities.



The Walailak Botanic Park functions as a sustainable cultural heritage and environmental learning hub, combining nature, culture, and community activities. The park includes various learning and recreational spaces, including themed gardens, cultural landmarks, and public facilities. The weekly "Bota Market Chic and Chill" event promotes the concept of "The Green Market for Communities" by providing opportunities for local entrepreneurs and small businesses to showcase and sell local products. The initiative supports local economic development, encourages community interaction, and strengthens social responsibility.



The French Style Garden, located near Walailak University Hospital, represents the integration of landscape design, art, and environmental conservation. Designed based on the formal garden concept of French landscape architecture, the garden provides a peaceful public space for relaxation, photography, outdoor learning, and creative activities. In addition to its aesthetic value, the garden contributes to environmental sustainability by functioning as a carbon sink area that supports improved air quality and reduces heat accumulation on campus.

Together, these green spaces demonstrate WU's commitment to sustainable campus development by integrating environmental conservation, education, cultural preservation, and community well-being. According to operational data from 2024, WU's public green spaces welcomed more than 45,000 visitors, with visitor satisfaction exceeding 90%, reflecting their importance as accessible spaces for learning, recreation, and sustainable living.

Through continuous assessment and improvement of its green infrastructure, WU promotes inclusive access to nature, supports biodiversity conservation, and advances the United Nations Sustainable Development Goals (SDGs), particularly SDG 3: Good Health and Well-being, SDG 4: Quality Education, SDG 11: Sustainable Cities and Communities, and SDG 15: Life on Land.

WALAILAK UNIVERSITY COLLABORATES ON VGOS RADIO TELESCOPE DEVELOPMENT TO ADVANCE ASTRONOMICAL RESEARCH AND INNOVATION

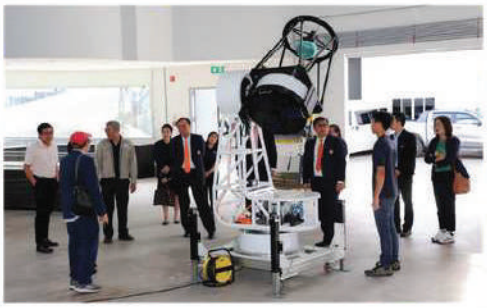


Walailak University (WU) has strengthened its commitment to advancing scientific research and innovation through collaboration with the National Astronomical Research Institute of Thailand (NARIT) on the development of the VLBI Global Observing System (VGOS) Radio Telescope in Nakhon Si Thammarat.

Through a Memorandum of Understanding (MoU) signed in 2024, WU and NARIT are working together to establish a 13-meter VGOS Radio Telescope facility, with support from the Shanghai Astronomical Observatory (SHAO), Chinese Academy of Sciences. WU provides the site for the telescope, while both institutions collaborate on construction, installation, testing, and future research activities.

The VGOS Radio Telescope will serve as an important scientific infrastructure for radio astronomy, geodesy, and related fields. The facility enables high-precision studies of the Earth's shape, movement, and physical characteristics, while providing valuable research data for teaching, research, and academic services at WU.







The collaboration also promotes knowledge and technology transfer between institutions, supporting the development of expertise in radio astronomy, engineering, signal processing, telescope operation, data analysis, and data science. Faculty members, researchers, and students at WU will gain opportunities to develop new skills, participate in scientific research, and contribute to international astronomy networks.

This partnership demonstrates WU's commitment to promoting research excellence, interdisciplinary innovation, and collaboration with leading scientific organizations. The initiative supports the United Nations Sustainable Development Goals (SDGs), particularly SDG 4: Quality Education, SDG 9: Industry, Innovation and Infrastructure, and SDG 17: Partnerships for the Goals, by strengthening scientific capacity and fostering knowledge exchange for sustainable development.



WALAILAK UNIVERSITY HOSTS WU SDG DAY 2025 TO SHOWCASE OUTSTANDING SDG PROJECTS



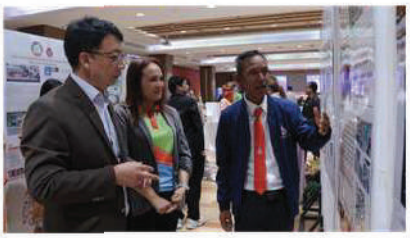
Walailak University (WU) organized WU SDG Day as a key platform to showcase outstanding projects dedicated to advancing the United Nations Sustainable Development Goals (SDGs) for the Financial Year 2025. The event served as a structured knowledge-sharing mechanism for faculty members involved in academic services for society aligned with the SDGs, ensuring that project implementation is closely linked to faculty workload frameworks and institutional performance indicators.

The event featured poster and oral presentations, during which WU researchers presented their projects and demonstrated their positive social, environmental, and economic impacts. To enhance the quality and strategic alignment of SDG initiatives, Walailak University invited three SDG experts with extensive experience in SDG-driven outreach projects to provide professional guidance, constructive feedback, and strategic recommendations for future SDG project development.









The results of the TOP 10 SDG PROJECTS 2025 competition, comprising 10 awards, are as follows:

1. Promoting Environmental STEM Learning Linked to Climate Change **(SDG 17)**
2. Women's Participation in Peacebuilding in the Southern Border Provinces **(SDG 17)**
3. Upgrading Herbal Products into Community Herbal Massage Oil **(SDG 3)**
4. Development and Promotion of Low-Carbon Tourism Activities in Coastal Communities of Nakhon Si Thammarat Province **(SDG 13)**
5. Learning from Sea Nomad Lifestyles to Promote Community Health in Ban Thong Kong Kang, Pak Phanang Subdistrict, Pak Phanang District, Nakhon Si Thammarat Province **(SDG 3)**
6. Enhancing Early Childhood Education Quality through the HighScope Curriculum: Year 5 **(SDG 4)**
7. Capacity Building for Farmers and Entrepreneurs to Support Festivals and the Sustainable Development of Tha Sala as a Creative Tourism City **(SDG 2)**
8. Enhancing and Restoring Physical Function through Physical Therapy Services in Communities Surrounding Tha Sala District **(SDG 3)**
9. Conservation of the Ubosot at Wat Daeng, Khao Phra Bat Subdistrict, Chian Yai District, through Public Participation **(SDG 11)**
10. Promoting Lifelong Learning and Local Cultural Storytelling Skills in Tha Sala Communities to Support Tourism and Community Lifestyles **(SDG 4)**



WU SDG Day reflects WU's continued commitment to embedding the SDGs across teaching, research, and community engagement. The event not only strengthens cross-faculty collaboration and institutional learning but also reinforces the University's role as a responsible higher education institution actively contributing to sustainable development in Thailand and beyond.

WALAILAK UNIVERSITY'S COMMITMENT TO CARBON NEUTRALITY BY 2030

Walailak University (WU) has declared its commitment to achieving carbon neutrality by 2030, reinforcing its leadership in sustainable development and green university transformation in Thailand. This commitment aligns with Thailand's National Net Zero Roadmap 2050 and the United Nations Sustainable Development Goal 13: Climate Action. Carbon neutrality is defined as balancing carbon dioxide emissions with carbon dioxide absorption to achieve net-zero emissions across university operations.



This declaration represents a transition from policy intention to concrete and measurable climate action. The university implements a comprehensive green university framework encompassing six key areas: expansion of green and forested spaces, increased use of renewable and low-carbon energy, effective waste management, proper wastewater treatment, promotion of sustainable mobility, and enhancement of environmental literacy among students and staff.

Renewable energy development is central to the university's emission reduction strategy. Investments include solar rooftop systems and a planned 6 MW floating solar project, alongside a waste incineration facility that generates electricity from heat recovery, reducing electricity demand and associated emissions. Digital initiatives, such as expanded paperless operations, further support emission reduction efforts.

In alignment with SDG 6 (Clean Water and Sanitation), the university strengthens water conservation practices through efficient water use, wastewater recycling systems, and continuous monitoring to ensure safe discharge and improved water quality. Supporting SDG 7 (Affordable and Clean Energy), these renewable energy investments enhance energy efficiency and increase the share of clean energy across campus operations. In contributing to SDG 11 (Sustainable Cities and Communities), the promotion of sustainable mobility, green infrastructure, and environmentally responsible campus planning fosters a more resilient and livable university environment. Furthermore, in line with SDG 12 (Responsible Consumption and Production), the university advances resource efficiency through integrated waste management systems, circular economy practices, and the reduction of single-use materials, reinforcing sustainable consumption behaviors among students and staff.



WU's Carbon Sink, covering more than 2,400,000 square meters, plays a significant role in carbon sequestration while enhancing biodiversity and ecosystem resilience. In addition, the university has received a Certificate of Registration from the Thailand Greenhouse Gas Management Organization (TGO) for its 2.54 MW Solar Rooftop Leasing Project under the Thailand Voluntary Emission Reduction Program, which is expected to reduce emissions by approximately 1,585 tCO_2eq per year.

To achieve carbon neutrality by 2030, the university follows four key approaches: reducing greenhouse gas emissions, enhancing carbon sequestration, integrating holistic carbon management, and fostering a low-carbon culture. Through transparent implementation and collaboration with government, private sector, academic, and community partners, WU contributes to Thailand's transition toward a low-carbon and climate-resilient society.

WALAILAK UNIVERSITY LAUNCHES "WALAILAK NAKHON SI SDG SERIES" TO ADVANCE SUSTAINABLE TOURISM, CULTURAL HERITAGE, AND COMMUNITY-BASED DEVELOPMENT IN NAKHON SI THAMMARAT

The Center for Academic Services has officially launched the Walailak Nakhon Si SDG Series, a strategic initiative designed to advance sustainable and creative tourism development while strengthening meaningful university–community engagement (social engagement) in Nakhon Si Thammarat Province under Walailak University's (WU) mission of regional development.






The program is implemented through the Holistic Area-Based Community Development (HAB) approach, which emphasizes integrated, participatory, and context-driven development. This approach connects academic knowledge, local wisdom, and stakeholder collaboration to enhance community capacity, improve quality of life, and promote sustainable local economies in a balanced and inclusive manner.



Key strategic initiatives under this program include:

Supporting the development and international recognition process of Wat Phra Mahathat Woramahawihan as a potential UNESCO World Heritage Site, highlighting its historical, cultural, and spiritual significance

Promoting Tha Wang City as a creative learning and cultural destination, serving as a living laboratory for architecture, heritage conservation, and urban cultural storytelling

Elevating Kiriwong mangosteen products into internationally competitive goods through value-added processing, branding, and market expansion

Strengthening community-based tourism networks by integrating local entrepreneurs, cultural assets, and sustainable tourism management systems

Enhancing knowledge transfer between the university and communities to support innovation, entrepreneurship, and sustainable livelihood development

This initiative is strongly aligned with the United Nations Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), and SDG 17 (Partnerships for the Goals). It also contributes indirectly to SDG 4 (Quality Education) through experiential learning and capacity building.

Through cross-sector collaboration between Walailak University, local government agencies, community networks, and private stakeholders, the Walailak Nakhon Si SDG Series aims to generate long-term and measurable impact. The program seeks not only to enhance the economic value of local resources but also to preserve cultural heritage, strengthen community identity, and foster resilience in the face of social, environmental, and economic change, ultimately positioning Nakhon Si Thammarat as a model province for sustainable and creative development in Thailand.

WALAILAK UNIVERSITY'S BLUE SWIMMING CRAB BANK INITIATIVE EARNS NATIONAL RECOGNITION AND REGIONAL DISTINCTION



Walailak University (WU) has received both national and regional recognition for its Blue Swimming Crab Bank Initiative, reaffirming its commitment to sustainable marine resource management and community-driven development. The initiative, developed by Asst. Prof. Dr. Amonsak Sawusdee, was honored by the National Research Council of Thailand with the 2025 National Research Awards in the categories of Research and Innovation for Utilization and the Government Excellence Award, presented at the NRCT Forum 2025.

Recognized as a practical and sustainable model for coastal and marine resource management, the initiative has become a key driver of the blue economy, directly benefiting local fishing communities. It has fostered strong multi-sectoral collaboration among communities, government agencies, private sector partners, and non-governmental organizations, leading to the establishment of 62 Blue Swimming Crab Banks along the coastlines of Surat Thani and Nakhon Si Thammarat.





The initiative adopts a community-based and practice-oriented approach, focusing on the collection and nurturing of egg-bearing female crabs. Annually, no fewer than 60,000 brood crabs are conserved, resulting in the release of over 3.8 billion juvenile crabs back into Thailand's marine ecosystem. This has led to a significant increase in crab catches, from approximately 5 kilograms to 10–15 kilograms per boat per day, strengthening both livelihoods and marine resource sustainability.

Building on its success, the initiative has expanded beyond conservation into low-carbon fisheries-based tourism, value-added seafood marketing, and continuous knowledge transfer and awareness-raising activities, further enhancing community resilience and sustainable economic opportunities.

At the regional level, WU was named one of the top eight finalists in the Times Higher Education Awards Asia 2025 under the category Outstanding Contribution to Regional Development. The recognition highlights the University's Restoration of Blue Swimming Crab Population Project, a flagship initiative addressing marine resource depletion while promoting sustainable fisheries and improving coastal livelihoods.

Since its implementation in 2017, the project has significantly improved fisheries management standards, elevating the Blue Swimming Crab fishery rating from C-level to A-level within one year, a status that has been consistently maintained. The initiative has also delivered measurable socio-economic benefits, increasing average daily catches to 15 kilograms per boat and raising annual fisher income from 160,000 Baht to 337,500 Baht per boat.

Although not selected as the final award recipient, being shortlisted among more than 500 entries across Asia reflects the project's strong regional impact and recognition. The initiative's proven success has encouraged replication in other coastal areas and inspired the expansion of conservation efforts to additional economically important aquatic species.

Through this initiative, WU continues to advance the Sustainable Development Goals by integrating research, community engagement, and evidence-based practices. These achievements reinforce WU's role as a leader in sustainable development, demonstrating how locally grounded innovations can generate lasting environmental, social, and economic impact at both national and regional levels.

WALAILAK UNIVERSITY RECOGNIZED WITH TWO GLOBAL GOOD GOVERNANCE (3G) AWARDS 2026

In 2026, Walailak University (WU) received two prestigious honors at the 11th Global Good Governance (3G) Awards: the 3G Excellence Award for Green Campus in Thailand 2026 and the 3G Impact Award for Sustainable Development 2026. These awards recognize organizations that demonstrate excellence in sustainability, good governance, transparency, and social responsibility.

The Green Campus Award reflects WU's continuous efforts to promote environmentally responsible operations. The University has implemented various initiatives, including the expansion of solar energy systems, waste segregation and recycling programs, biodiversity conservation areas, green campus development, sustainable transportation systems, and environmental awareness campaigns for students and staff.

The Sustainable Development Award recognizes the University's contributions beyond campus through research, innovation, and community engagement. Through academic services and community-based projects, such as the Blue Swimming Crab Bank initiative, WU applies knowledge and technology to strengthen local livelihoods, protect natural resources, and support sustainable community development.



These achievements demonstrate WU's commitment to advancing the United Nations Sustainable Development Goals (SDGs), particularly through responsible institutional management, environmental conservation, sustainable resource use, and partnerships with local communities. The University continues to promote sustainability through its "WU Happy Tree Model," which integrates economic, social, and environmental development to create long-term positive impacts at regional and national levels.



1 NO POVERTY



1. INCLUSIVE SUPPORT FOR LOW-INCOME STUDENTS
2. LOCAL CHEF: SUPPORTING LOCAL START-UPS FOR SUSTAINABILITY CAREERS
3. EMPOWERING LOCAL MANGOSTEEN START-UPS THROUGH SMART FARMING
4. SUPPORTING FISHER COMMUNITY START-UPS THROUGH CAPACITY BUILDING
5. FINANCIAL SUPPORT FOR SUSTAINABLE LOCAL START-UPS

1 NO POVERTY

SDG 1 : NO POVERTY

INCLUSIVE SUPPORT FOR LOW-INCOME STUDENTS



Higher education plays an important role in promoting social mobility and reducing inequality by providing individuals with opportunities to improve their knowledge, skills, and future prospects. However, students from low-income households and disadvantaged backgrounds may face financial barriers that affect their ability to access, participate in, and successfully complete higher education. Therefore, universities have a responsibility to create an inclusive and supportive learning environment in which financial circumstances do not prevent students from pursuing their education. This requires universities to diagnose the specific needs and barriers faced by disadvantaged students and provide appropriate support.

The Division of Student Support and Development (DSSD) was established at the foundation of the University to specifically support disadvantaged students. The division provides scholarships, guidance, and other essential resources to address students' needs, ensuring that their academic journey is smooth, inclusive, and fulfilling, supporting for both Thai students and international students from developing countries, as outlined below:

Scholarships

WU provides general scholarships for undergraduate students, offering financial assistance tailored to individual needs. These scholarships aim to reduce financial barriers and support students in successfully completing their studies.



WU also offers tuition waiver schemes to reduce or eliminate tuition fees. In 2025, first-year students received detailed briefings on how to maintain their tuition-free status.

Tuition Waiver Scholarships

The University adopts a proactive approach to identifying and supporting students in need through interviews during the admissions process, ongoing monitoring by faculty advisors, and support request systems available both online and offline.

Tuition Waiver Scholarships

In addition, each school of WU provides scholarships to students from low-income backgrounds as supplementary financial support, helping to reduce economic barriers and enable them to complete their studies successfully.





Work-Study Opportunities

Recognizing the importance of financial independence, the University offers structured work-study programs that allow students to work up to 100 hours per semester, earning 30 baht per hour. This initiative not only helps students manage their living expenses but also equips them with practical skills, work experience, and a sense of responsibility that supports their future career development.

Awards for Excellence

WU actively promotes academic and extracurricular excellence through a range of recognition schemes:

Top Academic Achievers: Students ranked within the top 5% of their courses receive formal recognition each semester, encouraging continuous academic performance.

Sports Scholarships: Outstanding student-athletes representing the University are granted tuition and housing fee waivers, supporting both their education and athletic development.

Housing and Meals

For students demonstrating exceptional academic or athletic performance, scholarships may be extended to cover accommodation and meal expenses. These provisions help reduce the cost of living and ensure that students can focus on their studies and personal development. In addition, income earned through work-study programs further supports students in managing their daily expenses.

Additional Support for Low-Income Students

To further strengthen inclusive support, WU provides a range of essential services aimed at enhancing student well-being and reducing financial stress:

Food Assistance: Meal plans and targeted food support programs ensure students have consistent access to nutritious meals.

Housing Assistance: Affordable and subsidized on-campus accommodation is provided for students in need.

Transportation Assistance: Free on-campus transportation and additional financial support help reduce commuting costs.



Legal Services: Free legal consultation and assistance are available to help students address legal concerns and protect their rights.

In 2025, a total of 1,125 students received scholarships valued at 73,496,950 baht, demonstrating WU's strong and sustained institutional commitment to supporting students from disadvantaged backgrounds. Among them, 40 students from low-income, lower-middle-income, and developing countries received support, including students from Myanmar, Pakistan, Afghanistan, Indonesia, Kazakhstan, Bangladesh, Vietnam, the Philippines, Ukraine, Belarus, and Azerbaijan.

To further strengthen inclusive support, WU provides essential services aimed at reducing barriers to higher education. Approximately 85% of students benefit from support measures that help address financial barriers to studying, with the extent of support measured through financial assistance and academic, welfare, employment, housing, food, transportation, and legal support. Through these integrated mechanisms, WU promotes an inclusive and equitable learning environment where financial circumstances do not prevent students from accessing, participating in, and completing higher education.

LOCAL CHEF: SUPPORTING LOCAL START-UPS FOR SUSTAINABILITY CAREERS



Local start-up business operators play an important role in creating employment, generating household income, preserving local culture, and strengthening regional economies. However, many local entrepreneurs face challenges in accessing professional knowledge, technology, business management expertise, and markets needed to improve their competitiveness and long-term sustainability. As institutions of knowledge and innovation, universities have an important role in diagnosing the specific challenges and needs of local entrepreneurs and providing targeted support based on these assessments, while sharing their expertise with local communities and transforming academic knowledge into practical solutions. Supporting local enterprises therefore enables universities to contribute directly to inclusive economic development, strengthen community resilience, and promote sustainable livelihoods beyond the university campus.

In 2025, WU collaborated with the Department of Industrial Promotion and the Thailand Creative Culture Agency to implement the Local Chef Restaurant Initiative. This initiative aimed to empower local restaurant entrepreneurs and promote a sustainable grassroots economy in Southern Thailand. A total of 22 OTOP local restaurant businesses across the region participated, all of which operate with a focus on sustainability and community-based development.

The initiative provided a series of training and mentorship programs, enabling participants to leverage WU's academic resources and expertise. Key topics included creative menu development for value addition, food cost calculation and pricing strategies, culinary innovation and ingredient utilization, food safety standards and hygiene practices, food photography, kitchen management, SAN and SAN Plus certification processes, as well as marketing, branding, and storytelling strategies. Importantly, each participating restaurant was guided in developing unique signature menus to enhance its identity and market competitiveness.





The impact assessment demonstrated significant outcomes. All participating restaurants reported income growth exceeding 10%, reflecting improved business performance and resilience. The initiative generated an immediate economic impact of approximately 52,946,616 baht on the grassroots economy, with projected long-term benefits exceeding 158,839,848 baht over the following three years. Beyond financial gains, the initiative strengthened local capacity, preserved culinary heritage, and fostered sustainable community development.

EMPOWERING LOCAL MANGOSTEEN START-UPS THROUGH SMART FARMING

For many years, local mangosteen start-ups in Wang Ang Subdistrict, Cha-uat District, Nakhon Si Thammarat Province, have embraced sustainable agricultural practices by minimizing the use of chemical inputs and promoting organic fertilizers developed from local wisdom. These efforts have reflected the community's commitment to environmentally friendly farming while preserving the quality of one of southern Thailand's most renowned fruits.



Despite their dedication to sustainable agriculture, the local farmers continued to face significant challenges. A diagnostic assessment was conducted to identify the underlying soil and crop health problems affecting mangosteen production. The assessment identified several key challenges, including soil degradation, increased soil acidity, reduced water retention capacity, and soil compaction resulting from years of intensive chemical fertilizer use. These conditions weakened mangosteen trees, contributing to leaf spot and leaf curl diseases, while also reducing fruit size and quality. As a result, many mangosteens failed to meet export standards, limiting farmers' income and market opportunities.

Recognizing these challenges, WU launched an outreach project titled “Empowering Learning Innovator in Cha-uat Mangosteen Community for Export Quality Produce”, to support local mangosteen start-ups. Through education, hands-on training workshops, and access to the University's expertise, laboratories, and research facilities, the project introduced practical and science-based solutions that could be readily adopted by the community.

One of the project's key innovations was the development of an organic fertilizer produced from mangosteen waste, enabling farmers to recycle agricultural by-products into nutrient-rich fertilizer. Applied after harvesting and during the following four weeks, the fertilizer helps restore soil fertility, improve tree health, and reduce dependence on commercial chemical fertilizers, thereby lowering production costs while improving long-term soil sustainability.

To further promote a circular economy, WU introduced knowledge on producing biochar from mangosteen shell residues. Instead of being discarded as agricultural waste, the shells are transformed into valuable biochar that can be used in various value-added products, including biochar soap. Approximately 200 kilograms of mangosteen shell residues can be processed into raw materials for the production of around 12,000 bars of biochar soap, each valued at approximately 120 baht, creating an estimated annual income of 1.44 million baht.

To strengthen climate-smart agriculture, WU also installed NB-IoT Environmental Monitoring Stations in local farming areas at no cost to the community. These smart monitoring stations continuously collect real-time environmental data, including temperature, humidity, rainfall, and other relevant environmental conditions. The information enables farmers to make



informed decisions on irrigation, fertilization, disease prevention, and harvest planning, improving productivity while reducing risks associated with changing weather conditions.

To recognize the project's outstanding impact and ensure its continued expansion, in 2025 the outreach initiative received the "Excellence Communal Innovation" Award from the Ministry of Higher Education, Science, Research and Innovation (MHESI) at the Meeting and Exhibition of Thailand's Community Mobilization. The award highlights the project's success in translating



Through the integration of scientific research, sustainable agricultural practices, circular economy principles, and smart farming technologies, Walailak University has empowered local mangosteen start-ups to enhance productivity, reduce production costs, minimize environmental impacts, and generate additional income from agricultural by-products.

SUPPORTING FISHER COMMUNITY START-UPS THROUGH CAPACITY BUILDING



Local community-based fishery start-ups in the Ban Nai Thung Community have significant potential to support local livelihoods and food security, but community entrepreneurs have faced challenges in financial management, accounting, production cost calculation, product development, and business management. Limited access to systematic financial information and business knowledge can make it difficult for local producers to accurately assess production costs, control expenses, determine appropriate pricing, and make informed decisions for business development. Recognizing these challenges, WU conducted a diagnostic assessment of the community's financial and business management needs to identify key areas requiring support and to develop appropriate capacity-building activities.

WU supported the sustainable development of the Ban Nai Thung Community through academic outreach and capacity-building activities aimed at strengthening and assisting local community-based fishery start-ups. The initiative aimed to develop standards for coastal fishery products. The University worked closely with community members to enhance their knowledge and practical skills in financial management, accounting, product development, packaging design, online marketing, and business management.



These efforts aimed to build a strong community-based economic model that enabled local residents to improve their livelihoods while promoting the sustainable use of coastal resources.

The initiative began with a preparatory meeting involving relevant stakeholders to assess the community's existing financial and accounting practices and identify areas for improvement. The discussion focused on practical aspects of enterprise accounting, including collecting and recording financial information, classifying income and expenses, and calculating production costs.





WU subsequently conducted training activities in the community to provide knowledge, skills, and technologies relevant to local start-ups. The training covered product development, packaging design, online marketing, business management, and financial and enterprise accounting. In packaging design, community members learned how to develop or improve packaging by considering functionality, aesthetics, affordability, and the use of locally appropriate materials. The training also emphasized creating a distinctive community identity through packaging while ensuring that the designs could be produced using simple processes and low-cost materials.

Community members were introduced to accounting practices through digital applications, which supported the development of modern entrepreneurial skills.



The University also organized training workshops and mentoring programs on production cost calculation for seafood products in the Ban Nai Thung Community. Participants practiced recording and classifying revenues and expenses and calculating the actual production costs of their products. By working with real business data, they were able to better understand their cost structures, identify opportunities to reduce unnecessary expenses, and improve the efficiency and profitability of their enterprises.

Through these activities, WU integrated academic knowledge with practical community needs. The initiative promoted sustainable livelihoods, food security, responsible resource management, and sustainable coastal fisheries. The initiative also equipped local residents with skills in financial literacy, business management, product development, and marketing that could be directly applied to their livelihoods and community enterprises. The impact was measured by a 45% reduction in the cost of capital after participants applied the knowledge gained through the training.

FINANCIAL SUPPORT FOR SUSTAINABLE LOCAL START-UPS



Local start-ups and innovation-driven businesses play an important role in strengthening regional economies, creating employment, and addressing social and environmental challenges. However, many emerging businesses face difficulties in accessing sufficient financial resources to develop innovative products and services, adopt new technologies, and expand their markets. Conducting diagnostic assessments to identify the specific financial, technological, and business development needs of local start-ups, together with providing targeted financial assistance and technical support, is therefore essential to help local start-ups transform innovative ideas into financially viable and socially sustainable businesses.

In 2025, WU provided financial assistance to local start-ups through the Market Expansion Project for Innovation Businesses in the Southern Economic Corridor (SEC), with a total funding allocation of more than 15 million baht, with support from the National Innovation Agency (Public Organization) under the Strategic Innovation Mechanism for driving the expansion of innovation businesses in the Southern Economic Corridor. The project aimed to strengthen innovation-driven enterprises in Chumphon, Ranong, Surat Thani, and Nakhon Si Thammarat, while assessing the economic and social impacts generated by the supported innovation projects.

Through the project, 12 innovation projects received financial support, with a combined funding value of 15 million baht and a total project investment value of 27,135,122.50 baht. The initiative focuses on two key sectors: agriculture and food industries, and tourism and wellness industries. By providing financial resources alongside access to academic expertise, technology, and professional knowledge, WU aims to help local start-ups strengthen their capabilities, develop innovative solutions, and expand their businesses.



The supported projects cover a diverse range of innovations responding to local economic and sustainability needs. These include an energy-efficient hot water and air-conditioning system for the tourism industry, supported with 1,485,561.25 baht; an automated cocoa bean roasting service using AI technology, supported with 1,200,000 baht; and a comprehensive plant-based protein food service for healthy food businesses, supported with 952,000 baht. A project developing electric boats for low-carbon tourism received 1,500,000 baht, while a system for monitoring hygiene, safety, and environmental standards for wellness tourism businesses received 1,500,000 baht.



Other supported innovations include an AI-powered oil palm grading platform, which received 1,000,000 baht in funding; the development of Trichoderma technology for safe agriculture, supported with 1,460,000 baht; and an advertising and service platform for tourism and MICE businesses, supported with 1,500,000 baht. The project also supported microwave technology services for drying food and agricultural products with 900,000 baht, a high-protein meal replacement program for weight management with 1,400,000 baht, a virtual tourism platform using Virtual Reality (VR) and Augmented Reality (AR) technologies with 1,000,000 baht, and a smart-farm system for managing off-season mangosteen production with 1,100,000 baht.

The initiative also promoted collaboration between local start-ups, experts, and WU as a regional knowledge institution. This collaboration enabled businesses to access academic knowledge, technological expertise, and innovation support while allowing the University to apply its research and expertise to real-world economic and community needs. Such partnerships contributed to strengthening the local innovation ecosystem and created opportunities for businesses to develop solutions that responded to regional challenges.

The impact of the financial assistance was measured by the extent to which local start-ups improved their competitiveness, expanded their markets, adopted appropriate technologies, and developed new products and services. At the same time, innovations in energy efficiency, low-carbon tourism, safe agriculture, food technology, and digital tourism contributed to broader social and environmental benefits. By connecting financial support with knowledge, innovation, and local expertise, The university created an enabling environment for start-ups to grow while contributing to a more resilient and sustainable regional economy.

2 ZERO HUNGER



1. FOOD INSECURITY: FOOD ASSISTANCE PROGRAMME AND INTERVENTION FOR STUDENTS
2. FREE ACCESS TO UNIVERSITY FACILITIES: LABORATORIES, TECHNOLOGIES AND PLANT STOCKS FOR LOCAL COMMUNITIES
3. SUSTAINABLE AGRICULTURE AND AQUACULTURE: PROMOTING ACCESS TO FOOD SECURITY KNOLEDGE, SKILLS, AND TECHNOLOGY
4. KNOWLEDGE EXCHANGE AND TRANSFER: THE EVENTS FOR LOCAL FARMERS AND FOOD PRODUCERS
5. TRICHODERMA NST-009: A BIOLOGICAL INNOVATION FOR FOOD SECURITY AND SUSTAINABLE AGRICULTURE

SDG 2 : ZERO HUNGER

FOOD INSECURITY: FOOD ASSISTANCE PROGRAMME AND INTERVENTION FOR STUDENTS



Access to adequate and nutritious food is essential for students' learning, health, and overall well-being. However, WU students come from diverse socioeconomic backgrounds, and some experience food insecurity, placing them at risk of hunger and inadequate nutrition. Such challenges can negatively affect concentration, and academic performance. To address these issues, the university has diagnosed students' needs and developed a comprehensive support system that combines both preventive measures and short-term and long-term hunger relief initiatives.

The university has a programme in place on students' food insecurity and hunger, which is the Free Meal Grants Program, implemented by the Center of Property Management (CPM) in collaboration with food vendors in the university. The programme provides nutritious main meals to students facing financial hardship through a structured referral and screening system coordinated by CPM, the Guidance and Scholarship Office, academic advisors, and student residence units. This integrated approach ensures that assistance reaches students with genuine financial need.

In 2025, more than 32 university food vendors participated in the programme, providing meal support to 96 students, including 40 newly enrolled beneficiaries and 56 continuing recipients. In addition, two participating food vendors committed to providing free meals to four students until graduation. The total value of the students' food insecurity and hunger programme is approximately THB 360,000 per year.





Beyond regular food assistance programmes, the university also provides student hunger interventions to prevent and alleviate hunger among students by implementing targeted support measures during periods when students have the greatest need through the "Reading Good, Eating Food" Campaign, providing free snacks and beverages during the final examination period to help students maintain their energy levels and concentration while preparing for exams, which achieved an average satisfaction score of 4.77 out of 5 (95.40%).

The results demonstrate that the university has established concrete mechanisms and measures to prevent and alleviate student food insecurity and hunger, helping them to improve access to nutritious food.

FREE ACCESS TO UNIVERSITY FACILITIES: LABORATORIES, TECHNOLOGIES AND PLANT STOCKS FOR LOCAL COMMUNITIES



WU is committed to supporting local farmers and food producers by making its knowledge, research infrastructure, technologies, and plant stocks accessible to the local community free of charge, aiming to strengthen local agricultural and food production, improve sustainable farming practices, develop value-added products, and promote the efficient use of agricultural resources.

Through its academic and research facilities, the university provides local farmers, food producers, and community entrepreneurs with opportunities to access laboratories, agricultural and food-processing technologies, and plant stocks. These resources enable local producers to apply scientific knowledge and appropriate technologies to improve production processes, develop new products, and enhance the value of local agricultural products.

Free Access to University Laboratories

WU provides local farmers and food producers with free access to relevant laboratory facilities and technical resources that support agricultural production, food processing, and product development. The facilities include a Plant Tissue Culture Laboratory, Culinary Laboratory, Black Soldier Fly Larvae (BSFL) Laboratory, Food Processing Laboratory, and Aquaculture Laboratory.





These laboratories provide opportunities to learn from and utilize university facilities in developing their agricultural and food-production activities. Access to laboratory infrastructure is particularly important for small-scale farmers and local food producers who may otherwise face financial and technical limitations in accessing specialized facilities.



The Plant Tissue Culture Laboratory supports the propagation and development of plant materials, while the Culinary Laboratory and Food Processing Laboratory provide resources relevant to food preparation, processing, and product development. The Black Soldier Fly Larvae Laboratory supports the application of alternative biological resources in agricultural systems, while the Aquaculture Laboratory provides knowledge and resources relevant to aquatic animal production.

Free Access to Agricultural and Food-Production Technologies

In addition to laboratory facilities, WU makes relevant technologies and technical knowledge available to local farmers and food producers free of charge. These technologies are designed to improve production efficiency, reduce waste, utilize agricultural resources more effectively, and increase the value of local products.



One example is the technology for managing pig manure through biogas production. This approach enables agricultural waste from pig farming to be converted into biogas. Another example is the value addition of indigenous rice through processing into food products and food ingredients. This approach enables local farmers to move beyond the sale of agricultural commodities as raw materials and explore opportunities to develop processed food products and ingredients. Such value-added processing can increase the economic value of local rice varieties, diversify sources of income, and strengthen local food-production systems.



Through these activities, the university connects academic knowledge and technological expertise with the practical needs of farmers and local food producers, supporting the transition toward more efficient and sustainable agricultural and food-production practices.

Free Access to Plant Stock and Plant-Based Learning Resources

WU also provides local farmers and food producers with access to plant stock and learning resources related to food-producing plants. These resources include plant tissue culture, food-plant learning resources at the Smart Farm, the Walailak University Botanic Park, and the Kla Dee initiative.

These resources provide opportunities for local farmers and food producers to learn about food-producing plants, plant propagation, plant resources, and appropriate approaches to utilizing plant-based resources for agricultural production.



The university's plant tissue culture resources support the propagation of plants and the development of planting materials, while the Smart Farm and Botanic Park provide learning environments where community members can explore and learn about edible and food-producing plants. These resources help connect plant knowledge with practical agricultural applications and provide opportunities for local producers to explore suitable plant resources for their production activities.

SUSTAINABLE AGRICULTURE AND AQUACULTURE: PROMOTING ACCESS TO FOOD SECURITY KNOLEDGE, SKILLS, AND TECHNOLOGY



WU is committed to strengthening local food security by making academic knowledge, practical skills, and appropriate technologies accessible to local farmers and food producers. Through Social Engagement Projects and academic outreach services, the university transfers knowledge, skills and technologies related to sustainable agriculture, livestock production, sustainable aquaculture, food processing, and coastal resource management. These initiatives enable farmers and local communities to apply knowledge and technologies in real-world settings, reduce production costs, improve productivity, increase income, and manage natural resources responsibly.

Sustainable Agriculture: Transferring Knowledge from Upstream Production to Downstream Food Processing

A key example of the university's contribution to sustainable agriculture is the Project for Development of Swine Production and Farm Management System to Create Career Security. The project provides local farmers and food producers with integrated knowledge, practical skills, and technologies covering the entire pig production value chain–from upstream production to downstream processing. The project develops an approach covering the upstream, midstream, and downstream stages of the value chain.





At the upstream level, the university provides knowledge and technology on pig genetics, high-quality semen production, alternative feed ingredients such as black soldier fly larvae to reduce feed costs, and farm biosecurity to improve reproductive efficiency, production performance, and livestock health.

At the midstream level, farmers are supported in establishing a community enterprise to strengthen collective production, bargaining power, and market management, while biogas technology converts pig manure into renewable energy, reducing waste and dependence on conventional energy sources. At the downstream level, farmers develop skills in food processing and product innovation, such as producing crispy pork and fermented pork, enabling them to add value to agricultural products, generate additional income, and strengthen the local food value chain.



Sustainable Aquaculture: Providing Knowledge, Skills, and Technology for Sustainable Aquaculture



WU also promotes sustainable aquaculture by providing local farmers with access to practical knowledge, skills, and appropriate aquaculture technologies. Through academic outreach activities, WU transfers technical knowledge and practical techniques to farmers in Nakhon Si Thammarat Province. The activities emphasize hands-on learning in real production environments. Farmers have opportunities to visit and learn directly from aquaculture ponds and a disease quarantine facility for shrimp broodstock, enabling farmers to gain practical understanding of aquaculture management, broodstock management, disease prevention, and risk control–key factors in improving production efficiency and maintaining sustainable aquaculture systems.



Walailak University supports farmers not only by providing theoretical information but also by developing practical capabilities that can be directly applied to their occupations. The initiative forms part of the University's commitment to serving society through academic knowledge, strengthening local livelihoods, building community capacity, and promoting the long-term sustainability of the agricultural sector.

Connecting University Knowledge with Local Food Security

In addition to supporting farm-based food production, WU strengthens food security through the sustainable restoration and management of local aquatic resources. Through the community-based Crab Bank Project, the University promotes sustainable aquatic production and ecosystem restoration by establishing a mussel cultivation demonstration area using 1,000 bamboo poles, with an expected production of up to 3,000 kilograms.



The project also establishes a mud crab broodstock bank and no-catch zones in mangrove areas, with more than 300 female broodstock released to support natural reproduction and the recovery of aquatic populations. In parallel, biodiversity surveys and ongoing monitoring of hard clams and other aquatic species provide evidence for improving conservation and resource management. By integrating sustainable food production, biodiversity conservation, and community participation, the project helps maintain healthy aquatic ecosystems, secure long-term sources of local food, and support the livelihoods of coastal communities.

KNOWLEDGE EXCHANGE AND TRANSFER: THE EVENTS FOR LOCAL FARMERS AND FOOD PRODUCERS

Local farmers and food producers possess valuable knowledge developed through years of practical experience. However, such knowledge can be strengthened and sustained when it is shared and exchanged with other farmers, food producers, academic experts, government agencies, and relevant organizations, each of whom contributes different experiences and specialized knowledge. Recognizing the importance of knowledge exchange in strengthening local food systems and sustainable agriculture, WU established free events for local farmers and food producers to connect, exchange experiences, and transfer practical knowledge, technologies, and innovations. These activities engaged participants to learn from both academic knowledge and the practical experiences of local producers, with the knowledge gained being applicable to agricultural production, food processing, product quality improvement, cost reduction, and value creation.

Walailak Nakhon Si SDG Series: "Mangosteen Does Not Need to Be Graded"



Walailak University, in collaboration with the Nakhon Si Thammarat Provincial Agriculture Office and local agricultural networks, including the Chairperson of the Community Enterprise and Agro-Tourism Network, the Chairperson of the Cha Uat-Poolpol Mangosteen Group, and the Chairperson of the Kiriwong Natural Dye Group (Kiree), organized the "WALAILAK Nakhon Si SDG SERIES" forum under the theme "Mangosteen Does Not Need to Be Graded" on September 5, 2025, at Boon Nakhon, Nakhon Si Thammarat. The event provided a platform for local farmers, academics, government agencies, and community entrepreneurs in Nakhon Si Thammarat to connect, exchange experiences, and transfer agricultural knowledge, technologies, and innovations for practical application. The event presented approaches to improving production efficiency, reducing costs, and creating added value from mangosteen of all grades, including utilizing by-products such as mangosteen peels. It also provided an opportunity to exchange experiences with the Large-Scale Mangosteen Farmers' Group in Cha-uat District, helping strengthen farmers' capacity, improve product standards, and enhance their ability to respond to market demand. The event demonstrated the university's role as a platform for connecting and transfering knowledge between academia and local communities, integrating research and innovation with farmers' experiences and local needs to address agricultural challenges and contribute to sustainable grassroots economic development.



Knowledge Linkage and Transfer Event for the Development of Halal Entrepreneurs in Nakhon Si Thammarat



Walailak University, together with academic networks and religious organizations, organized the "Capacity Development for Halal Entrepreneurs in Nakhon Si Thammarat" activity as a platform for connecting and transferring knowledge between academic personnel, religious organizations, and local entrepreneurs. The event focused on knowledge exchange in Halal science, technology, food safety, and innovation, with participants gaining knowledge on the application of the HAL-Q management system, H Numbers databases, Halal Blockchain technology, and Artificial Intelligence (AI) to improve production standards, ingredient verification, transparency, traceability, and consumer confidence. The knowledge exchange also extended to the development of Halal Routes, integrating safe food sources, prayer facilities, and local cultural experiences to create opportunities for community-based tourism and local food businesses. The knowledge transferred through the academic and community networks was subsequently applied through field implementation, contributing to the development of a Halal-standard production facility for the Ban Nai Thung women's group and supporting the achievement of the Green Flag Fisheries Food Safety Standard. These outcomes demonstrate how knowledge exchanged through the university's platform could be translated into practical improvements in local production, food safety, business standards, and competitiveness.

Walailak Agriculture Event: "The Science and Art of Southern Mangosteen"



WU organized an agricultural knowledge-transfering event under the theme "How to Manage Mangosteen Orchards Profitably Amid Crisis." The event brought together academics, government, local farmers and food producers to exchange knowledge and practical experiences on orchard management, cost reduction, productivity improvement, and responses to current agricultural challenges. The event connected academic knowledge with practical farming experience, while promoting collaboration and knowledge transfer between the WU and local communities .

Through these events, Walailak University provided platforms for local farmers and food producers to connect, exchange experiences, and transfer knowledge with academic experts, government agencies, community enterprises, religious organizations, and other producers. The knowledge exchanged covered sustainable agricultural practices, biological pest control, production cost reduction, agricultural waste utilization, AI-assisted product quality assessment, food safety, Halal standards, blockchain-based traceability, agricultural processing, value addition, product development, and market competitiveness. Importantly, the activities supported two-way knowledge exchange, in which academic and technological knowledge was transferred to local farmers and food producers while the practical experience and local knowledge of farmers and community producers were also shared with other participants. This process helped transform individual experiences into shared knowledge that could be adapted and applied to strengthen local agricultural and food-production communities.

TRICHODERMA NST-009: A BIOLOGICAL INNOVATION FOR FOOD SECURITY AND SUSTAINABLE AGRICULTURE

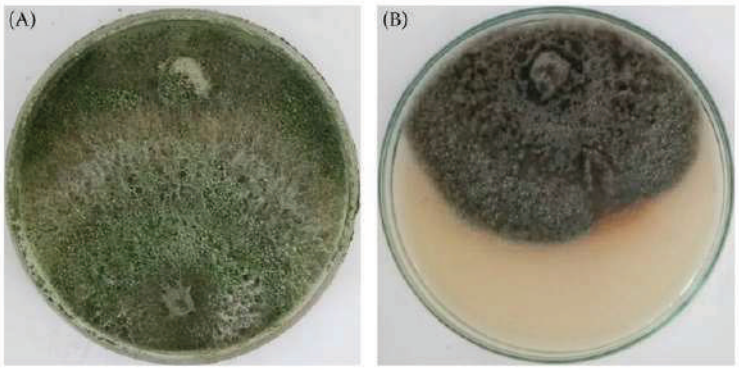


Walailak University has developed "Trichoderma NST-009," a biological innovation for controlling leaf spot disease in hydroponically grown lettuce. This innovation offers an alternative approach to plant disease management that can help increase crop productivity, reduce reliance on chemical pesticides, and promote safer and more sustainable food production, directly supporting Sustainable Development Goal 2 (SDG 2): Zero Hunger.



Lettuce, particularly Green Oak lettuce, has become increasingly popular in response to growing consumer demand for healthy and nutritious fresh vegetables. Hydroponic cultivation, especially the Nutrient Film Technique (NFT), is an important agricultural technology that enables growers to manage growing conditions and resource use more efficiently. However, plant diseases remain a major challenge to both the quantity and quality of agricultural production.

One significant disease affecting lettuce is leaf spot disease caused by the fungus Cercospora lactucae-sativae. Although chemical pesticides are commonly used to control plant diseases, continuous reliance on chemical treatments may result in pesticide residues in food, environmental impacts, and the development of pesticide-resistant pathogens. The development of effective and safe biological technologies is therefore important for creating more sustainable food production systems.



To address this challenge, Walailak University has developed and investigated the potential of Trichoderma strain NST-009, a local fungal strain originating from Nakhon Si Thammarat Province. The strain has been studied as a biological control agent for suppressing plant pathogens and promoting the growth of lettuce cultivated in hydroponic systems. The innovation demonstrates how scientific knowledge, biotechnology, and local biological resources can be applied to address practical challenges in food production. By providing farmers with an alternative approach to plant disease management, NST-009 has the potential to reduce dependence on agricultural inputs that may negatively affect the environment while supporting the production of higher-quality and safer vegetables.

Studies using scanning electron microscopy (SEM) demonstrated that Trichoderma NST-009 can control the fungal pathogen responsible for leaf spot disease through several biological mechanisms. Through mycoparasitism, Trichoderma grows around and penetrates the hyphae of the pathogenic.

fungus, directly damaging the pathogen and reducing its ability to grow and spread. In addition, extracts from Trichoderma NST-009 demonstrated the ability to inhibit the growth of the pathogenic fungus by as much as 93.26%, indicating the strong potential of this strain as a biological control agent. NST-009 also competes with pathogenic fungi for space and nutrients, limiting the resources available for pathogen development. Together, these mechanisms enable disease management through natural biological processes and provide an alternative strategy that can help reduce dependence on chemical pesticides



When Trichoderma NST-009 was tested under actual hydroponic cultivation conditions, the results demonstrated significant potential for both disease control and plant growth promotion. The treatment reduced the severity of leaf spot disease by 67.51% compared with the control treatment, achieving effectiveness comparable to the chemical fungicide Mancozeb. In addition to suppressing disease, NST-009 promoted several important aspects of lettuce growth. Compared with untreated plants, fresh root weight increased by 39.26%, fresh shoot and leaf weight increased by 25.71%, the number of leaves increased by 18.39%, canopy width increased by 16.67%, and phosphorus uptake in leaves increased by 31.45%. These results indicate that the application of biotechnology can improve food production efficiency by reducing crop losses caused by disease, promoting plant growth, and increasing the potential productivity of vegetable cultivation.



Trichoderma NST-009 can survive effectively on lettuce roots, leaves, and in hydroponic nutrient solutions, supporting its potential as a continuous biological disease-management approach. By reducing plant diseases and reliance on chemical pesticides, NST-009 can promote safer food production, protect consumer health, and reduce environmental impacts. Trichoderma NST-009 therefore represents more than an innovation for controlling plant disease; it demonstrates how science, biotechnology, and locally sourced biological resources can contribute directly to the goal of Zero Hunger. By reducing crop losses caused by leaf spot disease, improving plant growth, and increasing the productivity of hydroponically grown lettuce, NST-009 can help farmers produce more food from existing agricultural resources. Its potential to reduce dependence on chemical pesticides also supports safer, more sustainable, and resilient food production systems. In this way, the research contributes to addressing the underlying challenges of food insecurity–not only by increasing the availability and productivity of nutritious vegetables, but also by strengthening farmers' capacity to produce food sustainably. Ultimately, Trichoderma NST-009 provides a practical pathway toward more productive, safe, and resilient agricultural systems that can help ensure sufficient and sustainable food supplies and contribute to the long-term achievement of SDG 2: Zero Hunger.



3 GOOD HEALTH AND WELL-BEING



1. PROACTIVE MENTAL HEALTH PROMOTION AND SUPPORT FOR STUDENTS
2. STUDENTS' SEXUAL AND REPRODUCTIVE HEALTH-CARE PROVISION THROUGH COMPREHENSIVE INFORMATION, EDUCATION, AND HEALTHCARE SERVICES
3. HEALTH OUTREACH PROGRAMMES FOR LOCAL, DISADVANTAGED, AND REFUGEE COMMUNITIES
4. CURRENT COLLABORATIONS WITH HEALTH INSTITUTIONS TO IMPROVE HEALTH AND WELL-BEING
5. TELEHEALTH RESEARCH TO IMPROVE CHRONIC DISEASE CARE IN COMMUNITIES

3 GOOD HEALTH AND WELL-BEING

SDG 3 : GOOD HEALTH AND WELL-BEING

PROACTIVE MENTAL HEALTH PROMOTION AND SUPPORT FOR STUDENTS

Walailak University provides students with access to mental health support and has developed a active and systematic approach to promoting students' good mental health. The process begins at the point of admission through mental health screening for new students, enabling the university to diagnosis students who may require additional support and provide appropriate assistance at an early stage.





The university has trained faculty members serving as student helpers and advisors within schools and colleges. Through competency-building training, helpers develop skills in in-depth counselling, understand the student support system, and learn appropriate referral procedures. The university also organizes conferences on student mental health care to facilitate collaboration among academic schools and strengthen a systematic support and referral network.

In addition, the Smile & Smart Center provides professional development for faculty members, including the "Enneagram" training course, which promotes greater understanding of oneself and others and enhances the ability of staff to provide effective student counselling.

To actively promote good mental health, the university provides a range of activities and learning opportunities designed to strengthen students' emotional well-being, self-awareness, resilience, and life skills. These include the Contemplative Education Program, under the theme "Mirror of Self," which encourages self-awareness, understanding of others, compassion, and reflective learning; the "Journey to Success: Designing Your Life and Achieving Success" activity, which supports students in developing life-management skills and finding personal motivation; and Resilience Quotient (RQ) training, organized by the Smile & Smart Center in collaboration with Mental Health Center No. 11. The RQ program helps students develop psychological resilience and protective factors for coping with challenging and potentially critical situations.









The university also provides information and signposting to mental health support services through video content created by students. The videos introduce available mental health services and explain how students can access appropriate support and how to seek assistance when needed. These provisions show WU's comprehensive approach covering mental health promotion, early identification, counselling, support, and referral. The WU's student mental health support has been recognized through the Best Practice Award for an Outstanding University Network in Student Mental Health Care (2025), received from the Ministry of Public Health and the Department of Mental Health, Thailand.

Together, these initiatives demonstrate a systematic approach to student mental health that integrates diagnostic screening and early identification, continuous development of staff and student capabilities, active engagement across university and community partners, and measurement of participation with more than 88% of sastification, outcomes, and support processes.

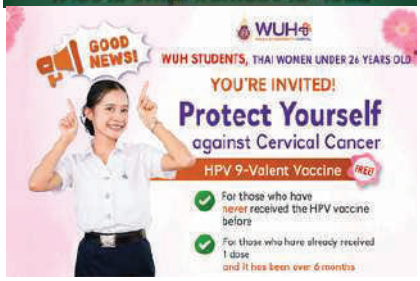




STUDENTS' SEXUAL AND REPRODUCTIVE HEALTH-CARE PROVISION THROUGH COMPREHENSIVE INFORMATION, EDUCATION, AND HEALTHCARE SERVICES

WU is committed to promoting students' health and well-being by ensuring equitable and free access to sexual and reproductive healthcare services. The university provides comprehensive sexual and reproductive health support through information services, educational services, and other related services. These initiatives aim to increase students' awareness, encourage responsible health behaviors, and reduce the risks associated with sexually transmitted infections (STIs).





To ensure that students can easily access free essential healthcare services, WU continuously disseminates information services on sexual and reproductive health through multiple public communication channels, including its official website, social media, and informational posters. One of the key initiatives is the promotion of free Human Papillomavirus (HPV) vaccination services for students, enabling them to receive cervical cancer prevention vaccines without any cost. Also, educational exhibitions services on sexually transmitted infections are organized annually during World AIDS Day, providing students with accurate information on disease prevention, available healthcare services, and appropriate sexual health practices.



WU also collaborates with partner organizations to organize the "School Tour: Let's Talk About Sexual Health!" campaign in Southern Thailand. The program creates a safe and supportive environment where students can openly discuss sexual health issues and access reliable health information. During the event, participants receive guidance on condom use, HIV self-testing, HPV vaccination, and the prevention of sexually transmitted infections through interactive exhibitions and educational services. These initiatives empower students to make informed decisions regarding their sexual and reproductive health.

The university provides healthcare services through its Sexually Transmitted Infection Screening and Prevention Program. Students are offered free health screening, pre-test counselling by healthcare professionals, and individualized health consultations. Students identified as being at risk are referred to physicians for further diagnosis, treatment, and follow-up under their healthcare entitlements. This integrated healthcare approach ensures timely access to professional medical services and appropriate treatment.

Education service remains a key component of the university's sexual and reproductive health strategy. During the annual World AIDS Day campaign, the Department of Social Medicine at Walailak University Hospital, in engagement with the Mplus Foundation, provides educational services on sexually transmitted infections, HIV prevention, and sexual health promotion. The event also offers health screening services and professional counselling delivered by qualified healthcare personnel.





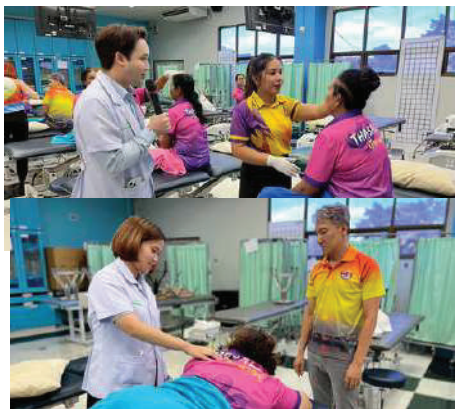
The World AIDS Day activities include expert panel discussions that promote accurate knowledge and positive attitudes toward sexual health. Students are encouraged to practice safe sex by using condoms consistently and to seek immediate medical advice if they have engaged in high-risk sexual behavior or suspect HIV exposure. These educational forums help improve health literacy, strengthen awareness of disease prevention, and encourage responsible decision-making among students.

Through these comprehensive initiatives, Walailak University demonstrates its strong commitment to providing accessible sexual and reproductive healthcare services for students. By integrating free healthcare services with information services, health education services, counselling, screening, and referral mechanisms, the university fosters a healthy, inclusive, and supportive campus environment. Furthermore, all activities are publicly communicated through the university's official communication channels, ensuring that students and the wider community can access information about available sexual and reproductive healthcare services.

HEALTH OUTREACH PROGRAMMES FOR LOCAL, DISADVANTAGED, AND REFUGEE COMMUNITIES

In 2025, Walailak University implemented a range of health outreach programmes and community-based projects to improve and promote health and well-being among local communities, disadvantaged people, and refugee and immigrant communities. The programmes combined diagnostic screening and assessment, rehabilitation, nutrition, physical activity, disease prevention, health education, and community capacity building through multidisciplinary collaboration.





For local communities, the Physical Therapy-Based Health Promotion and Rehabilitation Programme addressed the limited access to continuous rehabilitation services among homebound and bedridden patients. Through multidisciplinary engagement of physical therapists, Thai traditional medicine practitioners, pharmacists, and medical technologists, the programme also developed community capacity by providing a structured 20-hour training programme for community health volunteers.

In addition, health promotion activities were provided for 60 older adults in Tha Sala Subdistrict Municipality, together with Marching Exercise activities to promote physical activity and help prevent chronic diseases among at-risk groups. The programme measured its outcomes, with 83.33% of participating homebound and bedridden patients showing improved health outcomes in 2025. The establishment of the Sukjai Near-Home Health Rehabilitation Center further supported the development of a sustainable community-based rehabilitation services.



For disadvantaged people, the university provided outreach project to homebound and bedridden patients, people with psychiatric conditions, and people living in a residential protection facility for disadvantaged persons. Services included physical rehabilitation, muscle exercises, therapeutic massage, speech-stimulation activities, health screening, physical fitness assessment, Thai traditional medicine, and health advice based on sports science. Medical technology staff also conducted blood tests to screen for anaemia, followed by nutrition education focusing on iron-rich foods and appropriate recommendations Additional activities included aerobic exercise and non-communicable disease (NCD) prevention education, helping disadvantaged groups improve their health knowledge and ability to manage their well-being.



For refugee and immigrant communities, Walailak University conducted proactive health outreach for migrant workers, immigrants, and refugees from Cambodia, Myanmar, and Laos, including fishing and agricultural workers who may experience barriers to accessing public health services.



The multidisciplinary programme provided health history taking and urine testing for preliminary disease screening, physical fitness assessments, individualized physical therapy advice, Thai traditional medicine-based health promotion, exercise education, muscle stretching, resistance-band exercises, and healthy nutrition guidance.

The programme generated positive outcomes across three groups. Among homebound and bedridden patients in the Satit Walailak Community, 83.33% experienced improvements in their ability to perform activities of daily living and their quality of life. In 2025, local community leaders responsible for patient care and rehabilitation also developed enhanced rehabilitation skills, while participation increased from 6 leaders in the first cohort. In addition, health screening of refugee and immigrant communities found that handgrip strength was the most common area below the standard, with 7 workers (43.75%) recording below-standard grip strength. They were subsequently provided with self-care guidance and recommendations to support improvements in their physical fitness and overall health.

CURRENT COLLABORATIONS WITH HEALTH INSTITUTIONS TO IMPROVE HEALTH AND WELL-BEING

In 2025, Walailak University maintained and expanded current collaborations with health institutions at local, national, and global levels to improve health and well-being outcomes. These partnerships integrate academic expertise, healthcare services, research, education, capacity building, and health promotion to address health needs in communities and strengthen the healthcare system.



At the local level, Walailak University has established Memoranda of Understanding (MOUs) with three surrounding Subdistrict Health Promoting Hospitals: Satit Walailak Pattana Community Health Promoting Hospital, Ban Han Subdistrict Health Promoting Hospital, and Ban Thung Chon Subdistrict Health Promoting Hospital. These institutions collaborate continuously through initiatives such as the Walailak Health Model, which integrates multidisciplinary health knowledge to improve the health and well-being of local populations. The university also works with 7 Upper Southern Provincial Mental Health Center to deliver resilience-building programmes, with the Nakhon Si Thammarat Provincial Public Health Office to strengthen community health services, and with district and provincial hospitals to provide clinical education and practical training for health professional students.

At the national level, the university collaborates with major health institutions and organizations, including the Ministry of Public Health and Department of Disease Control on public health education and field-based learning, and the Praboromarajchanok Institute on primary healthcare research networks. Collaboration with the Thai Health Promotion Foundation (ThaiHealth) supports student health promotion initiatives, health risk reduction campaigns, and alcohol-literacy networks.





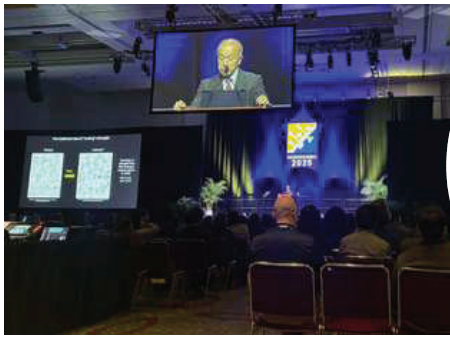


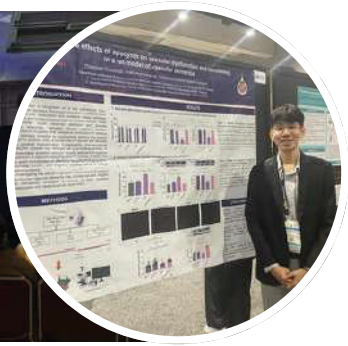
The university also works with King Chulalongkorn Memorial Hospital, Thai Red Cross Society, and partners through the T-SCEPT project to develop health and well-being policies for Thai youth.

In addition, Walailak University Hospital collaborates with the Children's Heart Foundation to provide treatment for children with congenital heart disease, while partnerships with professional nursing organizations, Bamrasnaradura Infectious Diseases Institute, and Bhumibol Adulyadej Hospital support nursing quality improvement, medical research, and healthcare innovation.









At the global level, Walailak University collaborates with international health and academic institutions to advance health research, education, and professional capacity. These include research collaboration with the Division of Clinical and Metabolic Genetics, The Hospital for Sick Children (SickKids), Canada, focusing on physical activity promotion through Participatory Action Research; research networks with Jigme Dorji Wangchuck National Referral Hospital, Bhutan, the Department of Emergency Medicine, Southwest Consortium, USA, and the Research Center for Pharmaceutical Ingredient and Traditional Medicine, BRIN, Indonesia. The university also supports international knowledge exchange through participation in global health conferences, the Majid Sadigh, MD Scholarship, and medical student exchange programmes with Nuvance Health, USA.





These partnerships demonstrate sustained engagement with health institutions at local, national, and global levels to strengthen healthcare delivery, health promotion, medical and public health education, research, innovation, and professional development. These partnerships demonstrate the University's continuing commitment to working with health institutions to improve health and well-being outcomes and contribute to a stronger and more sustainable health system.

TELEHEALTH RESEARCH TO IMPROVE CHRONIC DISEASE CARE IN COMMUNITIES



WU conducted research to develop and evaluate a telehealth/telemedicine model for patients with Type 2 Diabetes Mellitus and hypertension. The research aimed to develop a health service model that could reduce travel barriers and improve continuity of care for people in local communities. A mixed-methods research approach was used, together with the CIPPiest evaluation framework, covering context, input, process, product, impact, effectiveness, sustainability, and transportability. The Virtual OPD (V-OPD) system was tested with 220 patients, comprising 125 patients in the intervention group and 95 in the control group.



Research findings showed that patients receiving care through V-OPD experienced statistically significant improvements in key clinical outcomes. Systolic blood pressure decreased from 130.67 to 124.34 mmHg, diastolic blood pressure decreased from 78.45 to 70.46 mmHg, and fasting blood sugar decreased from 126.25 to 106.98 mg/dL. Patients and healthcare providers also reported high satisfaction with the service, particularly because it reduced the need for travel, saved time and transportation costs, and enabled more continuous health monitoring. These findings demonstrate the potential of telehealth to improve access to healthcare services and support non-communicable disease (NCD) management within primary healthcare settings.

The research findings were also applied and further tested in local communities through collaboration among hospitals, primary healthcare providers, patients, and Village Health Volunteers (VHVs). Community networks supported older adults and people with limited digital skills in accessing telehealth services, including entering health information, submitting test results, and receiving medicines through community distribution points. This approach reduced the need for patients to travel to hospitals while enabling them to receive remote consultation and continuous health monitoring. Findings from the implementation also informed adaptations to better fit the local context, including the use of familiar communication channels such as LINE and telephone alongside existing hospital information systems.



This research demonstrates how research-based knowledge, health technology, and local community collaboration can be translated into practical solutions to improve good health and well-being, particularly for older adults and people living with chronic diseases. By reducing travel burdens, improving continuity of care, and supporting the prevention and management of NCDs, the research contributes to SDG 3: Good Health and Well-being, particularly through health promotion, improved access to healthcare services, and the development of community-responsive health systems.

4 QUALITY EDUCATION



1. WU PROMOTES LIFELONG LEARNING THROUGH FREE EDUCATIONAL RESOURCES, TRAINING PROGRAMMES, AND PUBLIC ACCESS TO LEARNING FACILITIES
2. PUBLIC EVENTS FOR LIFELONG LEARNING: EDUCATIONAL OPPORTUNITIES FOR THE GENERAL PUBLIC
3. EDUCATIONAL OUTREACH ACTIVITIES BEYOND CAMPUS: PROMOTING LIFELONG LEARNING AND COMMUNITY LEARNING
4. VOCATIONAL TRAINING EVENTS FOR LIFELONG LEARNING
5. LIFELONG LEARNING ACCESS POLICY: ENSURING INCLUSIVE AND EQUITABLE ACCESS TO LEARNING OPPORTUNITIES
6. BRIDGING THE GAP BETWEEN AWARENESS AND PRACTICE: UNDERSTANDING SDG 4 AMONG UNIVERSITY STUDENTS

4 QUALITY EDUCATION

SDG 4 : QUALITY EDUCATION

PROMOTING LIFELONG LEARNING THROUGH FREE EDUCATIONAL OPPORTUNITIES AND LEARNING RESOURCES

The university is committed to promoting lifelong learning by identifying the diverse learning needs of people of all ages, including those who are not enrolled at the university, and providing free access to educational opportunities and learning resources. Through a wide range of certificate-based training courses, access to educational facilities and equipment, and freely available online learning resources, the university supports continuous personal and social development.

Free Courses Leading to Certificates



The university offers a variety of free training courses and capacity-building activities for external participants. One notable initiative is the Young Scientist Competition (YSC) 2025. The competition provides training and mentoring courses in science, technology, and the application of Generative AI to prepare participants for the national competition.

The university also offers the Teacher Capacity Enhancement through Educational Innovation Course, jointly organized by the School of Education and the Center for Academic Services. This course is provided free of charge and aims to strengthen teachers' professional competencies through innovative teaching approaches.



In addition, the Local Storytelling Lab: Communication - Storytelling - Local Communities and various cross-media storytelling courses provide opportunities for community members and the general public to develop communication and storytelling skills.



Upon successful completion of these courses, all participants receive a Certificate of Completion as formal recognition of their participation and learning. These certificates provide participants with evidence of the knowledge and skills they have gained through the training and can support their continued personal, academic, and professional development. To further expand lifelong learning opportunities, WU supports self-paced online learning through WU MOOC and courses available on the Thai MOOC platform. Members of the public can enroll free of charge and receive certificates upon successful completion of the required assessments.

Free Access to University Educational Facilities and Equipment



Walailak University also provides external users with free access to educational facilities and equipments including scientific laboratories, computer laboratories, and advanced educational technologies through academic services programmes, educational visits, workshops and Open House activities at the Center for Scientific and Technological Equipment, Informatics Studio, the Center for Digital Innovation. These activities enable school students and teachers to gain practical experience in computer technology, artificial intelligence (AI), Google Workspace applications, scientific instruments, and medical technology through hands-on workshops and demonstration activities.



Moreover, the Center for Library Resources and Educational Media also welcomes members of the public to access its extensive learning resources, including more than 103,355 printed books, 177 Smart Classrooms, and Studio Classrooms designed to support collaborative learning, educational media production, and innovative teaching and learning activities.



Free Online Educational Resources

To ensure learning opportunities are accessible anytime and anywhere, Walailak University continuously develops and expands its free online educational resources. Through the university's digital library system, users have free access to 246,725 e-books, 23 online databases, and 782 electronic journals. The university also disseminates academic knowledge through WU Blogs, covering a wide range of topics including education, health sciences, technology, finance, and other academic disciplines.





การบริการที่ดียุคดิจิทัล: เมื่อเทคโนโลยีต้องมาคู่กับความใส่ใจ



อย่ามุ่งพัฒนาแค่ IQ หรือ EQ จนลืมสร้าง RQ ให้แข็งแกร่งในยุคนี้



Everyday English

In addition, educational content is freely available through Walailak Channel, which features programmes such as Walailak Moving Forward, Walailak Research and Innovation, Walailak Global, and Walailak News. Other educational media, including Walailak Health Care, Everyday English, and recorded training sessions from Young Scientist Competition (YSC) 2025, are also publicly accessible, enabling lifelong learning for individuals regardless of time or location.

PUBLIC EVENTS FOR LIFELONG LEARNING: EDUCATIONAL OPPORTUNITIES FOR THE GENERAL PUBLIC

WU promotes lifelong learning by providing educational events and public learning spaces that enable members of the general public to access knowledge and expertise from the university. These events cover a range of topics, including nature and environmental conservation, research and innovation, and agricultural technology. The activities are developed based on the needs and interests of target groups and societal issues, with an emphasis on practical knowledge, knowledge exchange, and opportunities for participants to apply what they have learned.

One of the key activities was the SIRIN MUSEUM Grand Opening, which was designed not only as an opening ceremony but also as a public educational event. The event provided participants with opportunities to learn about nature, ecosystems, and environmental conservation through learning experiences covering the natural system from upstream to downstream. By connecting scientific knowledge with real-world environmental contexts, the museum serves as a public learning space where visitors can develop a better understanding of natural resources, ecosystems, and the importance of conservation.





In the area of research and innovation, the university organized Walailak Research Day 2025 to make research knowledge more accessible to the public. The event featured Insight Talks where experienced university academics shared knowledge and practical experiences related to research achievement, research funding, and academic publication. It also included exhibition sessions presenting research and innovation from different areas, including the Research Excellence Showcase, Fundamental Fund Highlights, Emerging Researchers Zone, and Innovation by WU Science Park. These activities provided opportunities for participants to learn directly from research projects and innovations developed within the university and to better understand how academic knowledge can contribute to society and economic development.

For the agricultural sector, the university organized the seminar “Off-Season Durian Production Plan: Koon Formula 2026-2027” to provide practical knowledge responding to the needs of farmers and people interested in durian production. The seminar covered precise production planning for the 2026-2027 season, the use of technologies and performance-enhancing inputs to produce premium-grade durians,



and the application of the “Koon Formula” innovation to improve productivity and product quality. The event brought together fruit-production specialists, academics, product developers, and local farmers. In addition to receiving expert knowledge, participating farmers were able to share their own experiences and discuss practical approaches to orchard management, creating a two-way learning environment between academic experts and local practitioners.

Together, these activities demonstrate a continuous approach to developing public learning opportunities, beginning with the identification of community and societal learning needs, followed by the development of appropriate educational content and formats, engagement with diverse groups of participants, and monitoring of participation and outcomes. The University documents these activities through event information, photographs, participation records, and public communications, allowing the activities and their educational content to remain accessible to the wider public beyond the events themselves.

EDUCATIONAL OUTREACH ACTIVITIES BEYOND CAMPUS: PROMOTING LIFELONG LEARNING AND COMMUNITY LEARNING

WU is committed to providing educational outreach activities beyond campus to create lifelong learning opportunities for members of the public. Through vocational training, short courses, tailored lectures, demonstrations, and knowledge-transfer activities, the university provides communities and local schools with access to academic knowledge and practical skills that support education, employment, and everyday life. These activities integrate expertise from different disciplines and are designed to respond to local contexts and community needs.



In 2025, the university implemented a range of programmed educational outreach activities. These included the ECEEP Programme, which provided teachers and childcare providers with knowledge and practical guidance on assessing and promoting children's Executive Functions (EF) and motor development to improve early childhood learning; the Thai and English Literacy Development Programme through Self-Regulated Learning, led by Assistant Professor Dr. Patcharee Imsri, which strengthened the capacities of teachers and students across a network of 10 schools and received an outstanding award under the U-School project; the English Learning Materials Development Programme for Young Children, led by Assistant Professor Dr. Worrarat Wanjit, which provided early childhood teachers with practical approaches to using English-language learning materials and storytelling; and the Livestock Occupation Promotion Programme, which delivered training on pig farm management, pork product processing, and biogas production from pig manure to strengthen the skills and income-generating capacity of community livestock enterprises.



The university delivered ad-hoc educational outreach activities in response to local needs. These included the STEM Environmental Learning on Climate Change, which provided students with STEM and environmental issues knowledges, contributing to their success at the Asia-Pacific level, where they were recognised as regional winners of the IVSS Asia-Pacific Competition. Additionally, the ad-hoc included training on animal sterilization and rabies prevention, combining community education with practical demonstrations for pet owners and community volunteers; Volunteer Veterinary Activities, which transferred knowledge on animal health desease prevention, and livestock management to farmers and community member; and the expansion of the Sufficiency Economy Programme, which provided practical knowledge on agriculture, resource management, and sustainable living based on the Sufficiency Economy Philosophy, enabling communities to apply the knowledge in their daily lives and strengthen self-reliance.







Through programmed and ad-hoc outreach activities, WU extends learning beyond campus to schools and communities, supporting lifelong learning, skills development, knowledge transfer, and practical applications in education, livelihoods, health, and sustainability. These efforts strengthen communities and promote inclusive learning opportunities.

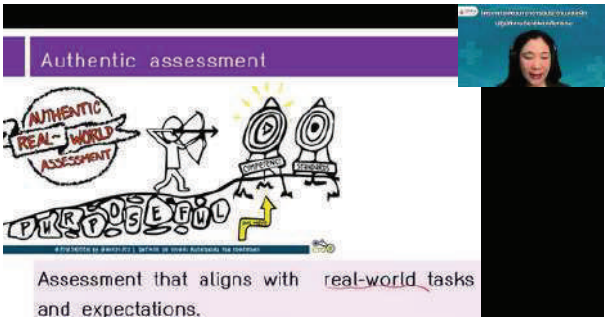
VOCATIONAL TRAINING EVENTS FOR LIFELONG LEARNING

Walailak University promotes lifelong learning by providing vocational training and professional development opportunities for people outside the University. The activities are designed to respond to the knowledge and skill development needs of different professional groups, including practicing professionals, teachers, educational personnel, and individuals interested in developing new skills. The University provides both planned and continuing Program activities and specific Ad-hoc training activities in response to emerging or targeted learning needs.

Program

The university develops vocational training programs based on the needs and professional contexts of target groups, with an emphasis on practical knowledge and skills that can be applied in real-world work settings.

One example is the Professional Pharmacy Practice Training Site Instructor Development Program 2025, organized by the School of Pharmacy to strengthen the competencies of instructors at professional pharmacy practice training sites. The program aimed to improve their ability to support students' practical training effectively and



consistently with national higher education qualification standards. The training covered Authentic Assessment and the use of the pharmacy professional practice assessment system. It was delivered online via Zoom Meeting and provided free of charge, allowing external professional practitioners to access professional development opportunities without financial barriers.



In the culinary field, the University organized the practical training workshop “Coastal Seafood Product Processing Skills Training.” The activity focused on developing practical skills for transforming locally sourced seafood into value-added food products. Participants learned the complete production process, from selecting and preparing raw materials and seasoning to producing products such as shrimp dumplings and fish rolls. The training combined lectures, demonstrations, and hands-on practice, with academics and students from the Professional Culinary Arts program providing close guidance.

Moreover, the university organized the free training workshop, namely “The Enhancing Teacher Capacity through Educational Innovation” to strengthen teachers’ skills in educational innovation, learning-material development, and educational research. Following the workshop, all participants received certificates of completion, and participant feedback was used to improve future training activity.



Ad-hoc



In addition to planned vocational training programs, Walailak University also provides Ad-hoc training activities to respond to specific and emerging skill-development needs. One example is “Design Thinking for Research and Development #2,” which was organized to strengthen skills related to research, innovation, entrepreneurship, and business development.

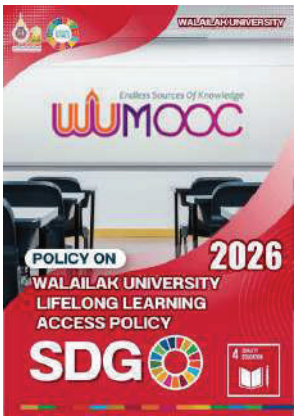
The activity included sessions on Innovation Ecosystem Design and Design Thinking: From Business Perspectives to Entrepreneurship, together with practical workshops. Participants engaged in the Empathize stage to understand users and stakeholders, followed by Define to identify and clearly formulate user problems. The activity concluded with Creative and Critical Problem Solving, enabling participants to apply design-thinking tools and approaches rather than relying solely on lecture-based learning.

Across both Program and Ad-hoc activities, the University monitors training outcomes through post-training evaluations, participant feedback, requests for additional learning topics, participation records, and certificates of completion where applicable. Feedback and evaluation results are used to refine existing programs and develop future training activities, creating a continuous cycle of identifying learning needs, developing relevant training, engaging participants through practical learning, and measuring outcomes.

Through these activities, Walailak University demonstrates its role in providing vocational training events for lifelong learning that extend beyond its regular student population. By making professional knowledge, practical skills, and expert guidance accessible to external participants, the University supports continuous professional development, employability, entrepreneurship, and lifelong learning within the wider community.

LIFELONG LEARNING ACCESS POLICY: ENSURING INCLUSIVE AND EQUITABLE ACCESS TO LEARNING OPPORTUNITIES

WU has established a Lifelong Learning Policy to provide a framework for promoting and expanding learning opportunities for university personnel, alumni, students, and the general public. The policy aims to position the University as a lifelong learning resource where everyone can access educational opportunities equitably. The policy was formally announced on 8 November 2022, placing it within the 2022-2025 period specified by the indicator.





The policy was developed from the university's vision of becoming an "Educational Park" and a learning hub that supports formal, non-formal, informal, and lifelong learning. It defines lifelong learning as an important mechanism for developing people's knowledge, quality of life, and capacity for continuous self-development. This provides a clear institutional framework for responding to the learning needs of people across different age groups and backgrounds.



A key principle of the policy is to provide learning opportunities for everyone based on democracy and diversity. The university explicitly states that access to lifelong learning should not be restricted by race, religion, skin colour, physical status, gender, economic status, immigration status, or political views that do not conflict with the Constitution. This principle provides an institutional basis for designing learning activities and services that are inclusive, equitable, and free from discrimination.

The policy identifies diverse target groups–including children, youth, students, workers, and older adults–and addresses their professional, life, and specialized learning needs. Thus, lifelong learning at Walailak University extends beyond enrolled students to external learners and the wider community.

To translate the policy into practice, the University established strategies covering knowledge and technology transfer, lifelong-learning-oriented teaching and learning, supportive management systems, learner services and facilitation, and collaboration with external partners and networks. These strategies provide mechanisms for developing accessible learning opportunities and responding to changing needs within society.





The implementation of the policy also supports continuous improvement through the use of information from learning activities, target-group needs, participant feedback, and service outcomes. Such information can be used to improve courses, activities, services, and learning formats, ensuring that lifelong learning provision remains relevant and accessible to diverse groups.

Through this policy, Walailak University demonstrates a clear institutional commitment to inclusive and equitable access to lifelong learning. The policy identifies the needs and diversity of learners, establishes institutional strategies to develop appropriate learning opportunities, engages different groups through accessible learning provision and partnerships, and supports continuous improvement based on implementation and feedback. Formally approved in 2022, the policy provides documented evidence that the University had an institutional framework for ensuring that lifelong learning opportunities were accessible to all within the 2022–2025 assessment period.

BRIDGING THE GAP BETWEEN AWARENESS AND PRACTICE: UNDERSTANDING SDG 4 AMONG UNIVERSITY STUDENTS

Sustainable Development Goal 4 (SDG 4: Quality Education) is a key global goal that seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Achieving SDG 4 requires more than improving educational systems; it also requires developing students' knowledge, understanding, and sustainability skills. University students are particularly important stakeholders because they will become future professionals, decision-makers, and contributors to sustainable development.



A recent systematic review examined SDG 4 literacy among university students by synthesizing quantitative evidence from nine studies involving 4,679 university students across Asia, Europe, and Africa. The review followed the PRISMA 2020 guidelines and assessed the methodological quality of the included studies using Joanna Briggs Institute critical appraisal tools. Overall, the findings revealed an important gap: although students generally recognized SDG 4 as highly important, their actual knowledge and literacy regarding the goal remained mostly at low to moderate levels.

The key challenge therefore extends beyond whether students are aware of SDG 4. More importantly, students need to understand its core concepts, targets, and implications and be able to apply this knowledge in real-life contexts. The review identified a gap between awareness, knowledge, and practice. Students generally valued inclusive and quality education, but many had limited understanding of specific SDG 4 targets, sustainability policies, and how quality education can be translated into practical action.



Another important finding concerns the integration of SDG 4 into university curricula. Across the reviewed studies, curriculum integration varied considerably and was often ad hoc or indirect, appearing through individual subjects or learning contexts such as global citizenship, teacher education, or English language courses. In many cases, SDG 4 was not systematically embedded into curriculum structures, learning outcomes, or competency development across disciplines.

The review also highlighted challenges in measuring SDG 4 literacy. The studies used different definitions, measurement approaches, and assessment instruments, while psychometric properties were incompletely reported in some cases. Such inconsistencies make it difficult to compare students' levels of SDG 4 knowledge across studies and contexts. They also demonstrate the need for more reliable and clearly defined measurement tools for assessing students' sustainability-related knowledge and competencies.

These findings suggest that universities should move beyond simply raising awareness of SDG 4 toward the systematic development of sustainability knowledge and skills. SDG 4 and broader sustainability concepts should be integrated into curricula and learning outcomes while providing students with opportunities for experiential learning. Activities such as community-based projects, problem-solving, collaborative initiatives, and engagement with external stakeholders can help students connect academic knowledge with real-world challenges.



Measurement should also extend beyond asking whether students know about or recognize the importance of SDG 4. Universities should consider assessing knowledge, understanding, knowledge retention, sustainability skills, and the ability to apply sustainability concepts in practice. A systematic assessment approach can help institutions identify learning gaps, design appropriate educational interventions, and monitor students' development over time.

The systematic review demonstrates that awareness does not necessarily translate into knowledge or action. Although WU students generally recognize the importance of SDG 4, significant gaps remain in deeper understanding, curriculum integration, and systematic assessment. Addressing these gaps requires universities to connect knowledge with practical learning experiences and establish reliable approaches to measuring students' sustainability competencies. So, higher education institutions can help students move beyond simply understanding the importance of quality education toward applying their knowledge and skills to create meaningful change and contribute to a more sustainable society.

5 GENDER EQUALITY



1. COMMITMENT TO NON-DISCRIMINATION AGAINST TRANSGENDER INDIVIDUALS
2. PROMOTING WOMEN'S ACCESS TO AND COMPLETION OF HIGHER EDUCATION
3. PROMOTING WOMEN'S LEADERSHIP AND PARTICIPATION IN UNIVERSITY GOVERNANCE
4. ADVANCING GENDER EQUALITY THROUGH ENHANCED MATERNITY AND PATERNITY POLICY

5 GENDER EQUALITY

SDG 5 : GENDER EQUALITY

WU'S COMMITMENT TO NON-DISCRIMINATION AGAINST TRANSGENDER INDIVIDUALS



In higher education, policies that promote equality and protect transgender individuals are essential for creating a safe, inclusive, and respectful learning and working environment. Universities bring together people from diverse backgrounds and identities, making it important to ensure that all students and staff can participate in academic and university life without fear of discrimination, harassment, exclusion, or prejudice. Without clear policies. supportive measures and systematic diagnostic assessment, transgender individuals may experience stigma, unequal treatment, social isolation, and barriers to participation, which can negatively affect their sense of belonging, well-being, academic engagement, and professional development.

Walailak University (WU) reaffirmed its dedication to promoting inclusivity, equality, and respect for all genders and sexual orientations through its *Policy on Equality and Non-Discrimination for Transgender Persons.* This policy highlights WU's commitment to preventing discrimination and harassment against all members of the university community, including transgender and other transgender individuals.





The policy provides a comprehensive framework for promoting inclusivity and preventing discrimination against women and transgender individuals. The policy emphasizes equal access to education, employment, and opportunities for personal and professional development, while promoting a campus environment based on respect, understanding, and inclusion. It also calls for training and awareness-raising activities to challenge gender stereotypes and biases and establishes measures to protect members of the university community from harassment, bullying, and discrimination based on gender identity, gender expression, or sexual orientation.

In 2025, LGBT students accounted for approximately 12.5% of the student population at WU, while LGBT staff represented approximately 2.23% of the university's workforce. These figures reflect the presence of transgender members across the university community and highlight the importance of maintaining an inclusive educational and working environment where individuals of diverse gender identities and sexual orientations can participate equally.

Miss Transgender Nakhon Si Thammarat



WU continued to promote opportunities for LGBT students to participate in activities that celebrate gender diversity and inclusion. In 2025, the University supported LGBT students in attending the Miss Transgender Nakhon Si Thammarat University Competition. The initiative provided students with an opportunity to participate in a wider community activity celebrating transgender individuals and promoting greater recognition of gender diversity in higher education and society.

LGBT Freshy Awards

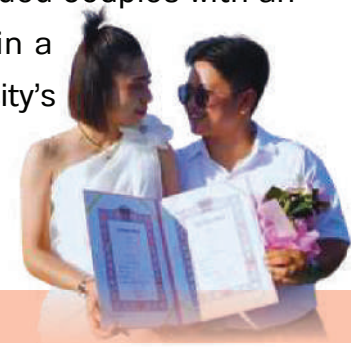
The University also continued to organize activities that recognize and celebrate the LGBT community. In 2025, WU organized the LGBT Freshy Awards, providing a platform for LGBT students to express their identities, showcase their talents, and participate in university life. The activity contributed to promoting visibility and recognition of LGBT students and reinforced the message that students of diverse gender identities and sexual orientations have an equal place within the university community.



LGBT Marriage Registration



In addition, WU continued to support initiatives that promote gender equality beyond the university campus. In 2025, the University collaborated with the Tha Sala District Office to organize "The Infinity o f Love: Marriage Registration - Rak Loy Fah" at Bota Sky Tower. The activity provided couples with an opportunity to register their marriages in a memorable setting and reflected the University's support for gender equality following Thailand's legalization of marriage equality. The activity demonstrated WU's commitment to creating a society in which couples can live together freely and equally, regardless of gender or sexual orientation.



Gender-inclusive Restrooms



WU continued to provide gender-inclusive restrooms across the campus in 2025 to support the well-being of LGBT students, staff, and visitors. These facilities aim to foster a safe, respectful, and inclusive environment where members of the university community can feel comfortable and secure. The continued availability of gender-inclusive restrooms.

Through its policies, facilities, student activities, and community engagement, WU continues to promote an inclusive campus culture in which LGBT students and staff are respected, supported, and provided with opportunities to participate equally. These efforts contribute to advancing gender equality, reducing discrimination, and fostering a university environment where diversity is recognized as an important part of the academic community.

PROMOTING WOMEN'S ACCESS TO AND COMPLETION OF HIGHER EDUCATION



Women may face a range of barriers that affect their ability to access, participate in, and successfully complete higher education. Financial difficulties can limit opportunities to enter or remain in university, while academic challenges, mental health concerns, and health-related issues may also affect students' ability to fully participate in university life.

Through diagnostic analysis of women's access, participation, and educational needs, universities can identify barriers that may prevent women from entering or successfully progressing through higher education and develop appropriate measures to address them. In response, WU has implemented a range of women's access schemes, including mentoring, scholarships, and other targeted provisions, to address identified barriers before and after admission and support women throughout their university journey.

Mentoring Schemes

The Smile and Smart Center, under the Division of Student Support and Development, provides mentoring services to students, including female and LGBT students. The center offers guidance on university life, academic development, personal matters, and other issues that may affect students' well-being and educational progress.



In 2025, over 3,560 students received mentoring services and participated in activities with staff at the center. Of these, 824 were female students, representing 78.48% of all students who received the services. The issues raised by female students included personal relationships, depression, stress, academic performance, and financial difficulties. By providing accessible and confidential support, the mentoring scheme helps female students address challenges that could otherwise affect their academic participation and progression.

WU also provides an online channel through the Smile and Smart Center's Facebook Page for students who may not feel comfortable seeking support in person. Through this platform, students can access online mentoring, information about activities, mental well-being resources, and additional support. The satisfaction rate among students who participated in the schemes was 96.5%.

Scholarships

WU provides scholarships in collaboration with university partners to help ensure that students, including women from financially disadvantaged backgrounds, can pursue their education without financial hardship becoming a barrier to their studies.



In 2025, WU and its partners awarded scholarships to 1,125 students, with a total value of 73,496,950 baht. Among the scholarship recipients, 749 were female students, including 734 Thai female students and 15 female students from low- and lower-income countries. These scholarships provided financial assistance that supported female students in entering and continuing their higher education. By reducing financial barriers, the scholarship scheme contributes to women's equitable access to higher education and supports their ability to remain engaged in their studies through to graduation.

Health Provision: HPV Vaccination Program



Health-related concerns can also affect women's well-being and their ability to participate fully in higher education. Recognizing the importance of preventive health care, WU has provided free HPV vaccination to female students as part of its broader student support and health services.

WU continued its free HPV Vaccination Program for female students. The initiative was aligned with Thailand's national Quick Win 100 Days, 1 Million Doses Policy, which promotes HPV vaccination as an important measure for cervical cancer prevention.

In 2025, a total of 4,045 female students received HPV vaccinations through WU Hospital. Providing the vaccination through the University's hospital enabled female students to access professional health services within the university environment, supporting their health and well-being throughout their studies.

Other Provision: Sanitary Napkin Distribution Scheme



Menstrual health is another practical consideration that can affect women's comfort, dignity, and participation in education. To support female students and staff, WU continued its Sanitary Napkin Distribution Scheme in 2025, providing free sanitary napkins and promoting greater awareness of menstrual health.

WU installed sanitary napkin dispensers in female student dormitories so that students could access sanitary products when needed. The University also established a central distribution point at WU Bota Market, where university staff organized an awareness activity and distributed sanitary napkins to female students and staff.

In 2025, approximately 1,250 sanitary napkins were distributed through the initiative. By providing free and accessible menstrual products, WU helps address a practical barrier that may affect female students' daily university experience while promoting dignity, well-being, and equal participation.

Through mentoring, scholarships, and other targeted provisions, WU adopts a comprehensive approach to women's access to higher education. These schemes address different barriers, including financial difficulties, personal and academic challenges, and health and well-being concerns.

These programs can generate positive impacts by helping female students overcome challenges that may otherwise affect their ability to continue their education. The support provided through its services can help address the difficulties faced by approximately 70% of students who seek assistance, contributing to student retention and reducing the risk of students discontinuing their studies. By providing accessible support and targeted assistance, the University continues to strengthen opportunities for women to enter, participate in, remain in, and complete higher education.

PROMOTING WOMEN'S LEADERSHIP AND PARTICIPATION IN UNIVERSITY GOVERNANCE



Women may continue to face barriers to equal participation in leadership and decision-making, including limited access to leadership opportunities, unequal representation in senior positions, and institutional or social expectations that can affect career advancement. To identify and address these challenges, WU takes a diagnostic approach to understanding barriers to women's participation and representation in leadership and governance. In higher education, such diagnostic analysis is particularly important because identifying gaps in women's representation can help institutions develop more targeted measures to promote gender equality, women's empowerment, and inclusive decision-making. Recognizing these challenges, WU actively promotes equal opportunities for female staff and students to participate in leadership and decision-making at different levels of the University.

WU actively promotes gender equality in leadership by encouraging and supporting female staff to assume executive roles across the institution. The number of female staff holding executive positions has consistently exceeded that of male staff, reflecting the University's recognition of diversity, inclusive leadership, and equitable decision-making, where all genders play an essential role in shaping institutional directions and policies. Female staff from all faculties and administrative units are equally eligible to hold executive positions at WU without discrimination.



The University has demonstrated measurable progress in advancing women's leadership. In theprevious year, 269 female staff members held executive positions. By 2025, this number increased

significantly to more than 379 female staff members, indicating a clear and continuous institutional commitment



WU also promotes women's representation in student governance. The University supports female students to participate in the Student Administrative Board of WU and the Student Council of WU as part of its recognition of student independent union representation. More than 45% of the members of these student governance bodies are female students, providing women with meaningful opportunities to participate in student leadership.



Through these executive and representative roles, female leaders and student representatives actively participate in strategic decision-making and contribute to academic, administrative, and student affairs. Female executive staff receive equal rights and benefits as their male counterparts, including position allowances, health benefits, and other employment entitlements. These measures support fairness, equal treatment, non-discrimination, and equitable career advancement for women within the University.

The growth from 269 female executive staff to more than 379 in the previous year, together with more than 45% female representation in key student governance bodies, demonstrates the University's continuing efforts to empower women and strengthen gender-balanced leadership. Through inclusive policies, equal opportunities, and meaningful participation in governance, Walailak University continues to foster an equitable institutional culture and contribute to the achievement of gender equality and women's empowerment.

ADVANCING GENDER EQUALITY THROUGH ENHANCED MATERNITY AND PATERNITY POLICY

Balancing professional responsibilities with pregnancy, childbirth, and childcare can create significant challenges for women in the workplace. Through diagnostic assessment and identification of workplace and family-related challenges, it is recognized that without adequate maternity and childcare support, women may face difficulties in maintaining their employment, continuing their careers, and participating fully in professional activities. At the same time, a diagnostic assessment of childcare responsibilities highlights how an unequal distribution of caregiving duties may place a disproportionate burden on women and affect their long-term career development. Recognizing these identified challenges and support needs, WU has put in place comprehensive maternity, paternity, and parental leave measures to support employees with family responsibilities and promote women's continued participation in the workplace.









WU has in place *the WU Regulations on Leave for Staff and Employees, B.E. 2568 (2025),* which establish inclusive maternity, paternity, and parental leave provisions for both permanent and temporary staff. These regulations provide institutional support for employees during pregnancy, childbirth, and the early stages of child-rearing, while helping ensure that family responsibilities do not become a barrier to women's participation, career continuity, and professional development.

Under the maternity policy, female staff, including temporary employees, are entitled to 98 days of maternity leave with full pay. This provision is in place to provide women with sufficient time to recover from childbirth, care for their newborns, and support their children's early development without having to choose between family responsibilities and continued participation in employment. In addition, eligible female staff may apply for parental leave of up to 150 days, providing additional flexibility for childcare during infancy and further strengthening the University's support for women's participation in the workplace.

WU has also put in place a paternity policy to encourage fathers to participate actively in childcare responsibilities. Under the regulations, male staff are entitled to 15 consecutive working days of paternity leave with full pay, enabling fathers to care for their newborn children and support their spouses during the postnatal period. Where necessary, the leave may be taken in more than one period in accordance with the University's regulations, providing flexibility for employees to respond to their family's specific needs.



The paternity policy is particularly important for supporting women's participation because encouraging fathers to share childcare responsibilities can help reduce the disproportionate caregiving burden often experienced by women. By enabling fathers to take paid leave and participate directly in childcare, WU promotes a more equitable distribution of family responsibilities and helps create conditions in which women can maintain their employment and continue their professional and academic careers.

Through these policies in place, WU demonstrates its commitment to gender equality, equal opportunities, work-life balance, shared parenting, and women's continued participation in the workplace. The combination of maternity, parental, and paternity leave provides a comprehensive institutional framework that supports both mothers and fathers, reduces potential barriers associated with family responsibilities, and contributes to a more inclusive, equitable, and family-friendly working environment.

6 CLEAN WATER AND SANITATION

WU SDG MOVE



1. EXPANDING ACCESS TO FREE DRINKING WATER AND ENSURES SAFE AND SUSTAINABLE WATER SERVICES
2. THE SYSTEMATIC PROCESSES FOR WASTEWATER MANAGEMENT AND WATER POLLUTION PREVENTION
3. PROMOTING CONSCIOUS WATER USE AND STRENGTHENS WATER SECURITY THROUGH MULTI-LEVEL COLLABORATION
4. APPLYING THE GR2M MODEL TO SUPPORT SUSTAINABLE WATER RESOURCE MANAGEMENT IN SOUTHERN THAILAND

6 CLEAN WATER AND SANITATION

SDG 6 : CLEAN WATER AND SANITATION

EXPANDING ACCESS TO FREE DRINKING WATER AND ENSURES SAFE AND SUSTAINABLE WATER SERVICES



Walailak University is committed to providing free drinking water that is clean, safe, and accessible to students, staff, and visitors as an essential public utility and component of quality of life. In 2025, the university strengthened its drinking water provision by expanding access points across the campus while simultaneously improving water production, filtration, quality control, and monitoring systems. This integrated approach ensures that the provision of free drinking water is not limited to the existence of facilities but is supported by systematic development, stakeholder engagement, and measurable evidence of water quality and safety.





The development of the university's water supply system began with an assessment of the capacity and requirements of its growing campus community. Since 2025, the Chalanusorn Water Treatment Plant has served as the university's main source of tap water production. The system uses rainwater and water collected from the Chalanusorn Reservoir, which covers approximately 329,385 square meters and has a storage capacity of approximately 4,940,775 cubic meters. The treatment plant has a production capacity of approximately 400 cubic meters per hour, equivalent to approximately 4,800 cubic meters per day or 1,728,000 cubic meters per year. The water is distributed throughout the university through an HDPE pipeline network, providing the infrastructure necessary to support reliable water services across the campus.

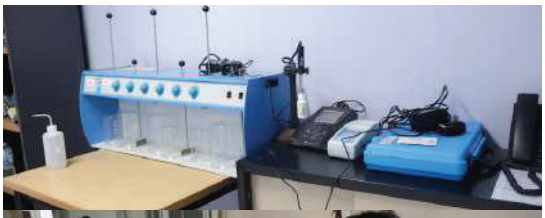
To improve the existence and accessibility of free drinking water provision, the university expanded the number of drinking water service points from 140 to more than 183 water fountains locations across the university. These water fountains cover key areas including academic buildings, student dormitories, academic and research facilities, food centers, and other operational buildings. As a result, students, staff, and visitors can access drinking water free of charge without having to travel long distances to obtain it. The expansion represents a substantial improvement in the availability of free drinking water and demonstrates the university's commitment to equitable access to essential public utilities.

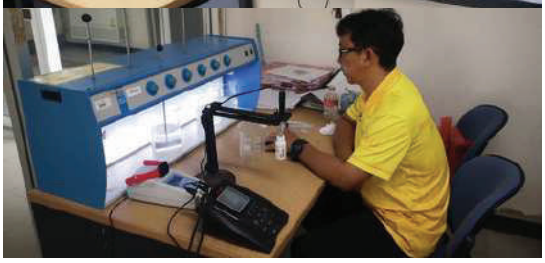
The university has also developed the technical infrastructure supporting these drinking water fountains. Many service points use Reverse Osmosis (RO) filtration systems, while others provide stainless-steel hot and cold water dispensers and fountains. The four-stage RO filtration system has a filtration precision of up to 0.0001 microns, helping to remove suspended particles, impurities, heavy metals, bacteria, and viruses. Each drinking water dispenser and fountain has a production capacity of approximately 190 liters per day, with a 5-liter cold-water tank maintained at approximately 4-12°C and a 4-liter hot-water tank maintained at approximately 70-85°C. These systems enable the university to provide free convenient access to drinking water in different environments.





Also, the university's development of free drinking water provision is accompanied by a systematic quality assurance and safety management process. Drinking water dispensers are cleaned monthly, filters are replaced every six months, and water quality is regularly tested against the relevant Thai Industrial Standards (TIS) for drinking water, including standards applicable to non-bottled drinking water. The monitoring process covers microbiological, physical, chemical, and heavy-metal parameters, including Coliform, E. coli, Fe, Mn, Cu, Zn, Pb, Cd, Cr, As, fluoride, chloride, nitrite, nitrate, and sulfate. These procedures provide an ongoing mechanism for identifying potential risks and maintaining the quality and safety of the university's free drinking water services.





Moreover, the university's measurement and monitoring results provide evidence of the effectiveness of these systems. Water samples collected from drinking water service points showed no detection of Escherichia coli at any tested location or sampling period, demonstrating strong microbiological safety. Coliform results at most service points were negative. Physical water quality indicators were also favorable. Turbidity at the drinking water points was generally below 0.6 NTU, substantially lower than the applicable standards.

Chemical measurements further support the quality of the university's drinking water provision. At many service points, Total Dissolved Solids (TDS) and Total Hardness were measured at less than 5 mg/L, indicating effective filtration and low levels of dissolved substances. Key heavy metals, including Pb, Cd, Cr, As, Mn, Cu, Zn, and Fe, were either below the reporting limits of the analytical methods or within the applicable safety standards. Other chemical parameters, including fluoride, chloride, nitrate, nitrite, and sulfate, were also within the required standards. These measurement results provide evidence that the university's free drinking water system is capable of delivering water that meets required quality and safety criteria.

Through this integrated system, Walailak University goes beyond simply providing free drinking water. The university has established a wide service supported by reliable water production infrastructure, more than 156 free drinking water points, advanced RO filtration technology, regular maintenance, quality testing, and measurable safety outcomes. The initiative demonstrates the university's commitment to ensuring that students, staff, and visitors have equitable access to safe drinking water, while using evidence-based monitoring and continuous development to maintain the quality, reliability, and sustainability of this essential public utility.

THE SYSTEMATIC PROCESSES FOR WASTEWATER MANAGEMENT AND WATER POLLUTION PREVENTION



WU has established an integrated water management system that combines wastewater treatment, pollution prevention, water quality monitoring, infrastructure maintenance, and treated-water reuse to protect university water resources and minimize environmental impacts. By 2025, these processes had been incorporated into the university's infrastructure and routine operations, creating a systematic approach that addresses pollution risks from the point where water is generated and collected through treatment, discharge, and reuse.



The process begins with diagnostic assessment of water and pollution risks across the university. Wastewater generated from academic buildings, residential facilities, cafeterias, and service areas is identified and managed according to its potential pollution sources. Grease traps are installed in food preparation areas to prevent fats, oils, and grease from entering the wastewater system. Stormwater and runoff are also managed through retention and detention ponds, which temporarily store and slow runoff, allowing suspended solids and sediments to settle and reducing the risk that pollutants such as oil, dust, nutrients, and heavy metals will enter downstream water systems. Natural and semi-natural drainage canals further support campus water management, with annual dredging and maintenance to remove accumulated sediment, waste, and obstructions.

Based on these assessments, the university has developed and maintained infrastructure and treatment processes to control pollution and improve water quality. Wastewater is conveyed through pumping stations equipped with automatic mechanical screens that remove solid waste before treatment. The centralized wastewater treatment plant applies multiple treatment stages, including preliminary treatment, secondary biological treatment through an aerated lagoon and facultative ponds, and tertiary treatment using ultraviolet (UV) disinfection and a constructed wetland. Raw water is also tested using water quality Test Kits, while Jar Tests are conducted to determine appropriate coagulation and flocculation conditions and optimize the dosage of treatment chemicals such as alum and polymers. These processes help improve contaminant removal while reducing unnecessary chemical use and treatment-related impacts.





Effective implementation depends on engagement of responsible personnel in routine operation, inspection, maintenance, and decision-making. Staff monitor wastewater treatment processes, inspect drainage infrastructure, conduct canal maintenance, perform water quality tests, and use test results to adjust treatment operations when necessary. This approach enables the university to respond proactively to abnormal conditions, heavy rainfall, blockages, sediment accumulation, and other potential pollution incidents rather than relying solely on corrective action after problems occur.



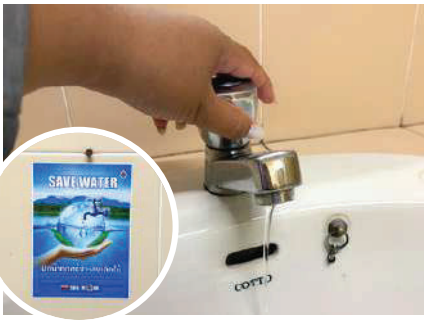
The effectiveness of these processes is demonstrated through continuous measurement and monitoring. Wastewater quality analyses conducted in January, June, and September 2025 showed stable pH values of 6.8–7.1 and dissolved oxygen (DO) levels of 4.2–5.4 mg/L. Heavy metals, including nickel, manganese, zinc, copper, lead, cadmium, total chromium, and arsenic, remained substantially below regulatory limits. BOD was recorded at only 2.3 mg/L in January, while ammonia nitrogen (NH_3-N) was 0.11 mg/L in June. Water flow meters and the Smart Farm monitoring system are also used to compare water consumption and wastewater generation, strengthening data accuracy and management transparency. Inspection and maintenance records provide additional evidence for evaluating infrastructure performance and pollution risks.

Finally, treated wastewater that meets environmental quality standards is reused for non-potable purposes, including landscape irrigation, lawn sprinklers, fish ponds, cooling water for the waste incinerator, vehicle washing, and cleaning roads and public areas. Through this connected process of risk assessment, infrastructure development, operational engagement, measurement, and water reuse, Walailak University promotes water circularity, reduces pollution risks, and supports sustainable and responsible water resource management.

PROMOTING CONSCIOUS WATER USE AND STRENGTHENS WATER SECURITY THROUGH MULTI-LEVEL COLLABORATION

Walailak University has adopted a comprehensive approach to water conservation and sustainable water management, addressing both water use within the campus and practical conservation beyond the university. In 2025, the university implemented activities to promote conscious water usage on campus, provide off-campus water conservation support, promote conscious water usage in the wider community, and strengthen cooperation on water security at local, regional, national, and global levels. These efforts combine needs assessment, knowledge development, stakeholder engagement, practical action, and ongoing measurement to promote responsible water use and strengthen long-term water security.

Promoting Conscious Water Usage on Campus



The university began by identifying areas and behaviors associated with daily water consumption and developed communication measures that reach users directly at points where water is used. Water conservation campaign signs were installed in high-use areas to actively promote conscious water usage on university. Messages such as “Use only what is necessary” encourage university community to recognize in reducing unnecessary water consumption.



Also, these physical campaigns are complemented by continuous communication through electronic displays, WU website, and social media, allowing water conservation messages to reach the wider university community and reinforces conscious water use beyond individual activities. Also, “Water Mindfulness” activity is organized to actively promote conscious water usage to understand the value and importance of water. Rather than focusing only on reducing water consumed, these activities aim to influence attitudes and everyday behaviors so that responsible water use becomes part of its culture. Additional awareness activities are organized around World Water Day and Water Conservation Day, including exhibitions and educational activities that explain the importance of water resources and the role individuals can play in conservation. Exhibitions covering the water cycle, water sources, and the importance of water resources help transform water conservation from an abstract environmental issue into practical knowledge that can be understood and applied in daily life.



The “One Person, One Bottle” campaign further encourages individuals to use reusable personal water bottles and reduce dependence on bottled drinking water. Together, these activities demonstrate active promotions of conscious water usage on campus and create opportunities for students and staff to participate directly in water conservation.

Supporting Practical Water Conservation Off Campus

Walailak University's role in water conservation extends beyond the campus through off-campus practical water conservation support that applies academic knowledge, data, and innovation to real community water challenges. The university’s role in supporting off-campus water conservation has demonstrated practical implementation and sustainable positive impacts through the Living Weir Project, promoting community engagement and integrates local wisdom with scientific research. It also organizes awareness-raising activities and practical workshops to develop and extend the lifespan of Living Weirs, ensuring their durability and compatibility with freshwater ecosystems. In addition, the university transfers accessible technologies, such as satellite imagery and Community Sensors, under the concept of Citizen Science, enabling local communities to independently monitor and track changes in aquatic ecosystems via the internet.





The university also supports the development and dissemination of the REMS Toolkit, consisting of Easy Agri, which supports agricultural water analysis, and Easy Prapa, which supports analysis of tap water and household water use. These tools help communities assess water quantities, water sources, and water demand. The resulting information can be used to plan water allocation more appropriately and reduce risks associated with drought. This represents a shift toward data-informed water management in which communities can use practical information to support their own water conservation.

In addition, university personnel participate in committees and water resource management programs in Southern Thailand, including initiatives addressing rainfall, flooding, and drought. Through these activities, academic knowledge is connected with practical water management, including the development of water storage capacity, drainage management, and watershed restoration.

Promoting Conscious Water Usage in the Wider Community



The university's off-campus activities also contribute to promoting conscious water usage in the wider community by transferring knowledge, tools, and practical approaches to communities and organizations. Rather than treating water conservation solely as an institutional responsibility, the university supports communities in understanding their local water conditions and developing appropriate responses.



Through living weir, the REMS Toolkit, participation in water management committees, and knowledge exchange with local stakeholders, communities gain opportunities to understand water availability, water demand, conservation practices, and risks associated with floods and droughts. These activities encourage more informed and responsible water use while strengthening local capacity to manage water resources.

The university's approach therefore combines promotion, practical support, and knowledge transfer, allowing water conservation messages to move beyond the campus and become part of wider community water management practices.

Cooperation on Water Security at Local, Regional, National, and Global Governments

Because water security requires coordination across administrative boundaries, Walailak University has established cooperation on water security with government agencies, academic institutions, communities, civil society organizations, and international organizations.



At the local level, the university works with municipalities, the Nakhon Si Thammarat Provincial Disaster Prevention and Mitigation Office, the Royal Irrigation Department, local administrative organizations, agricultural agencies, community-based water management organizations, and communities in the Pak Phanang River Basin, as well as agencies working in the Khuan Kreng peat swamp area. Cooperation focuses on addressing real water challenges, including flooding, saltwater intrusion, acidic water, drainage, and peatland restoration. This local engagement enables academic knowledge and technical expertise to be connected directly with community-level water problems.



At the regional level, the university collaborates with the Office of the National Water Resources (ONWR) Region 4, Rajamangala University of Technology Srivijaya, river basin committees, the Nakhon Si Thammarat Provincial Water Resources Subcommittee, and the Upper East Coast Southern River Basin Committee. These partnerships support the integration of water-related data and the development of water management plans at the river-basin level, helping different agencies coordinate their responses to shared water challenges.



At the national level, Walailak University cooperates with the Office of the National Water Resources (ONWR) and relevant government agencies to connect local information, projects, and water management plans with national water governance mechanisms. This creates a pathway for knowledge and evidence generated at the local level to contribute to broader national water security planning.



At the global level, the university collaborates with GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) under Thai-German cooperation to exchange knowledge, technologies, research, and approaches to water security linked to ecosystems and climate change. International engagement enables the university to learn from broader experiences and incorporate relevant approaches into water security management suited to local and regional contexts.

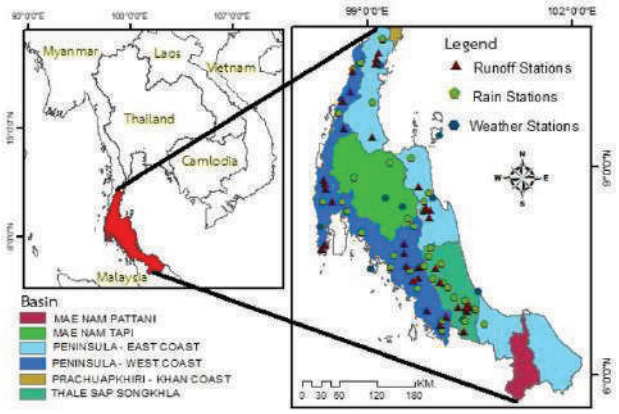
The university's overall approach demonstrates a continuous process of diagnostics, development, engagement, and measurement without treating these as separate activities. Diagnostics involves identifying water-use behaviors, community needs, water availability, and risks such as flooding and drought. These findings inform the development of practical interventions, including awareness campaigns, living weir, the REMS Toolkit, water management activities, and coordinated planning.

Engagement brings together students, staff, communities, local authorities, river basin committees, national agencies, academic institutions, and international organizations. Measurement is supported by the collection and analysis of water-related information, including water availability, demand, local water conditions, and risks, which can be used to guide planning, evaluate interventions, and improve future actions.

Through this integrated approach, Walailak University goes beyond conducting individual conservation campaigns. It has developed a broader system for promoting conscious water usage on campus, supporting practical water conservation off campus, promoting conscious water usage in the wider community, and strengthening cooperation on water security across Local, Regional, National, and Global levels. By connecting awareness, behavioral change, practical innovation, evidence-based decision-making, stakeholder engagement, and continuous improvement, the university contributes to more responsible water use and stronger long-term water security for the campus, surrounding communities, and the wider region.

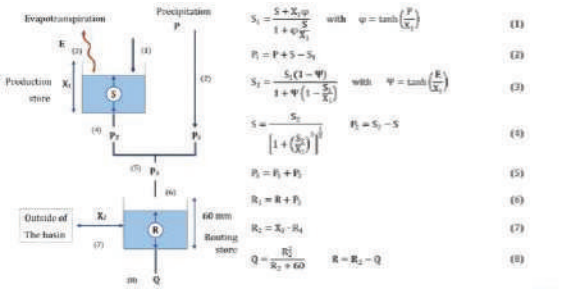
APPLYING THE GR2M MODEL TO SUPPORT SUSTAINABLE WATER RESOURCE MANAGEMENT IN SOUTHERN THAILAND

Effective water resource management is essential for sustainable development, particularly in regions facing increasing risks from floods, droughts, and seasonal variations in water availability. In line with Sustainable Development Goal 6 (SDG 6: Clean Water and Sanitation), the application of scientific knowledge and hydrological modeling can strengthen water resource planning, improve water security, and support evidence-based decision-making. This study evaluated the performance of the GR2M hydrological model for simulating monthly runoff in southern Thailand.



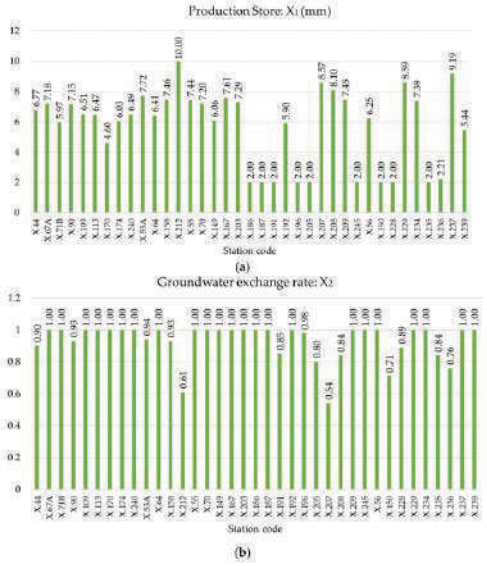
The study covered three major sub-basins: the Thale Sap Songkhla (TSS), Peninsular-East Coast (PEC), and Peninsular-West Coast (PWC) basins, encompassing a total of 37 streamflow monitoring stations. The southern region receives substantial rainfall influenced by the northeast and southwest monsoons, but also experiences recurring floods and short periods of drought. Accurate estimation of monthly runoff is therefore important for water allocation, reservoir management, flood preparedness, and drought mitigation.

The GR2M model is a conceptual rainfall-runoff model that uses only two main parameters, X1 and X2, together with monthly rainfall, runoff, and potential evapotranspiration data. Its relatively simple structure makes it particularly useful for areas where comprehensive hydrological datasets are not available. The assessment showed satisfactory model performance, with

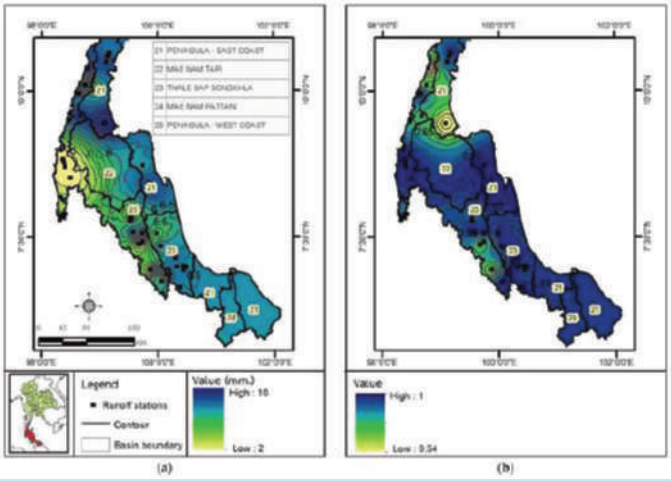


an average Nash-Sutcliffe Efficiency (NSE) of 0.657 during calibration and 0.472 during verification. The average correlation coefficients were 0.825 and 0.750, while the Overall Index (OI) values were 0.757 and 0.639, respectively.

Sensitivity analysis indicated that X1 was highly sensitive to model performance, while higher values of X2 generally improved the model results, with the best performance observed when X2 exceeded 0.90. Spatial analysis using the Inverse Distance Weighting (IDW) method also helped identify variations in hydrological characteristics across the southern region. These findings provide useful information for improving the application of the model to different watershed conditions.



The study demonstrates that GR2M can serve as a practical tool for water allocation planning, water storage management, and preparedness for floods and droughts, especially in areas with limited hydrological observations but available rainfall and temperature data. By improving the understanding and estimation of water availability, the model can support more informed decisions regarding the use, conservation, and management of water resources.



Overall, the application of GR2M contributes to evidence-based and sustainable water resource management by strengthening hydrological assessment and supporting preparedness for water-related risks. The approach can also be adapted to watersheds with similar characteristics, providing a useful foundation for enhancing water security, climate resilience, and sustainable management of freshwater resources, in support of the objectives of SDG 6.

Applying GR2M Model to Community-Based Water Resources Management

Beyond macro-level policy planning, the GR2M model can be effectively translated into concrete, community-based water management practices. Because the model relies on minimal baseline inputs–primarily rainfall and temperature data–local communities and administrative organizations can readily utilize simulated monthly runoff insights as a practical planning tool. This enables local agricultural sectors to align cropping schedules and irrigation allocation directly with expected seasonal water availability. Furthermore, understanding monthly runoff trends allows communities to anticipate short-term drought periods, prepare household water storage in advance, and establish early-warning measures for flood risks. Ultimately, this shifts community climate adaptation from a reactive response to a proactive, resilient framework that safeguards long-term local water security.

7 AFFORDABLE AND CLEAN ENERGY

WU SDG MOVE



1. WU IMPLEMENTS A BUILDING RETROFIT PLAN TO ENHANCE ENERGY EFFICIENCY ACROSS EXISTING BUILDINGS
2. CARBON MANAGEMENT AND EMISSION REDUCTION PROCESS AT WALAILAK UNIVERSITY
3. THE COMMUNITY OUTREACH PROGRAMMES FOR ENERGY EFFICIENCY AND CLEAN ENERGY
4. WALAILAK UNIVERSITY'S ASSISTANCE TO LOW-CARBON INNOVATION AND START-UPS
5. THERMOCHEMICAL ENERGY STORAGE INNOVATION FOR SOLAR ENERGY EFFICIENCY

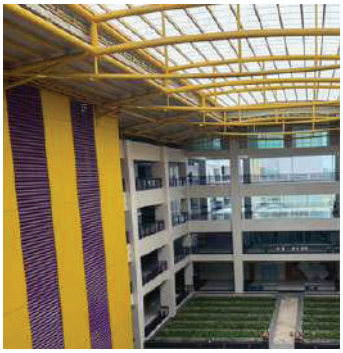
7 AFFORDABLE AND CLEAN ENERGY

SDG 7 : AFFORDABLE AND CLEAN ENERGY

WU IMPLEMENTS A BUILDING RETROFIT PLAN TO ENHANCE ENERGY EFFICIENCY ACROSS EXISTING BUILDINGS

WU is committed to improving energy efficiency and reducing environmental impacts through the implementation of a comprehensive building retrofit plan for existing buildings. The university has established a long-term strategy to upgrade existing buildings to higher energy efficiency in accordance with Energy Efficient Building (EIT) standards, supporting institutional sustainability goals and contributing to greenhouse gas emission reduction.

As part of this initiative, the university has undertaken a series of improvements to building components that significantly influence energy performance. One of the major upgrades includes replacing conventional roofing materials with metal sheet roofing, which provides superior heat reflectance and reduces heat accumulation inside buildings. In addition, translucent roof panels have been installed to maximize the use of natural daylight during daytime hours, thereby reducing electricity consumption for artificial lighting.





Furthermore, the university has upgraded all indoor lighting systems by replacing conventional light fixtures with high-efficiency LED lighting, which consumes significantly less electricity while providing improved illumination. To further optimize energy consumption, automatic lighting and air-conditioning control systems have been installed, allowing electrical equipment to operate according to actual occupancy schedules and building usage patterns.



Besides, motion sensors have been installed in appropriate areas to automatically switch lighting on and off based on occupancy, eliminating unnecessary electricity consumption in unoccupied spaces and improving overall higher energy efficiency.

To strengthen energy management, Walailak University has integrated Information and Communication Technology (ICT) into its energy management system. ICT-based technologies are used to monitor renewable energy systems, collect and analyze building energy consumption data, and support evidence-based planning and operational decision-making. This digital energy management approach enables the university to optimize energy use, improve operational efficiency, and continuously monitor building performance.

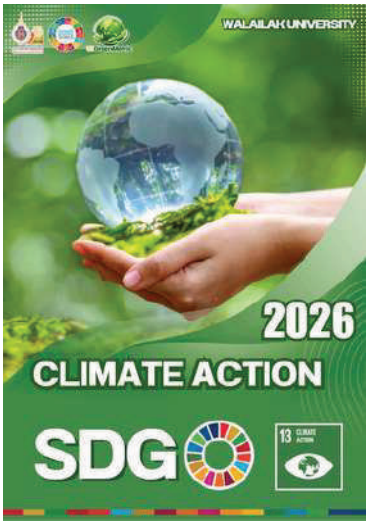


The implementation of upgrade existing buildings plan demonstrates WU's commitment to enhancing the energy performance of existing buildings through integrated design improvements, energy-efficient technologies, and intelligent energy management systems. These measures contribute to reduced electricity consumption, improved resource efficiency, and lower greenhouse gas emissions while supporting the university's long-term sustainability objectives.

By combining energy-efficient building materials, advanced lighting technologies, automated control systems, occupancy sensors, and ICT-based energy management, Walailak University continues to transform its existing infrastructure into a more sustainable and environmentally responsible learning environment. This achievement contributed to Walailak University being ranked 1st in Thailand in the Infrastructure category of UI GreenMetric World University Rankings for 5 consecutive years.

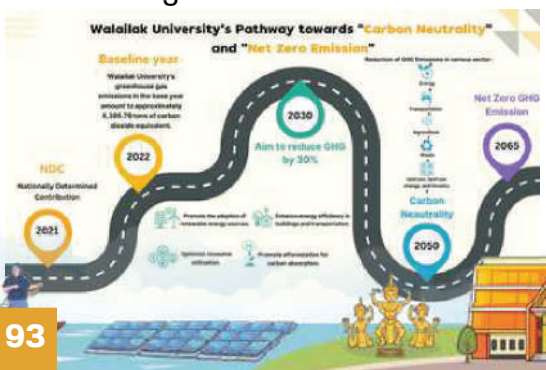
CARBON MANAGEMENT AND EMISSION REDUCTION PROCESES AT WALAILAK UNIVERSITY

WU recognizes the environmental impacts associated with greenhouse gas emissions from its operations and has established a systematic process for carbon management and emission reduction. The process begins with assessing the sources and volume of greenhouse gas emissions from university activities across Scope 1, Scope 2, and Scope 3. The assessment identified total emissions of 11,075 tCO_2e, comprising 3,628 tCO_2e from Scope 1, 5,215 tCO_2e from Scope 2, and 2,232 tCO_2e from Scope 3. These emission data provide a baseline for identifying major emission sources and developing appropriate measures to reduce the university's carbon footprint.





Based on this assessment, Walailak University established a policy framework through the Announcement of Walailak University Re: Climate Action Policy B.E. 2567 (2024), which provides a clear direction for climate action and greenhouse gas emission reduction. To ensure effective implementation and institutional oversight, the university established dedicated governance mechanisms, including the Committee for Driving Missions in Response to Sustainable Development and the Carbon Neutrality Steering Committee. These committees are responsible for coordinating, monitoring, and driving actions across relevant university units to ensure that operational activities are aligned with the university's sustainability and carbon reduction goals.



Under this framework, the university has implemented a range of measures targeting energy use, transportation, resource consumption, and operational practices. Key measures include reducing plastic use, promoting the use of electric vehicles, improving

energy efficiency through the use of energy-efficient electrical equipment, and replacing conventional diesel with B7 diesel in all backup generators.

These measures are implemented under the supervision and monitoring of the relevant committees, ensuring that carbon reduction is integrated into the university's operational management rather than being treated as a stand-alone activity.

The university also promotes engagement among relevant departments and personnel in implementing carbon reduction measures. Actions are translated from institutional policy into practical activities across the university, encouraging changes in energy consumption, transportation, resource use, and material management. This approach enables carbon management to be embedded in day-to-day university operations and encourages collective responsibility for reducing greenhouse gas emissions.



The effectiveness of these measures is assessed through quantitative monitoring of greenhouse gas emissions. As a result of implementing the university's carbon management policy and related measures, Walailak University achieved a total estimated reduction of 1,717.85 tCO_2e per year, comprising 2.28 tCO_2e/year from Scope 1, 1,585 tCO_2e/year from Scope 2, and 49.75 tCO_2e/year from Scope 3. These results demonstrate measurable progress in reducing greenhouse gas emissions and provide evidence for evaluating the effectiveness of the implemented carbon reduction measures.


T-VER

The Ministry of Natural Resources and Environment
with
The Thailand Greenhouse Gas Management Organization
(Public Organization)

This Certificate of Honor is hereby awarded to

Walailak University

to certify that

Solar Rooftop Leasing Project for the Center for Scientific and Technological Equipment Buildings at Walailak University

registered on
Standard Thailand Voluntary Emission Reduction Program
(Standard T-VER)

With an expected greenhouse gas reduction/removal amount of

1585 tCO_2eq/year

Crediting period of the project is from 1 May 2025 - 30 April 2032

Issued on 23 September 2025

Nakorn.

Mr.Nakorn Tangsvirapat
Executive Director
Thailand Greenhouse Gas Management Organization

The university's carbon reduction efforts have also been recognized through its receipt of T-VER certification/recognition, providing further evidence of its concrete action on greenhouse gas reduction. Overall, Walailak University's approach demonstrates a continuous carbon management process that connects emission assessment and identification of major sources, policy development and institutional governance, implementation of practical reduction measures, stakeholder engagement, and quantitative monitoring of outcomes. This systematic approach provides an established process for managing carbon emissions and reducing greenhouse gas emissions across university operations.

THE COMMUNITY OUTREACH PROGRAMMES FOR ENERGY EFFICIENCY AND CLEAN ENERGY

Walailak University has established community outreach programmes that provide local communities with opportunities to learn about the importance of energy efficiency and clean energy and apply appropriate energy technologies in their daily lives and livelihoods. The programmes respond to community needs in areas such as household energy use, ecotourism, fisheries, marine tourism, and livestock production, with the aim of reducing unnecessary energy consumption, lowering energy costs, and increasing the adoption of renewable energy.



The programmes begin with diagnosing local energy-related challenges and identifying opportunities to improve energy efficiency. Community activities focus on understanding patterns of energy consumption, reducing unnecessary energy losses, and encouraging behavioural changes toward more efficient energy use. Particular attention is given to tourism-related activities, where energy efficiency can contribute to both lower operating costs and environmentally responsible ecotourism. Through community learning activities, participants are encouraged to understand the relationship between energy efficiency, environmental conservation, and sustainable community development.



Based on these needs, the university develops and delivers practical learning programmes on clean energy, particularly solar energy and biomass energy. One programme provides knowledge and practical demonstrations on the use of solar energy for aquatic animal holding ponds. A solar power system is installed to replace fossil-fuel-based energy, together with an energy storage system that enables continuous energy use when sunlight is unavailable.



The university also provides community outreach and knowledge transfer on solar energy for fishing boats and tourism boats. Community members and local operators learn about the importance of clean energy and the potential to replace conventional energy sources with solar power, including the use of solar energy for lighting systems on boats. This practical approach enables local stakeholders to understand how clean energy technologies can be adapted to their specific activities and potentially reduce fossil fuel consumption.



Another programme focuses on biomass energy and renewable energy in the livestock sector. The university provides local communities with knowledge on environmental management and renewable energy, including the installation and maintenance of a biogas production system using pig manure. Participants are able to learn from and observe the system through actual implementation and operation. This approach demonstrates how livestock waste can be transformed into a useful energy resource while simultaneously addressing waste management and environmental impacts.

Engagement is an essential component of these programmes. Rather than providing information solely through lectures, the university connects local communities with practical demonstrations, technology installation, hands-on learning, and real-world applications. Communities are therefore able to participate in the learning process and explore how energy efficiency and clean energy solutions can be integrated into their own activities.

The university uses practical implementation and operational outcomes to measure the effectiveness and applicability of the programmes. Evidence includes the implementation of solar energy systems, energy storage systems, solar applications for boats, and biogas systems for livestock operations. These activities provide tangible evidence that community outreach goes beyond awareness raising and results in the practical application of energy efficiency and renewable energy technologies.

Through this systematic process, Walailak University demonstrates an established local community outreach programme for energy efficiency and clean energy that connects diagnosing local needs, developing appropriate programmes and technologies, engaging community stakeholders, and measuring practical implementation and outcomes. The programmes strengthen community knowledge and capacity to reduce energy waste, adopt renewable energy, reduce dependence on fossil fuels, and support environmentally sustainable livelihoods and ecotourism.

WALAILAK UNIVERSITY'S ASSISTANCE TO LOW-CARBON INNOVATION AND START-UPS

Walailak University provides assistance to start-ups and community-based enterprises that foster and support a low-carbon economy and low-carbon technologies. The university acts as a source of academic knowledge, technical support, and innovation development, helping local start-up identify opportunities to reduce carbon emissions, adopt clean energy, enhance carbon sequestration, and create economic value from local resources. Through this approach, low-carbon innovation is connected with practical community-based economic activities.



The process begins by diagnosing the needs, challenges, and potential of local start-up and community enterprises whose activities have the potential to contribute to a low-carbon economy. The university identifies opportunities where knowledge, technology, and innovation can reduce dependence on fossil fuels or strengthen natural carbon sinks. Two examples of supported community-based start-ups are the Nai Thung Local Fishing Association and the Ban Bang Talumpho Integrated Nipa Palm Ecosystem Learning Center.



For the Nai Thung Local Fishing Association, the university provides assistance through knowledge transfer on the importance and application of clean energy in local fishing activities. The association promotes the use of solar panels to provide lighting on fishing boats, creating an opportunity to replace conventional fossil-fuel-based energy with renewable energy. The university supports the community by providing knowledge on clean energy and its potential applications, enabling local fishers to understand how solar energy can be integrated into their existing operations.



For the Ban Bang Talumpho Integrated Nipa Palm Ecosystem Learning Center, the university supports a different form of low-carbon innovation by focusing on carbon sequestration in nipa palm ecosystems. The university provides assistance in assessing the value of carbon sequestration and supports the development of products derived from nipa palm resources. These products are intended to create additional economic value while supporting a tourism model based on net-zero-carbon tourism. This approach connects ecosystem conservation, carbon management, local economic development, and sustainable tourism.

Following the identification of community needs, the university develops and provides targeted assistance that is appropriate to each start-up's context. The support goes beyond general awareness raising by connecting academic expertise with practical applications. For the fishing community, assistance focuses on clean-energy knowledge and the practical potential of solar-powered boat lighting. For the nipa palm ecosystem learning center, assistance focuses on carbon sequestration assessment, carbon-related value creation, and product development for emerging low-carbon tourism markets.



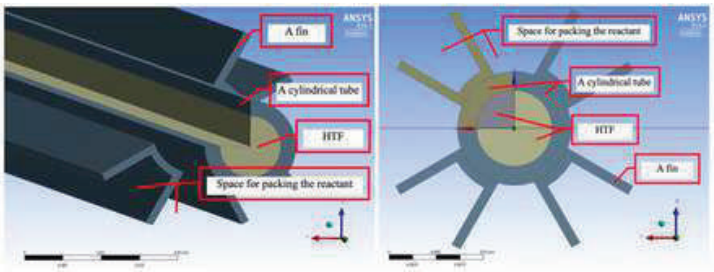
Engagement is central to the implementation of these initiatives. The university works with local start-ups and community groups to understand their existing activities, identify opportunities for improvement, and translate academic knowledge into practical solutions. This collaborative approach allows community stakeholders to participate in the development and application of low-carbon technologies and business opportunities rather than simply receiving information from the university.

The university also measures the outcomes and applicability of the assistance through tangible evidence of implementation. For the Nai Thung Local Fishing Association, evidence includes the application of solar energy for lighting on fishing boats. For the Ban Bang Talumpho Integrated Nipa Palm Ecosystem Learning Center, evidence includes the assessment of carbon sequestration value and the development of nipa palm-based products to support low-carbon and net-zero tourism. These outcomes demonstrate how university assistance can translate low-carbon concepts into practical technologies, products, and economic opportunities.

Through this systematic process, Walailak University demonstrates an established mechanism for assistance to low-carbon innovation and start-ups. The approach connects diagnosing community needs and opportunities, developing appropriate low-carbon solutions, engaging start-ups and local communities, and measuring practical implementation and outcomes. By supporting clean-energy applications in local fisheries and carbon-sequestration-based innovation in nipa palm ecosystems, the university contributes to the development of community enterprises and start-ups that foster a more sustainable low-carbon economy.

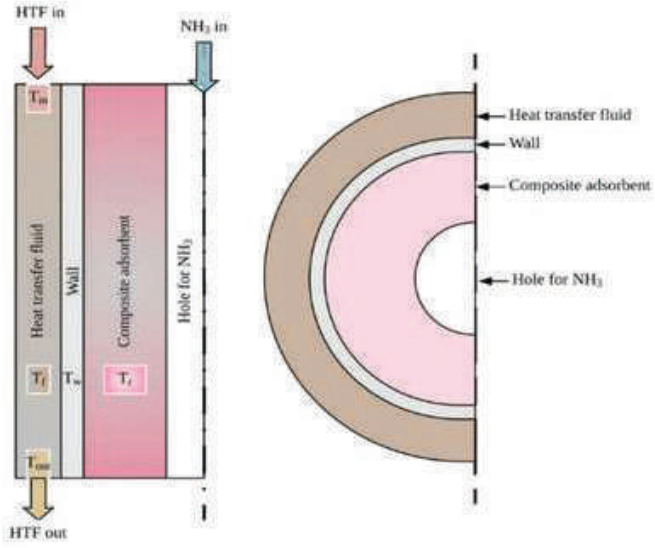
THERMOCHEMICAL ENERGY STORAGE INNOVATION FOR SOLAR ENERGY EFFICIENCY

Solar energy is a promising clean energy source, but its intermittent nature creates challenges for continuous energy use. This research therefore develops a Thermochemical Energy Storage (TCES) system using Strontium Chloride ($SrCl_2$), selected for its cost advantages and stability as a thermochemical storage material.



The research diagnoses the limitations of solar energy storage and develops two heat exchanger configurations: Water Jacket (Simple Reactor Layers) and Fin-tube, with the latter designed to increase heat-transfer surface area. ANSYS Fluent is used to simulate fluid flow and heat transfer, supporting the optimization of the system design and operating conditions.

The results demonstrate that the Compression Ratio (CR) significantly affects the desorption rate and Heat Transfer Fluid (HTF) requirements. Increasing CR from 1 to 4 reduces the HTF flow rate by almost 10 times, while the system achieves an energy storage efficiency of up to 94% at CR = 16. These quantitative results provide evidence for optimizing system performance and reducing energy requirements.



The water jacket heat exchanger of the thermochemical energy storage.

The innovation also has potential for engagement and integration with Photovoltaic-Thermal (PVT) systems, allowing solar thermal energy to be stored and subsequently used for cooling in a dual-use application. This approach is particularly relevant to Southeast Asia, where solar energy potential is high and cooling demand is significant.

The research measures performance through simulation and quantitative evaluation of desorption rate, HTF flow rate, and energy storage efficiency. Future development will focus on optimizing HTF flow control, investigating alternative storage materials, and testing TCES-PVT integration under real operating conditions.

Overall, the research demonstrates a systematic process that connects diagnosing the challenges of solar energy storage, developing an optimized TCES system, engaging with potential clean-energy applications, and measuring performance through quantitative evidence. The results highlight the potential of $SrCl_2$-based TCES to improve the efficiency, stability, and practical utilization of solar energy as part of the transition toward a cleaner energy system.

8 DECENT WORK AND ECONOMIC GROWTH



1. COMMITMENT TO FAIR EMPLOYMENT FOR BUILDING AN EQUITABLE WORKPLACE
2. EMPLOYEE RIGHTS PROTECTION AND APPEAL PROCESS
3. EXPANDING WORK PLACEMENT OPPORTUNITIES THROUGH COLLABORATION
4. PROMOTING MANDATORY WORK PLACEMENTS THROUGH COOPERATIVE

8 DECENT WORK AND ECONOMIC GROWTH

SDG 8 : DECENT WORK AND ECONOMIC GROWTH

COMMITMENT TO FAIR EMPLOYMENT FOR BUILDING AN EQUITABLE WORKPLACE



Employment practices can significantly affect employees' dignity, equality, security, and opportunities for professional development. Diagnosing and identifying potential risks and inequalities in employment practices is therefore important to prevent discrimination, unequal treatment, forced labour, human trafficking, child labour, and unfair employment conditions that can create unsafe and inequitable workplaces and undermine employees' rights. Recognizing these challenges, Walailak University (WU) has established policies and employment practices to promote non-discrimination, equal employment opportunities, ethical labour standards, workers' rights, fair remuneration, pay equity, and equitable treatment.





WU is committed to fostering an equitable, diverse, inclusive, and respectful workplace where all employees are treated with dignity and fairness. This commitment is reflected in *the Policy on Employment and Labor Management, B.E. 2569 (2026).* The policy provides an institutional framework for fair employment, equal opportunities, gender equality, non-discrimination, anti-harassment, employee protection, and respectful workplace practices.

Preventing Discrimination and Promoting Equal Employment Opportunities

WU prohibits discrimination and unequal treatment in the workplace. Employees should not experience discrimination based on gender, ethnicity, nationality, religion, age, disability, sexual orientation, gender identity, or other personal characteristics. These principles apply throughout the employment cycle, including recruitment, appointment, remuneration, promotion, career advancement, professional development, training, performance evaluation, and other employment-related decisions.



WU recognizes that workforce diversity contributes to institutional excellence, innovation, and sustainable development. In 2025, women represented 64% of all University staff, while men represented 36%. The University also employed 61 international staff



members, of whom 72% were women, demonstrating the participation of employees from different national and cultural backgrounds.

Staff members are able to express their gender identity through appropriate attire, including during official ceremonies and formal University activities, in accordance with institutional policies on equality, dignity, inclusion, and non-discrimination.

Located in Tha Sala District, an area with a significant Muslim population, WU recognizes the importance of accommodating different religious beliefs and practices. In 2025, Muslim employees represented 14% of the University's workforce. Staff members are free to practise their religion, observe religious customs, and express their beliefs without discrimination or prejudice.



Protecting Employees from Forced Labour, Modern Slavery, Human Trafficking, and Child Labour

WU maintains a strong commitment to ethical employment and the protection of human and labour rights. The University does not engage in child labour, forced labour, modern slavery, or human trafficking, and its employment practices are conducted in accordance with applicable labour laws and regulations. WU employs workers through lawful and ethical employment practices and does not tolerate employment arrangements involving coercion, exploitation, forced work, human trafficking, or child labour.

Ensuring Fair and Equivalent Treatment of Outsourced Workers

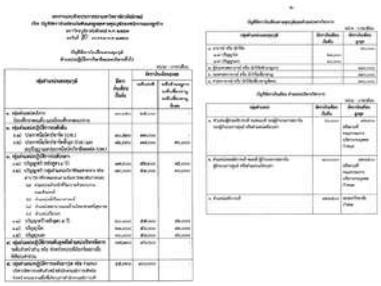
WU recognizes that responsible employment practices should extend to workers engaged through outsourcing, contracting, procurement, and third-party service arrangements. The University therefore promotes fair and ethical treatment of outsourced personnel and requires external service providers and contractors to comply with applicable labour standards and regulations. This includes respect for workers' rights, lawful employment, fair working conditions, non-discrimination, protection from forced labour and human trafficking, prohibition of child labour, and ethical employment practices.

The University also promotes fairness, transparency, accountability, and equal opportunity through competitive procurement and vendor selection processes. Qualified vendors and contractors are given opportunities to participate in procurement processes, while proposals are evaluated according to established and transparent criteria.

Promoting Pay Equity and Fair Remuneration

WU is committed to equal pay for equal work and equitable remuneration. Compensation is determined according to relevant factors such as educational qualifications, employment category, responsibilities, and professional experience, rather than gender or other personal characteristics.

The *Walailak University Council Announcement on the Starting and Maximum Salary for Walailak University Employees and Contract Staff, B.E. 2557 (2014)* establishes standardized salary scales for university employees and contract staff. By using defined salary structures and employment categories, the University provides a consistent framework for determining remuneration and supporting pay equity, transparency, fairness, and equal employment treatment.

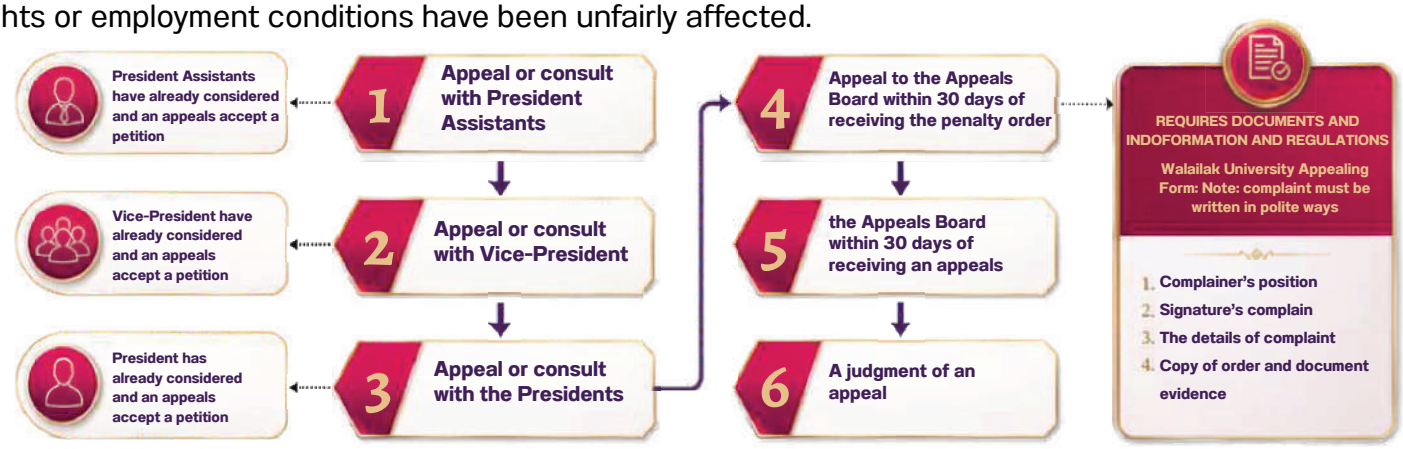


Through its policies, employment practices, procurement processes, measures, and grievance mechanisms, Walailak University demonstrates its commitment to ending workplace discrimination, preventing modern slavery and exploitative labour, prohibiting child labour and human trafficking, protecting the rights of outsourced workers, and promoting pay equity. WU continues to build a workplace based on equality, dignity, fairness, diversity, inclusion, ethical employment, decent work, and respect for human rights, enabling all employees and workers involved in University operations.

EMPLOYEE RIGHTS PROTECTION AND APPEAL PROCESS

WU recognizes that employees may encounter workplace situations in which their rights, employment conditions, or remuneration are affected by decisions or practices they consider unfair, discriminatory, or inconsistent with university regulations. Without a clear and accessible mechanism for employees to raise concerns, diagnose underlying workplace issues, and appeal decisions, such issues may remain unresolved and can undermine fairness, transparency, employee well-being, and trust in the workplace.

To ensure that employees have access to a fair and transparent process, WU issued the WU Regulations on Appeals, Complaints, and Consideration of Appeals and Complaints B.E. 2569 (2026). The regulations establish procedures for employee appeals, complaints, grievance handling, and the consideration of appeals and complaints, helping staff members seek a review when they believe that their rights or employment conditions have been unfairly affected.



Grounds for Appeal

WU staff members may submit an appeal when they believe that they have been treated unfairly or that their employee rights or employment practices have been adversely affected. Grounds for appeal may include gender, religion, age, refugee status, or political views, as well as situations in which an employee is unfairly denied work assignments or subjected to unreasonable delays or dilatory practices by supervisors.

Initial Practice and Consultation

Before submitting a formal appeal, a staff member is encouraged to discuss the matter with an appropriate higher-level supervisor. This may include an Assistant to the President, Vice-President, or President.

Duration of Appeal

A staff member must submit an appeal within 30 days of becoming aware of the circumstances or grounds giving rise to the appeal. This defined timeframe helps ensure that employee complaints and appeals are considered promptly and systematically.

Requirements of an Appeal or Complaint

An appeal or complaint must clearly describe the situation, decision, or employment practice that the staff member considers unfair or incorrect and explain the reasons why the decision or practice is considered unjust. Staff members may also express their intention to make an oral declaration before the Appeals Committee/Appeals Board, where applicable under the university regulations.

Appeal Process

The staff member may first consult or appeal to an Assistant to the President, followed by a Vice-President and, where necessary, the President. If the matter remains unresolved or the employee is entitled to further review under the regulations, the employee may submit an appeal to the Appeals Board within the specified 30-day period.

The Appeals Board reviews the appeal based on the relevant documents, information, evidence, and university regulations before reaching a decision. A staff member also has the right to object to or challenge a decision of the Appeals Board in accordance with the applicable WU regulations.

Through this formal employment practice appeal process, WU provides employees with an accessible mechanism and appropriate measures to protect their employment rights, employment conditions, and pay and to raise concerns regarding unfair or discriminatory treatment. The process strengthens fairness, transparency, accountability, non-discrimination, due process, grievance resolution, and employee protection within the University workplace. By providing multiple levels of review and a formal Appeals Board, WU demonstrates its commitment to ensuring that employment-related concerns can be addressed through a structured, impartial, and transparent process.

EXPANDING WORK PLACEMENT OPPORTUNITIES THROUGH COLLABORATION



Transitioning from university to the world of work can be challenging for students, particularly when academic knowledge is not accompanied by sufficient opportunities to gain practical experience in professional environments. A diagnostic assessment of students' preparation for employment can help identify gaps in workplace skills, understanding of organizational

practices, adaptation to professional expectations, and the ability to connect academic learning with labour-market demands. Recognizing the importance of experiential learning and career preparation, WU continues to strengthen collaboration with external organizations to expand work placement opportunities and integrate real-world professional experience into students' education.



WU has strengthened its network of external organizations through Memoranda of Understanding (MOUs) with public and private-sector partners, creating opportunities for students to gain practical experience outside the university. These collaborations support work-integrated learning (WIL), Cooperative and Work Integrated Education (CWIE), professional practice, workplace training, and other forms of experiential education that connect academic learning with professional environments.



In 2025, WU launched a Work Integrated Learning (WIL) project for students in Tourism and Hospitality Management in collaboration with 19 public and private organizations in Krabi Province. The initiative provides students with opportunities to learn and work in real professional environments, enabling them to apply classroom knowledge to practical situations and develop job-ready skills. Participating partners include Krabi City Municipality, the Krabi Hotel Association, the Tourism Authority of Thailand's Krabi Office, and 17 leading hotel operators. The collaboration reflects a strong university-industry partnership enhancing students' employability, professional competencies, and career readiness.





WU is also expanding professional practice opportunities for students preparing to become teachers. Through an MOU with the Nakhon Si Thammarat Secondary Educational Service Area Office and 71 schools, together with Nakhon Si Thammarat City Municipality, Hat Yai City Municipality, and Muslim Santitham Foundation School, WU established a network of 75 partner organizations to support academic cooperation and professional training.

WU is further strengthening international opportunities for professional and academic development through its cooperation with Can Tho University's School of Education (CTU SoE) in Vietnam. The five-year collaboration promotes teaching and learning, research, and student and staff exchange.

In addition, WU has established cooperation with Nantawan Co., Ltd. and Thai Obayashi Training Center to strengthen academic, research, and teaching collaboration in construction and occupational safety. The partnership focuses on developing curricula that equip students with knowledge, skills, and competencies aligned with national workforce needs and industry requirements.

Through the continued expansion of mandatory work placement and work-integrated learning opportunities, WU seeks to improve students' employability, career readiness, and transition from education to employment. As part of these measures, WU will continue developing partnerships with external organizations and expanding placement opportunities across academic disciplines, ensuring that students have meaningful opportunities to apply their knowledge, develop professional skills, experience real workplace environments, and prepare for decent and productive employment after graduation.

PROMOTING MANDATORY WORK PLACEMENTS THROUGH COOPERATIVE



Entering the world of work can be challenging for university students because academic knowledge alone may not fully prepare them for the practical demands of professional employment. Students may have limited opportunities to develop workplace skills, professional competencies, communication skills, teamwork, problem-solving abilities, and career readiness before graduation.

By diagnosing these challenges and identifying the gap between academic preparation and the practical requirements of the labor market, WU has established structured and mandatory work placements as an important component of its educational approach.

WU supports student work placements through the Center for Cooperative Education and Career Development, a dedicated organization responsible for promoting cooperative education, career development, and authentic workplace learning. The center aims to develop academic programs and educational planning in response to the workforce needs of society and the nation, while providing students with opportunities to develop their knowledge, practical skills, professional competence, and career readiness through authentic working experiences. It also supports students' self-realization, professional development, employability, and career preparation, helping them prepare for successful transitions from university to employment.

Work placements at WU provide students with opportunities to apply academic knowledge in real-world professional environments outside the university. The placement period is eight months, allowing students sufficient time to become familiar with workplace responsibilities, organizational practices, professional



communication, teamwork, problem-solving, and industry-specific requirements. WU facilitates both domestic and international work placements, enabling students to gain practical experience across different organizational, professional, and cultural contexts.

In 2025, 3,201 WU students participated in work placements, including placements with organizations in both domestic and international settings. Through these placements, students gained opportunities to experience authentic working environments and apply knowledge and skills acquired through their academic programs. The large number of participating students demonstrates WU's commitment to providing structured opportunities for experiential learning, workplace learning, professional skills development, career preparation, and graduate employability.

WU also strengthened its engagement with employers and external organizations through WU Coop Day 2025 and WU Coop Job Fair 2025, which were held on the same day and at the same location. The events brought together WU students and partner organizations and provided opportunities for students to explore available positions, learn about career opportunities, and interact directly with potential employers. Numerous organizations established booths at the events to introduce their work-placement and employment opportunities. WU also presented awards to outstanding organizations that supported student work placements, recognizing the important role of external partners in providing meaningful cooperative education, workplace learning, career opportunities, and professional development.



Through these initiatives, WU has strengthened its university-employer partnerships, industry engagement, career development, experiential learning, and workforce preparation. The university's commitment to providing students with practical workplace experience was further recognized in 2025, when WU received a national-level Cooperative and Work-Integrated Education (CWIE) award as an excellent university for student work-placement mobilization. This recognition demonstrates WU's efforts to integrate cooperative education and work-integrated learning into its educational approach and to build effective partnerships with external organizations for student professional development.

Through the center's mobolization, mandatory workplacements, extended eight-month workplace experiences, domestic and international opportunities, employer partnerships, and career-oriented events, WU demonstrates its commitment and measures to prepare students for the world of work. These measures and initiatives contribute to career readiness, employability, experiential learning, workplace learning, skills development, university-employer partnerships, workforce development, and successful graduate transitions into employment, while ensuring students can complement their academic knowledge with meaningful practical experience before entering the labor market. The statistics showed that, in 2025, 81% of graduates were employed, while 3.1% continued their studies.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



1 STRENGTHENING RESEARCH IMPACT THROUGH INTELLECTUAL PROPERTY AND INNOVATION DEVELOPMENT

2 FROM UNIVERSITY RESEARCH TO SUSTAINABLE SPIN-OFF BUSINESSES

3 STRENGTHENING RESEARCH-INDUSTRY COLLABORATION THROUGH RESEARCH COMMERCIALIZATION

4 TRANSFORMING OIL PALM WASTE INTO CREATIVE INNOVATION:ADVANCING SUSTAINABLE INDUSTRY AND COMMUNITIES

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

SDG 9 : INDUSTRY, INNOVATION AND INFRASTRUCTURE

STRENGTHENING RESEARCH IMPACT THROUGH INTELLECTUAL PROPERTY AND INNOVATION DEVELOPMENT



WU promotes the relevance of university research to society and industry by supporting the transformation of research findings and knowledge into intellectual property, innovation, and commercial applications. Through the Science and Technology Park, the university provides researchers, startups, and innovation-driven entrepreneurs, particularly those working with Deep Tech, with access to intellectual property protection processes, patent and petty patent guidance, funding opportunities, and legal knowledge. Besides, the university develops partnerships with the Department of Intellectual Property to strengthen pathways from research and innovation to practical applications.

The university continuously diagnoses the potential of research outputs with commercial and societal relevance and provides support for researchers to develop their research into protectable intellectual property and innovative products. This process involves engagement among researchers, students, entrepreneurs, industry partners, and external agencies, creating opportunities to exchange knowledge, develop prototypes, and move research beyond the academic environment toward practical and commercial applications.



Since 2021, WU has achieved 77 registered intellectual property works, including 17 new petty patents registered in 2025. These intellectual property outputs originated from the university's 16 academic schools, spanning a diverse range of fields, including food and food processing, pharmaceuticals and cosmeceuticals, herbal products, science and medical science, biotechnology, architecture and design, agriculture and agricultural technology, fisheries, and other disciplines. These achievements demonstrate the university's capacity to transform multidisciplinary research into practical innovations that contribute to industrial development and societal well-being. The breadth of these outputs demonstrates the university's capacity to translate research from multiple disciplines into innovations with potential value for society and industry.



One example is a the Rotating Star Chart for Determining Star Rise and Set Times Independent of Observer Latitude. It is a Petty Patent in astronomy designed for worldwide use, regardless of the observer's geographical location. The device consists of a double-sided rotating star chart made from circular cardboard, displaying the horizon coordinate system and azimuth angles, along with two transparent circular plastic sheets representing celestial objects in the equatorial coordinate system. This innovation was developed to overcome the limitations of conventional rotating star charts, which can determine star positions only at a specific observer latitude. The newly developed chart enables users to convert celestial coordinates from the equatorial coordinate system to the horizontal coordinate system, allowing them to determine the positions and rising and setting times of stars at different latitudes conveniently and accurately. It serves as a practical educational tool for teaching astronomy, astrology, and archaeoastronomy, making it suitable for upper secondary school students, university students, educators, and the general public interested in astronomy.

Another example is Nora Serum, a nanoemulsion serum developed from mangosteen and Garcinia atroviridis extracts. Based on research into natural bioactive compounds, the product demonstrated antioxidant activity, tyrosinase inhibition, and potential to reduce melanin production in skin cells. The research was further developed through clinical testing, student engagement, innovation competitions, prototype development, and regulatory registration. It received recognition including a Silver Medal at Thailand Research Expo 2020 and awards from the Walailak Entrepreneurial Ecosystem Development, Business Brotherhood, and Startup Thailand League programs. This pathway illustrates how university research can progress from scientific findings to prototypes, intellectual property, and products with potential market applications.

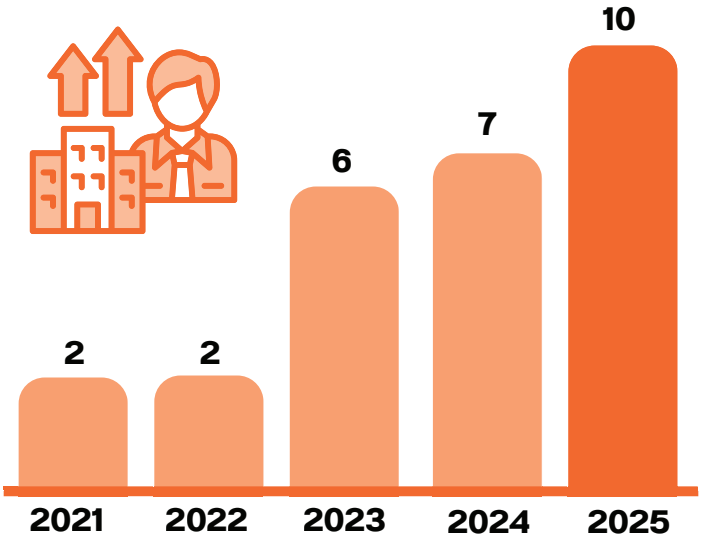


Through continuous diagnostics, development, engagement, and measurement, WU advances research into intellectual property, innovation, and commercialization, promoting industry collaboration, external application, and broader economic and societal impact.

FROM UNIVERSITY RESEARCH TO SUSTAINABLE SPIN-OFF BUSINESSES

WU actively develops an innovation ecosystem that transforms research, intellectual property, and technology into commercially viable enterprises through its Business Incubation Center under the Walailak University Science and Technology Park. The university identifies the potential of research outcomes and innovations, supports their development into products and business models, and connects researchers with industry, entrepreneurs, and communities to facilitate technology commercialization and innovation-driven entrepreneurship.

This development process has resulted in 10 university spin-off companies, defined as registered companies established to exploit intellectual property originating from within the university. The companies span the School of Science, School of Agricultural Technology and Food Industry, School of Allied Health Sciences, and School of Informatics. They include PEM Technology Co., Ltd. (2025), Walai Tricho Plus Co., Ltd. (2024), Oxakin Innotech Co., Ltd. (2023), Lakwalai Biotic Co., Ltd. (2022), Plankton WU Co., Ltd. (2021), Walai Biocontrol Co., Ltd. (2020), Mulberry AI Co., Ltd. (2020), EBSIM Co., Ltd. (2020), Baan Innov Co., Ltd. (2016), and WalaiSoft Co., Ltd. (2011).



Number of Spin-off @WU from 2021 - 2025



The university monitors the progress and sustainability of these enterprises by tracking the number of university spin-offs, their establishment dates, continued operation, and economic performance. Among the companies that have been operating for at least three years, three spin-offs generated measurable economic returns in fiscal year 2025. Together, Walai Biocontrol Co., Ltd., Lakwalai Biotic Co., Ltd., and Oxakin Innotech Co., Ltd. generated THB 10,154,992.63 in annual revenue and THB 1,491,442.92 in combined net profit. These results provide measurable evidence that university-generated knowledge and intellectual property can be translated into sustainable business activities and regional economic value.



Through continuous diagnostics of research and innovation potential, development of technologies and business models, engagement with researchers, industry, entrepreneurs, and communities, and measurement of spin-off establishment, longevity, revenue, and profitability, WU strengthens the pathway from academic research to practical application. The continued operation and economic performance of its spin-off companies demonstrate the university's capacity to create innovation-based enterprises, support technology transfer, generate economic opportunities, and contribute to sustainable regional development.

STRENGTHENING RESEARCH-INDUSTRY COLLABORATION THROUGH RESEARCH COMMERCIALIZATION

WU, recognized as a Frontier Research University, strengthens the connection between university research and the needs of industry and commerce through its Science and Technology Park. The Park serves as a key mechanism for promoting science, technology, and innovation while supporting private-sector research and development (R&D). It connects researchers and experts from academia, government, and industry with businesses seeking solutions to local and industrial challenges, creating a pathway for research to generate practical and economic value.

The university continuously diagnoses research capabilities and industry needs to identify opportunities for collaboration and technology application. Researchers and external partners then develop research findings and innovations into products, technologies, and solutions that respond to real-world needs. This process is supported by active engagement among academic staff, researchers, private-sector partners, entrepreneurs, and the Science and Technology Park, enabling knowledge exchange, joint development, and the transfer of research into industrial applications.



The effectiveness of this approach is reflected in the growth of research income from industry and commerce generated through the application of innovation and research in the industrial sector. Income increased from THB 8,988,422.53 in 2022 to THB 11,005,646 in 2023, reaching THB 17,728,585.59 in 2024, before totaling THB 17,397,302.68 in 2025. Although income decreased slightly by THB 331,282.91 in 2025, it remained at a high level, demonstrating the university's continued ability to translate research and innovation into value for industry and commerce.

In 2025, the university's research income from industry and commerce by subject area was distributed across three major areas: STEM generated THB 11,368,925.71, Medicine generated THB 1,768,700, and Arts & Humanities generated THB 4,259,676.97. This distribution demonstrates that industry engagement extends beyond STEM and medical research to include knowledge and expertise from Arts and Humanities. The activities were supported by 846 academic staff, representing the university's research and teaching capacity across these subject areas.



A representative STEM innovation is the development of a rubber formulation and manufacturing process for a door-handle cover, developed by Asst. Prof. Dr. Prachid Saramolee from the School of Engineering and Technology. The innovation reduces direct contact with door-handle surfaces and helps minimize the risk of pathogen contamination. The technology can also be manufactured domestically, creating opportunities to add value to Thailand's rubber industry while addressing public-health needs.



Another example is “Bac-Tech,” an antimicrobial and wound-healing film spray, developed by researchers from the Center for Scientific and Technological Equipment with expertise from the School of Allied Health Sciences and the School of Medicine. The Science and Technology Park supported the team in advancing the innovation toward commercialization. Bac-Tech won the TED Youth Startup Championship 2025 - Southern Region and received an opportunity to join the FAST-TRACK program with THB 1.5 million in funding to further develop the innovation. This achievement demonstrates how collaboration among researchers, academic experts, and innovation-support units can transform research into market-oriented solutions.

The university measures the outcomes of these activities through research income from industry and commerce by subject area and the number of academic staff by subject area, providing both financial and capacity-based indicators of research-industry engagement. The increase in research income from 2022 to 2024, together with the 2025 income distribution across STEM, Medicine, and Arts & Humanities, provides measurable evidence of the university's ability to connect academic expertise with external demand and industrial application.

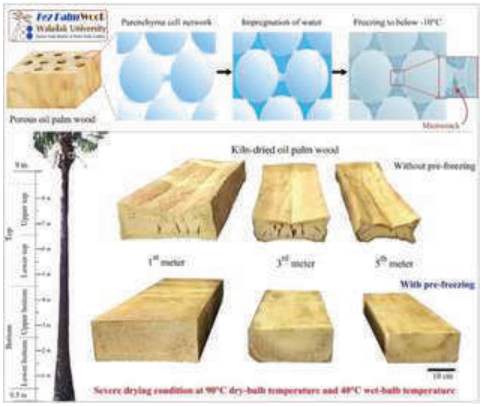
Through continuous diagnostics, development, engagement, and measurement, Walailak University strengthens the pathway from academic research to industrial application and commercial value. By connecting its 846 academic staff with industry and commerce, the university creates opportunities for multidisciplinary collaboration, technology transfer, innovation development, and research commercialization, contributing to regional economic development and strengthening the practical impact of university research.

TRANSFORMING OIL PALM WASTE INTO CREATIVE INNOVATION:ADVANCING SUSTAINABLE INDUSTRY AND COMMUNITIES

Each year, the oil palm industry in Southeast Asia continues to grow rapidly, particularly in southern Thailand, where oil palm cultivation and production capacity account for approximately 4% of the global total. However, when oil palm trees reach the end of their productive lifespan, they are often cut down and discarded or burned, generating approximately 4 million cubic metres of agricultural waste annually.

The research project “Design of an Oil Palm Wood Rocking Chair for Children Aged 3-5 Years” applies furniture design principles to transform discarded oil palm trunks into rocking chairs for children. The project provides a clear example of advancing Sustainable Development Goal 9 (SDG 9: Industry, Innovation and Infrastructure) by converting agricultural waste and residual materials into innovative, value-added products. Its contribution can be highlighted through the following dimensions.

Material and Process Innovation: Diagnostic and Development of Oil Palm Wood



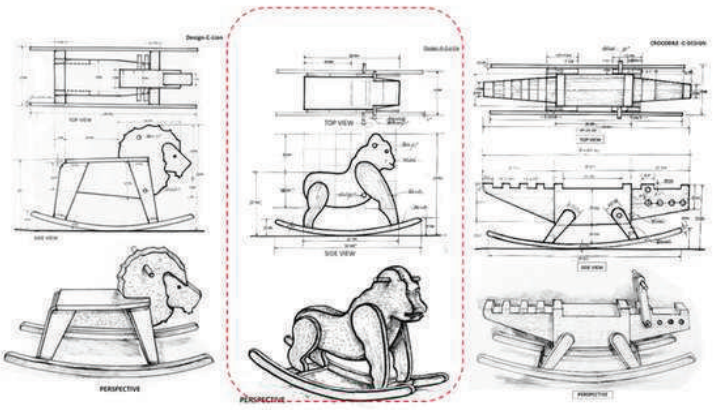
Oil palm wood has inherent structural limitations, including low density, high porosity, and a strong tendency to retain moisture, making the material susceptible to fungal growth and result in properties that are often below the standards required for furniture production. Consequently, oil palm wood has traditionally been underutilized as a furniture material. The research developed a pre-treatment process based on the diagnostic assessment of the material's structural and moisture-related limitations. The process involves injecting water into the oil palm wood, followed by freezing at temperatures below 263 Kelvin (K) to create microscopic cracks, or micro-cracks, within the wood structure. These micro-cracks facilitate rapid moisture removal during intensive drying, followed by heat treatment at an initial temperature of up to 473 K and 273 K in the final stage of the preparation process. This technology enables the wood to maintain its density without collapsing, while improving its strength and reducing moisture retention, fungal growth, and termite damage. The process represents a practical development and process innovation that can potentially be integrated directly into existing rubberwood-processing facilities.

Value Creation and Industrial Development



The development of drying and wood-treatment processes for oil palm wood has the potential to generate up to THB 30 billion in economic value annually, while increasing farmers' income and creating added value for the wood-processing industry. With a low density of approximately 200 kg/m^3 compared with 600 kg/m^3 for rubberwood, oil palm wood is lightweight; the prototype rocking chair weighs only 7.9 kg. This lightweight property can improve transportation efficiency and reduce logistics costs, demonstrating strong potential for industrial applications.

Product Standardization, Safety and Performance Measurement



The gorilla-shaped rocking chair, made from transformed oil palm wood, was tested for strength, durability, and safety in accordance with the international ISO 8124 Toy Safety Standard and relevant Thai Industrial Standards (TIS). The product underwent static load, leg strength, and impact tests to evaluate its structural stability and overall performance. Following structural improvements after the initial impact test, the chair successfully passed all tests without structural failure.

These results demonstrate that agricultural waste and lightweight softwood can be transformed into safe, durable, and functional products that meet recognized safety standards. The standardization and performance testing also support the product's potential for industrial development, market expansion, and increased consumer confidence in sustainably produced products.

Community Engagement and Creative Industrial Development

The innovation is not limited to large-scale industrial production. The research also developed production approaches that support Industrial Craft processes within community enterprises, enabling local residents and community groups in southern Thailand to generate supplementary income beyond agricultural activities.



The approach emphasizes community engagement by making the production process accessible without requiring advanced machinery or highly complex technologies. This creates opportunities for local communities to participate in value-added manufacturing and potentially develop their products into OTOP (One Tambon One Product) enterprises.

This community-based development model demonstrates how technological innovation can be transferred from research settings to local production systems. Through engagement with community enterprises, local knowledge, craftsmanship, and modern material-processing techniques can be integrated to support inclusive and sustainable industrial development.

Furthermore, the project places emphasis on intellectual property development. Applications are currently being prepared for design patents covering three rocking-chair designs: a lion, a gorilla, and a crocodile. Protecting these designs can strengthen their commercial potential and create additional value for local oil palm wood-processing entrepreneurs.

Conclusion

This research provides a practical example of integrating materials science, ergonomic product design, industrial development, and community engagement into a single innovation pathway. By transforming agricultural waste with limited economic value into creative industrial products that meet internationally recognized safety standards, the project demonstrates how research and innovation can contribute to sustainable industrial development.

The combination of diagnostic assessment of material limitations, development of innovative processing methods, measurement of product performance, and engagement with community enterprises creates a comprehensive pathway for transforming waste into value. In this respect, the project directly supports SDG 9 by promoting innovation, sustainable industrialization, value creation, and inclusive technology development from the community level upward.

10 REDUCED INEQUALITIES



1. PROMOTING NON-DISCRIMINATORY ADMISSIONS AND EQUAL ACCESS
2. ACCESSIBLE FACILITIES AND INCLUSIVE SUPPORT FOR DISABLED PEOPLE
3. STRENGTHENING DISABILITY SUPPORT THROUGH ASSISTIVE INNOVATION
4. MENTORING AND SUPPORT FOR UNDERREPRESENTED GROUPS

10 REDUCED INEQUALITIES

SDG 10 : REDUCED INEQUALITY

PROMOTING NON-DISCRIMINATORY ADMISSIONS AND EQUAL ACCESS



Discrimination based on nationality, ethnicity, family background, gender, disability, socioeconomic status, sexual orientation, religion, age, or other personal circumstances can create unequal opportunities for qualified applicants and may prevent individuals from entering and participating in higher education on an equal basis. A diagnostic approach to admissions is therefore important for identifying potential barriers, examining whether admission practices provide equal opportunities, and ensuring that selection processes do not unfairly disadvantage particular groups.



To reinforce this commitment, WU enacted the Policy on Women's Access and Participation in Higher Education, B.E. 2569 (2026), as a separate and updated policy derived from the 2024 Policy on Gender Equality. The policy provides an institutional framework for promoting gender equality, non-discrimination, equal treatment, respect, and protection from discrimination and harassment.

against applicants on the basis of race, nationality, ethnicity, skin color, family background, religion, belief, social status, gender, sexual orientation, age, disability, or other personal circumstances.

The University's non-discriminatory admissions approach supports inclusive access to higher education for groups that may experience structural or social barriers to educational participation. This includes women, LGBTQ+ individuals, people with disabilities, international applicants, first-generation students, economically disadvantaged students, and other underrepresented groups.



Evidence of WU's commitment to widening access can be seen in the diversity of its student population. In 2025, 14,065 students were enrolled at WU, including 9,986 female students. The participation of women on this scale demonstrates the University's contribution to expanding educational opportunities and supporting gender-inclusive access to higher education.

WU also supports access for students who are the first members of their families to pursue higher education. In 2025, 1,890 first-generation students started a degree at WU, including 1,587 first-generation women. First-generation students may face educational and social barriers associated with limited family experience of university education. By providing opportunities for these students to enter university, WU contributes to widening participation, first-generation student inclusion, educational mobility, equal access, social equity, and intergenerational educational opportunity.

The University also promotes international and multicultural access to higher education. In 2025, WU welcomed 203 international students from developing countries, including students from Myanmar, Afghanistan, Indonesia, China, Pakistan, Nepal, Ethiopia, Nigeria, Uganda, and Egypt. The admission and participation of students from diverse national and cultural backgrounds contribute to an inclusive and multicultural academic environment. By welcoming international students, particularly those from developing countries, WU supports international student inclusion, cultural diversity, equal educational opportunity, internationalization of higher education, social integration, and reduced inequalities in access to education.





WU's commitment to equal access also extends to students who may experience financial barriers. Financial assistance can help ensure that socioeconomic circumstances do not prevent qualified students from entering or continuing higher education. In 2025, 749 female students received scholarships, while 19 international students from developing countries received financial support. These measures support educational equity, socioeconomic inclusion, financial accessibility, equal opportunity, student inclusion, and reduction of educational inequalities. Overall, WU's diagnostic and non-discriminatory admissions approach









helps create a more inclusive and equitable higher education environment by reducing barriers to participation and ensuring that qualified applicants have fair opportunities to access education. By supporting women, first-generation students, international students, students with disabilities, economically disadvantaged students, and other underrepresented groups, WU contributes to greater educational equity, social inclusion, diversity, and upward social mobility. These efforts also strengthen the University's commitment to ensuring that personal circumstances do not limit an individual's opportunity to pursue higher education and achieve their full potential.

ACCESSIBLE FACILITIES AND INCLUSIVE SUPPORT FOR DISABLED PEOPLE

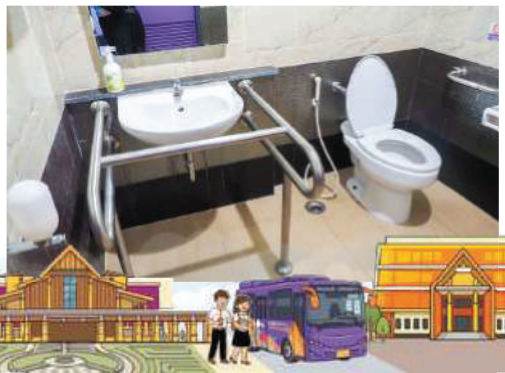


People with disabilities may face physical, environmental, and educational barriers when accessing university facilities and participating fully in campus life. Conducting a diagnostic assessment of accessibility barriers is important for identifying areas where improvements are needed, as inadequate accessibility can restrict mobility, independence, safety, and equal participation in education. Recognizing the importance of accessibility, WU continues to provide and strengthen accessible facilities and support mechanisms for people with disabilities across its campus.

To promote equal access, inclusion, accessibility, and non-discrimination, WU provides accessible facilities throughout the university campus. The university has 45 accessible toilets covering all buildings across the campus, enabling people with disabilities to access essential sanitation facilities conveniently and safely. In addition, WU provides 13 elevators for people with disabilities, supporting accessible movement between different floors of university buildings. The university also provides 45 designated parking areas for people with disabilities covering all buildings across the campus, helping improve convenient and safe access to university facilities.

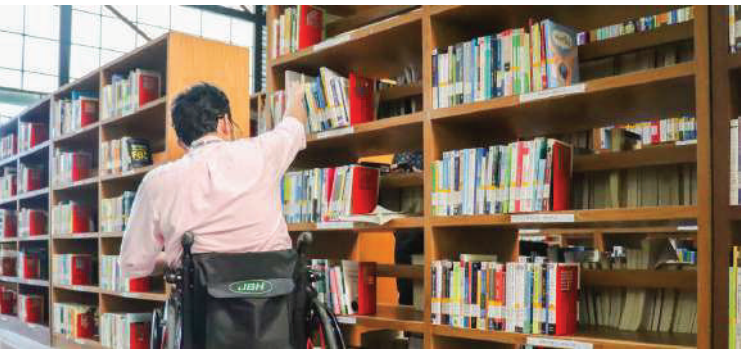
Physical accessibility is further supported through 41 ramps for people with disabilities across the university. These facilities help reduce physical barriers and enable wheelchair users and people with mobility limitations to move between buildings and other areas of the campus more independently.







WU also recognizes that accessibility extends beyond physical infrastructure to include accessible education and learning resources. The Center for Library Resources and Educational Media provides Braille books and audiobooks for students and staff with disabilities, supporting equal access to information, educational materials, and academic resources.



Through these measures, WU demonstrates its commitment to creating an inclusive, accessible, and disability-friendly university environment. By combining accessible infrastructure, assistive and accessible learning resources, and inclusive accommodation arrangements, WU works to reduce barriers and promote equal opportunities, social inclusion, accessibility, universal design, independent living, and participation for people with disabilities. These efforts support the university's broader commitment to ensuring that all members of the university community can access education, facilities, services, and campus life without discrimination or unnecessary barriers.

STRENGTHENING DISABILITY SUPPORT THROUGH ASSISTIVE INNOVATION



People with severe physical disabilities may face significant barriers to communication, mobility, access to information, digital services, and participation in education and everyday activities. Diagnosing and understanding these accessibility barriers is an important step in identifying appropriate disability support services and developing effective solutions. Without appropriate disability support services, accessible facilities, learning resources, and assistive technologies, these barriers can limit equal opportunities, independence, social participation, and quality of life.

In addition to providing accessible facilities and learning resources, WU promotes innovation and assistive technology to support people with severe physical disabilities. Oneexample is LIGHTBRAIN, an innovative brain-computer interface (BCI) system designed to support communication and control for people with severe physical disabilities. The system demonstrates how assistive technology and digital innovation can help address accessibility challenges and create opportunities for individuals with significant physical limitations to communicate, interact with technology, and participate more independently.

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LIGHTBRAIN was developed by third-year students from the School of Informatics, WU, demonstrating WU's commitment to applying technology, student innovation, and interdisciplinary knowledge to real-world accessibility challenges. The development of the system also provides students with an opportunity to contribute to inclusive innovation by designing technology that responds to the needs of people with disabilities. As a measurable outcome of WU's support for student innovation and assistive technology development, LIGHTBRAIN received a Gold Medal at the national level at the Thailand New Gen Inventors Award 2026 (I-New Gen Award 2026). This achievement provides measurable evidence of the effectiveness of WU's efforts to promote technological innovation and the development of solutions that support people with disabilities and improve accessibility.



Through initiatives such as LIGHTBRAIN, WU strengthens its approach to disability support services, assistive technology, accessibility, digital accessibility, inclusive education, equal opportunity, communication support, independence, and social participation.

MENTORING AND SUPPORT FOR UNDERREPRESENTED GROUPS



Students, staff, and faculty from underrepresented groups may experience barriers that limit their equal participation and opportunities within higher education. Without appropriate mentoring, counselling, scholarships, academic assistance, health services, and peer support, individuals from underrepresented groups may face greater difficulties accessing university resources, participating fully in academic life, maintaining satisfactory academic performance, and completing their studies.

Through diagnostic analysis of the needs, experiences, and barriers faced by underrepresented groups, universities can identify areas where additional support and targeted interventions may be required. Recognizing these challenges, WU provides a range of mentoring, counselling, scholarship, tutoring, health, and peer support programmes designed to support students from diverse and underrepresented backgrounds and strengthen their participation and success in university life.

Mentoring and Counselling Schemes



WU provides mentoring and counselling services to support students from diverse backgrounds and help them overcome personal, academic, social, and financial challenges. The University's mentoring schemes are available to students from a wide range of backgrounds, including women, students from low-income or financially disadvantaged families, non-traditional students, LGBT students, students with disabilities, students from ethnic groups, and other underrepresented groups.

The Smile and Smart Center, under the Division of Student Support and Development, provides mentoring and student support services through both face-to-face and online channels. By offering multiple channels of support, WU enables students to seek assistance in ways that are accessible and comfortable for them. The approach promotes student well-being, equal access to support services, social inclusion, and student retention, while helping students from underrepresented groups remain engaged in university life.



Scholarships for Students from Underrepresented and Disadvantaged Groups



Scholarship support is provided to women, financially disadvantaged students, LGBT students, students with disabilities, and other students who require financial assistance. By reducing financial barriers, these scholarships help students access and remain in higher education regardless of their socioeconomic circumstances.

The scholarship scheme contributes to equal opportunity, financial inclusion, educational equity, social mobility, and non-discriminatory access to education. It also supports students from underrepresented groups in continuing their studies and improving their prospects for successful completion and future employment.

WU Tutor Scheme and Peer Academic Support

WU provides the WU Tutor Scheme, which offers academic assistance and peer support to help students improve their academic performance.



The scheme supports students from diverse and potentially underrepresented backgrounds who require additional academic support. Through tutoring, mentoring, and peer-to-peer learning, students receive assistance in addressing academic gaps and strengthening their learning outcomes.

The WU Tutor Scheme also encourages students to learn from and support one another. Peer tutors and academic staff can provide guidance tailored to students' learning needs, helping create a more inclusive learning environment in which students from different backgrounds can participate and succeed.

Women's health programmes, including preventive health services, HPV vaccination, menstrual health support, and sanitary napkin distribution, provide practical assistance that can contribute to women's well-being and participation in university life. By making health support accessible within the university environment, WU helps reduce barriers related to health, gender, socioeconomic disadvantage, dignity, and educational participation.



WU's approach to supporting underrepresented groups extends beyond a single programme. Through mentoring, counselling, scholarships, tutoring, peer support, health services, and targeted assistance, WU seeks to address multiple barriers that may affect students' participation and educational outcomes.

By supporting students from underrepresented groups throughout their university journey, WU contributes to an environment in which individuals can access education, participate fully, receive appropriate support, improve their academic performance, remain engaged, and successfully progress toward graduation. These initiatives demonstrate the University's commitment to reducing inequality within higher education and ensuring that differences in socioeconomic status, gender, disability, ethnicity, sexual orientation, or personal circumstances do not become barriers to educational opportunity.

11 SUSTAINABLE CITIES AND COMMUNITIES



1. FREE PUBLIC ACCESS TO MUSEUMS AND CULTURAL HERITAGE FOR ALL
2. RECORDING AND PRESERVING INTANGIBLE CULTURAL HERITAGE
3. PROMOTING SUSTAINABLE COMMUTING ACROSS THE CAMPUS
4. FREE PUBLIC ACCESS TO GREEN SPACES, OPEN SPACES, AND CULTURALLY SIGNIFICANT PLACES

11 SUSTAINABLE CITIES AND COMMUNITIES

SDG 11 : SUSTAINABLE CITIES AND COMMUNITIES

FREE PUBLIC ACCESS TO MUSEUMS AND CULTURAL HERITAGE FOR ALL





Museums and cultural heritage sites play an important role in providing opportunities for lifelong learning, cultural education, and public access to knowledge. However, financial barriers and limited access to educational and cultural facilities can prevent some members of the public from participating in museum activities and experiencing cultural and natural heritage. These barriers may particularly affect local communities, and people who have limited financial resources. Recognizing and diagnosing these barriers is important for developing inclusive approaches that ensure equitable access to cultural and educational resources.

WU is committed to promoting lifelong learning, public education, and the preservation of cultural and natural heritage by making its museums and learning spaces freely accessible to the public. In 2025, WU officially opened the Sirin Museum and Tumpang Museum on a full scale, welcoming visitors from within and beyond Nakhon Si Thammarat Province.

Sirin Museum

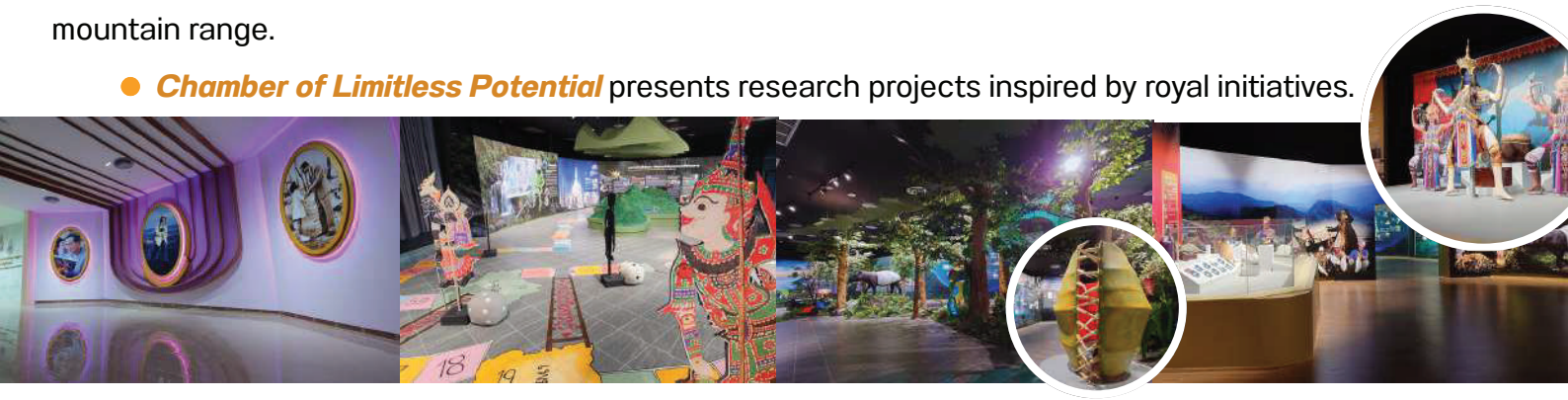
The Maha Chakri Sirindhorn Natural History Museum (Sirin Museum) serves as an important public learning center for environmental education, biodiversity conservation, natural resource conservation, and cultural heritage preservation.



The museum provides an educational environment where visitors can learn about Southern Thailand's natural resources, ecosystems, biodiversity, and cultural heritage.

The Sirin Museum consists of eight permanent exhibition chambers covering different dimensions of Southern Thailand's natural and cultural heritage:

- ***The Kroek Krai (Glorious) Princess Conservationist Chamber*** presents the royal biography of Her Royal Highness Princess Maha Chakri Sirindhorn.
- ***Remembrance of the Resourced Assets Chamber*** introduces the natural and cultural resources of Southern Thailand.
- ***Khao Luang's Abundant Resources Chamber*** showcases the biodiversity of the Khao Luang mountain range.
- ***Chamber of Limitless Potential*** presents research projects inspired by royal initiatives.



- ***The Local Resources of Pak Phanang River Basin Chamber*** features research on the environmental, and cultural resources of the Pak Phanang River Basin.
- ***Coastline of Plenty Chamber*** explores the coastal ecosystems of the Gulf of Thailand through multimedia exhibitions and authentic specimens.
- ***The Gulf of Thailand Chamber*** features a marine aquarium to illustrate Thailand's rich marine biodiversity.
- ***The RSPG Chamber*** concludes the visitor journey by emphasizing natural resource conservation, biodiversity protection, and sustainable resource use.



Throughout 2025, the Sirin Museum welcomed almost 20,000 visitors, demonstrating its role as an increasingly important public learning destination. WU also organized free educational and community activities, including Children's Day activities, the Soft Opening Ceremony, and other outreach programmes.

Tumpang Museum

The Tumpang Museum was established to preserve, interpret, and promote the cultural heritage of Southern Thailand while providing free access to knowledge, cultural resources, and educational experiences for the wider public.

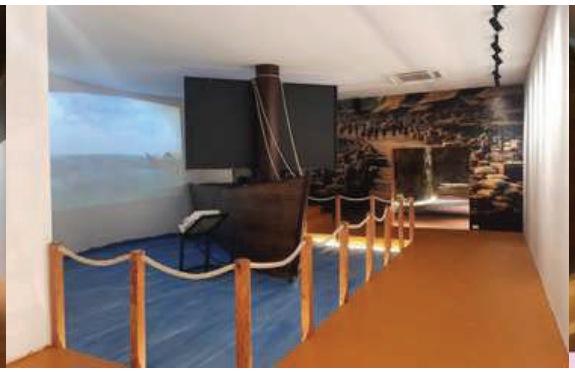


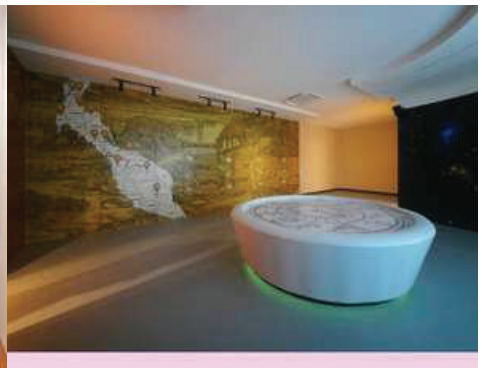
The square-shaped brick structure draws inspiration from the ancient Tumpang Archaeological Site, while the roof incorporates the traditional Southern Pran Yha architectural style. Its exterior walls resemble the historic city walls of Nakhon Si Thammarat, symbolizing cultural continuity, resilience, identity, and the preservation of regional heritage.



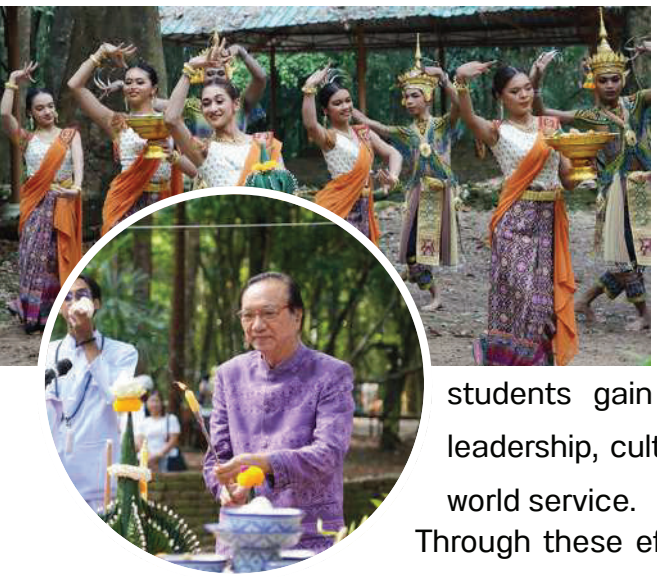
The museum houses exhibitions covering Southern history, archaeology, traditional lifestyles, performing arts, cultural practices, and historical artefacts. The Tumpang Museum transforms scholarly knowledge into engaging and accessible learning experiences. Visitors can explore the history and cultural development of Southern Thailand while gaining a greater understanding of the communities, traditions, and historical connections that have shaped the region.







WU also provides free public access to the nearby Tumpang Archaeological Site, an important historical resource that demonstrates cultural connections among ancient communities and illustrates the economic, artistic, and religious exchanges that influenced Southern Thailand over many centuries.



To further strengthen public engagement and improve visitor learning experiences, WU launched a Museum Guide Training Program that prepared university students to serve as museum guides for Thai and international visitors. The programme provides students with knowledge of museum collections, local history, communication skills, interpretation techniques, and visitor engagement. At the same time, students gain practical experience in public education, communication, leadership, cultural interpretation, and community engagement through real-world service.

Through these efforts, WU demonstrates its commitment to making museums, exhibitions, cultural heritage, scientific knowledge, and educational resources accessible to all. This commitment directly supports providing free public access to museums, exhibition spaces, archaeological sites, cultural artefacts, and educational resources while promoting lifelong learning, cultural heritage conservation, and inclusive participation in community life.



RECORDING AND PRESERVING INTANGIBLE CULTURAL HERITAGE

Intangible cultural heritage, including local traditions, folklore, languages, traditional knowledge, performing arts, food practices, and religious customs, represents an important part of the identity and collective memory of communities. WU diagnoses and assesses risks to intangible cultural heritage, including the loss of traditional knowledge, oral languages, cultural practices, and community traditions. Based on these identified needs, WU undertakes activities to record, document, preserve, promote, and transmit intangible cultural heritage at local, regional, national, and community levels, helping ensure that valuable cultural knowledge remains accessible to future generations.

Preserving Local and Regional Traditions, Performing Arts, and Traditional Knowledge



At the local and regional level, WU supports the preservation of traditional customs and cultural practices through activities. WU organized a traditional local food training activity on the preparation of Kanom Tom, helping preserve traditional culinary knowledge and providing opportunities for cultural knowledge to be learned and transmitted through practical participation. WU further contributes to the preservation of southern Thai performing arts and local knowledge through creative research conducted by the WU Nora Training Center. The performance “Ram Bucha Thuat Tumpang” was presented at the Tumpang Ancient Monument. The performance adapted traditional Nora conventions and incorporated southern Thai identity through dance movements, lyrics, costumes, and local musical instruments.



WU also contributes to the preservation of important regional cultural traditions through its participation in the International Makha Bucha Hae Pha Khuen That Festival in Nakhon Si Thammarat. The festival helps promote the historical Srivijaya Route and strengthen cultural connections and cooperation within the ASEAN Community.

Safeguarding and Transmitting Thailand’s National Cultural Traditions



At the national level, WU organized “Walailak Songkran” in 2025, including the traditional pouring of water to seek blessings from older people. WU also organized the 2025 Candle Casting Ceremony at the Dharma Plaza of WU to maintain Buddhist traditions, with the candles subsequently offered to five temples surrounding WU. In addition, WU organized activities to

preserve the Loy Krathong Festival, providing opportunities for participants to maintain traditional practices associated with gratitude toward the water and cultural beliefs. Together, these activities contribute to the preservation of Thai cultural heritage, traditional knowledge and cultural awareness.



Preserving the Language, Knowledge, and Cultural Identity of Displaced People



Particular attention is also given to the documentation and preservation of the cultural heritage of displaced and indigenous communities. WU researchers conducted fieldwork in Pa Bon and Kong Ra districts of Phatthalung Province as part of the project to study and collect knowledge of the Mani ethnic group in Southern Thailand for dissemination through the Mani Ethnic Museum at WU. A major focus of the research is the Mani language, an oral language without its own established writing system. The research records not only the language itself but also knowledge embedded within conversations, including the Mani people's way of life, beliefs, relationship with nature, environmental knowledge, cultural memory, and oral traditions.

By recording conversations and collecting cultural knowledge directly from community members, WU contributes to preserving an important part of the Mani people's intangible cultural heritage before it is lost or significantly altered over time.

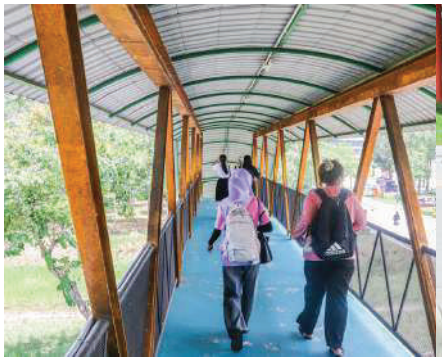
Through these initiatives, WU demonstrates a sustained commitment to recording and preserving intangible cultural heritage through cultural activities, creative research, field-based documentation, oral history, language recording, traditional food training, performing arts, museums, and community engagement. These efforts help safeguard local folklore, traditions, languages, traditional knowledge, religious customs, indigenous heritage, and cultural practices, while creating opportunities for students, staff, communities, and the wider public to participate in cultural preservation.



PROMOTING SUSTAINABLE COMMUTING ACROSS THE CAMPUS



Sustainable commuting on university campuses can be affected by dependence on private vehicles, limited public transportation, inadequate pedestrian and bicycle infrastructure, long travel distances, traffic congestion, and insufficient integration between different modes of transportation. A diagnostic assessment of commuting patterns, transportation needs, and mobility conditions can help identify barriers to sustainable travel and guide appropriate improvements to campus transportation infrastructure and services. Sustainable commuting is therefore important for reducing reliance on private vehicles, promoting walking and cycling, improving access to low-carbon transportation options, and supporting a safer, healthier, and more environmentally sustainable campus.





WU established a dedicated organization, the Division of Landscaping and Building, which is responsible for building, renovating, monitoring, and maintaining pedestrian and bicycle routes and related facilities throughout the campus. In particular, WU has developed 56 pedestrian routes connecting buildings across the campus, enabling students, staff, visitors, and other campus users to travel between facilities more conveniently and safely.





To further improve public access and sustainable mobility, WU provides 9 electric shuttle buses serving different areas of the campus for students, staff, and visitors. The electric shuttle bus service provides an accessible and low-emission transportation option for traveling across the campus. WU also operates 12 vans for staff carpooling, supporting shared transportation and reducing the number of individual vehicle trips. In addition, the university has 8 electric cars used for university missions, contributing to the transition toward electric mobility, low-carbon transportation, and reduced greenhouse gas emissions.

WU has issued its *Policy on Working from Home, B.E. 2569 (2026)*. which provides another approach to reducing unnecessary commuting. The policy can help reduce travel demand, traffic, fuel consumption, and transportation-related environmental impacts while supporting more flexible working practices.





Through these initiatives, WU has promoted sustainable commuting across the campus by strengthening pedestrian and bicycle connectivity, expanding accessible campus transportation, promoting shared mobility, supporting electric transportation, and encouraging low-carbon travel options. These measures have contributed to a safer, more connected, efficient, and sustainable campus transportation environment, enabling students, staff, visitors, and other campus users to travel more conveniently while reducing reliance on private vehicles. The integration of sustainable commuting, electric transportation, pedestrian and bicycle infrastructure, shared mobility, and remote working has helped reduce traffic congestion, transportation-related carbon emissions, fuel consumption, and environmental impacts associated with daily travel.

PROVIDING FREE PUBLIC ACCESS TO GREEN SPACES, OPEN SPACES, AND CULTURALLY SIGNIFICANT PLACES

Public access to green spaces, open spaces, cultural landscapes, monuments, and heritage sites is important for creating inclusive and sustainable communities. However, limited access to recreational and culturally significant places and insufficient public spaces can prevent people from enjoying natural environments, engaging in cultural activities, and connecting with their communities. These challenges may particularly affect local people's ability to access recreational and cultural facilities. WU recognizes the importance of conducting diagnostic analyses to identify barriers to public access, assess community needs, and understand opportunities to improve the accessibility and inclusiveness of recreational, green, and culturally significant spaces.

Free Public Access to Green Spaces

WU provides several green spaces and landscaped areas that are accessible to the general public. Among the university's major public green spaces are Walailak Park, the French Style Garden, and the WU Botanic Park.

Walailak Park is the largest university park in Thailand, covering approximately 100.79 acres. Located near the university's main entrance, the park was designed to provide convenient public access and is open free of charge. The park includes cycling and jogging tracks, open spaces for yoga and group activities, pavilions, seating areas, landscaped gardens, and recreational facilities, allowing visitors to exercise, relax, and enjoy the natural environment. In 2025, more than 30,000 people visited Walailak Park, demonstrating its role as an accessible public green space.





The French Style Garden, located at the entrance of WU Hospital, is another public green space available free of charge. Designed according to the Formal Garden concept of French landscape architecture, the garden emphasizes geometric patterns, symmetry, proportion, order, structured walkways, ornamental plant beds, trees, grasses, white stones, and outdoor art installations. In 2025, more than 25,000 visitors accessed the garden, highlighting its value as an aesthetic and learning green space.

The WU Botanic Park further expands public access to green and open spaces. The park includes landscaped areas, a reservoir, recreational facilities, and spaces designed for community activities. Near the entrance, a scenic tunnel known as "Embrace the Warmth of Sunrise, Bid Farewell to the Gentle Sunset" provides visitors with a distinctive landscape feature for relaxation and photography.





Public Access to Open Spaces and Community Activities

WU also uses its open spaces to provide opportunities for public participation, recreation, cultural exchange, social interaction, and community engagement.

One example is the "WU Happy Fun Run," which brought together university administrators, faculty members, staff, alumni, students, and members of the public. More than 3,000 participants joined the activity, transforming the university's green environment.







WU also opened its Botanic Park to the wider public for the "The Infinity of Love: Marriage Registration – Rak Loy Fah" activity in collaboration with the Tha Sala District Office in 2025. The activity provided 14 couples with an opportunity to register their marriages in a memorable outdoor setting and reflected WU's support for gender equality.

The International Food Festival 2025, held at WU Botanic Park, provided a platform for public participation and cultural exchange, strengthening relationships between Thai and international students. The event attracted more than 266 Thai and international students and also welcomed members of the general public to participate in its activities.



Public Access to Culturally Significant Monuments and Heritage Spaces

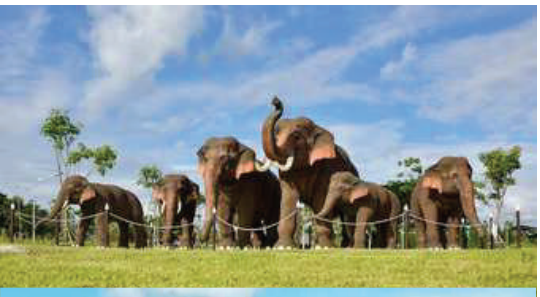
In addition to green and recreational spaces, WU provides access to monuments, cultural landscapes, and places that promote cultural heritage, local identity, and knowledge preservation.



The Golden Manorah Monument serves as a culturally significant landmark that contributes to the conservation and promotion of local cultural heritage. The monument provides a visible representation of cultural identity within the university landscape and allows visitors to engage with cultural heritage as part of the campus environment.



The WU 33 Glory Roll is another distinctive landmark developed through the work of the WU engineering research team. The installation is illuminated at night, creating a prominent visual landmark and contributing to the university's cultural and architectural landscape.



The Thai Elephant Sculpture represents the elephant as an important symbol of Thailand and contributes to cultural awareness, national heritage appreciation, and conservation awareness.



WU also provides access to the Maniq Museum, which contributes to the documentation and preservation of the cultural identity of the Maniq indigenous people of Southern Thailand. The museum includes models representing Maniq people and serves as a learning resource for understanding indigenous culture, traditional knowledge, cultural identity, and heritage preservation.

WU's commitment to public access has strengthened the use of its green spaces, open spaces, cultural facilities, and heritage resources by the wider public. The University's parks and gardens provide accessible spaces for recreation, physical activity, relaxation, social interaction, environmental learning, and community engagement, while its open spaces support public events, cultural activities, and inclusive community participation. Those activities such as the WU Happy Fun Run, marriage registration at the WU Botanic Park, and the International Food Festival have further expanded opportunities for the public to access and enjoy university spaces.





1 UNIVERSITY WASTE TRACKING AND MANAGEMENT SYSTEM FOR SUSTAINABLE WASTE REDUCTION AND RECYCLING

2 WU IMPLEMENTS POLICIES TO MINIMISE PLASTIC USE AND SINGLE-USE DISPOSABLE ITEMS IN SUPPORT OF SUSTAINABLE RESOURCE MANAGEMENT

3 WALAILAK UNIVERSITY'S POLICY AND SYSTEM FOR HAZARDOUS WASTE DISPOSAL

4 FROM AGRICULTURAL WASTE TO SUSTAINABLE FURNITURE : LESSONS FROM AN OIL PALM WOOD ROCKING CHAIR

SDG 12 : RESPONSIBLE CONSUMPTION AND PRODUCTION

UNIVERSITY WASTE TRACKING AND MANAGEMENT SYSTEM FOR SUSTAINABLE WASTE REDUCTION AND RECYCLING

Walailak University has established a systematic waste tracking and management process covering the entire waste management cycle, from waste separation at source to collection, transportation, recycling, and final disposal. The system enables the university to measure the amount of waste generated and recycled across its operations while promoting responsible resource use and continuous improvement.



At the source, the university promotes waste separation through institutional policies, color-coded waste bins, and awareness activities that encourage students, staff, and visitors to participate in proper waste sorting. Initiatives such as waste separation during Children's Day activities, "Waste for Points," "Separate Waste, Happy World," and other waste-to-points activities provide practical opportunities for the university community to engage in waste reduction and recycling. These activities also support the development of reliable waste information by encouraging waste to be separated according to its type from the point of generation.



The university has also developed a structured collection system to support waste tracking throughout the university. Waste collection points have increased from 63 to 66 locations, providing broader coverage of university areas. Waste collection vehicles operate according to designated routes to transport separated waste from collection points to appropriate destinations. This structure strengthens the university's ability to follow waste flows from generation and collection through to final treatment or disposal.

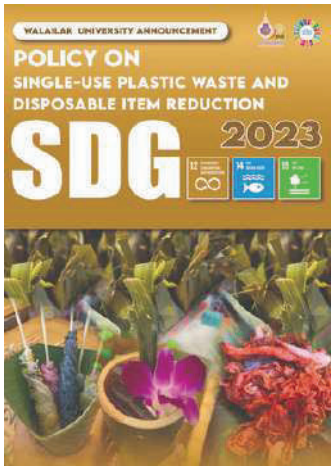


At the destination stage, waste is managed according to its characteristics and potential for recovery. Organic waste is reused for animal feed, compost production, and the production of bio-fermented liquid, while inorganic waste with recovery potential is directed toward recycling. Waste that cannot be recovered or recycled is appropriately managed through landfill disposal. This approach prioritizes resource recovery and recycling while minimizing the amount of waste requiring final disposal.

Through this integrated process, Walailak University can generate evidence of its waste management activities and use collected information to assess the effectiveness of waste reduction and recycling practices. The combination of source separation, systematic collection, recycling, and final disposal provides a clear framework for measurement and continuous improvement. At the same time, university-wide awareness activities strengthen engagement among students, staff, and other stakeholders, while the systematic identification of waste flows supports diagnostics for identifying areas where waste generation and recycling performance can be further improved.

Overall, the university's waste tracking system demonstrates an ongoing commitment to measuring waste generated and recycled across the whole university, supported by documented processes and practical implementation. The system provides a foundation for monitoring performance, strengthening stakeholder participation, and improving waste management toward a more resource-efficient and sustainable campus.

WU IMPLEMENTS POLICIES TO MINIMISE PLASTIC USE AND SINGLE-USE DISPOSABLE ITEMS IN SUPPORT OF SUSTAINABLE RESOURCE MANAGEMENT





Walailak University is committed to reducing the environmental impacts associated with resource consumption by implementing a Plastic Use Minimisation Policy and a Disposable Items Minimisation Policy (2023). These policies establish a comprehensive framework for reducing the consumption of plastics and other single-use materials across the university and form an integral part of the university's sustainable resource management strategy.

The policies are communicated and disseminated to all university stakeholders, including academic and administrative units, staff, students, and on-campus vendors, to ensure consistent implementation throughout the university. They are integrated into daily operations, university activities, and event management practices, promoting environmentally responsible behavior and supporting the university's long-term sustainability objectives.



Under these policies, Walailak University has continuously organized awareness campaigns and behavioural change initiatives to encourage the reduction of single-use plastics and disposable products. These initiatives promote the use of reusable containers, personal drinking bottles and cups, the reduction of plastic bag consumption, and the adoption of reusable or environmentally friendly alternatives for university activities and services.





Through sustained communication and engagement, the university has successfully encouraged widespread participation among students, staff, and university vendors, resulting in significant changes in resource consumption behaviors. The integration of these practices into everyday university life has strengthened environmental awareness and fostered a culture of responsible resource use throughout the university community.

The effectiveness of the existence of these policies is demonstrated by measurable reductions in plastic waste generation. The total amount of plastic waste decreased from 86.96 tonnes in 2024 to 70.84 tonnes in 2025, representing a reduction of 16.12 tonnes, or 18.54%. These results demonstrate that the university's policies have been successfully translated into practical action and have produced quantifiable environmental outcomes.

The reduction in plastic waste reflects the effectiveness of the university's efforts to minimise plastic consumption, reduce reliance on single-use disposable items, and decrease the overall volume of waste generated on campus. These achievements contribute to more efficient resource utilization, reduced environmental impacts, and the university's broader commitment to sustainable campus management.

WALAILAK UNIVERSITY'S POLICY AND SYSTEM FOR HAZARDOUS WASTE DISPOSAL





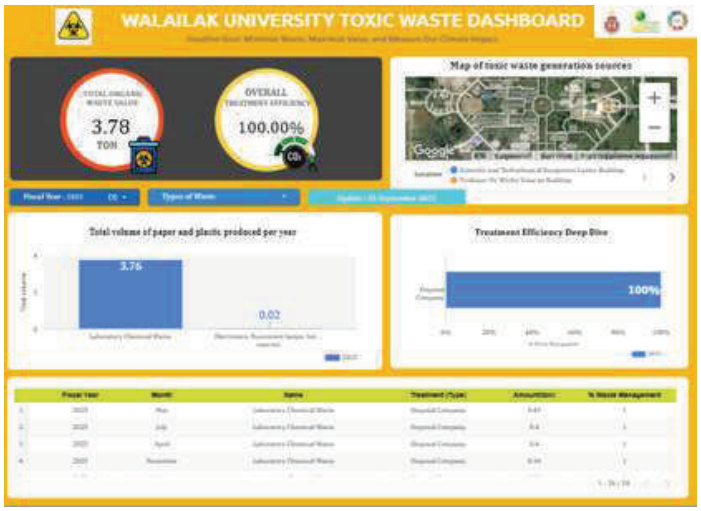
Walailak University has established a comprehensive policy, process, and practice for waste disposal covering hazardous materials to ensure that hazardous waste is handled safely, systematically, and responsibly. The framework is governed by the Policy of *Walailak University on Waste and Hazardous Waste Management B.E. 2569 (2026)*, which provides an institutional basis for managing hazardous waste across the university. The policy was created within the 2022-2026 assessment period and has been translated into operational practices across relevant areas.





The university's hazardous waste management process covers the entire waste management cycle, beginning with source separation, followed by temporary storage, transportation and disposal, and systematic tracking and record-keeping. Dedicated hazardous waste bins are provided according to waste types, with clear labels and symbols placed throughout relevant areas. This enables users to correctly identify and separate hazardous materials at the point of generation, reducing the risk of contamination and supporting the safe movement of waste through subsequent disposal processes.

The policy is supported by practical implementation across the university. Walailak University has established procedures capable of managing 100% of the hazardous waste generated, covering collection, temporary storage, transportation, and final disposal. This demonstrates that the policy is not only formally established but also implemented as an operational practice to minimize risks to human health, safety, and the environment.



To strengthen measurement and continuous monitoring, the university applies digital tools to collect quantitative waste data, analyze management performance, and display waste management information in real time. These data provide a basis for assessing the quantity and management patterns of hazardous waste, identifying potential gaps, and supporting evidence-based improvements to the university's waste disposal system.

The university also promotes engagement and awareness among students and other users through laboratory safety training. These activities provide students with knowledge and practical guidance on the safe handling, separation, and disposal of hazardous waste. In parallel, clearly designated hazardous waste containers and signage make correct separation more accessible in daily practice, helping to embed responsible waste management within the university community.

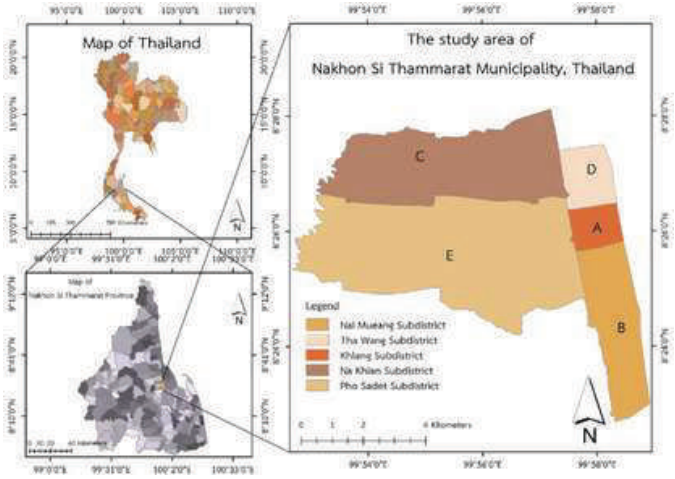


The system also supports diagnostics by connecting operational data, waste separation practices, and monitoring results to the identification of areas requiring improvement. Evidence generated through collection, recording, digital monitoring, and practical implementation enables the university to assess whether hazardous waste is being managed appropriately and where further intervention may be needed. This creates a continuous cycle in which policy guides practice, data support evaluation, and findings inform further development.



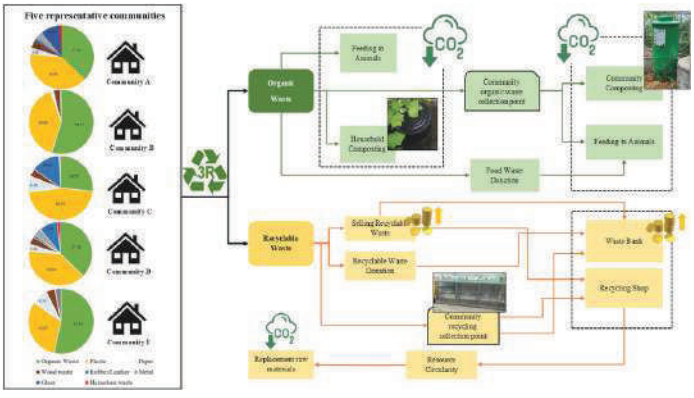
Overall, Walailak University demonstrates a comprehensive approach to hazardous waste disposal, combining an established policy, documented processes, practical implementation, stakeholder engagement, and measurable performance. The availability of operational evidence and digital monitoring strengthens accountability and provides a foundation for continuously developing a safer, more effective, and environmentally responsible hazardous waste management system.

SORTING WASTE AT SOURCE TO REDUCE GREENHOUSE GAS EMISSIONS – CIRCULAR ECONOMY LESSONS



Waste from households and markets includes food scraps that can be composted and certain types of plastic that retain value and can be recycled. When these materials are mixed with general waste, they become harder to recover, and the municipality has more waste to collect, transport, and dispose of. Researchers from the School of Public Health at Walailak University therefore worked with residents and other stakeholders in five communities in Nakhon Si Thammarat Municipality. They examined how sorting waste at source and applying circular economy principles could change the composition of waste sent for disposal and reduce greenhouse gas emissions.

Assessing Waste Composition Before Designing Interventions



The research team began by sorting waste samples to determine the proportion of each type of material. The survey found that organic waste was the main component in residential communities, while plastic waste was prevalent in market communities. This difference helped guide the choice of activities. Residential areas could turn food scraps into compost, while market areas could recover recyclable materials by separating them from mixed waste and collecting them for recycling. The team used a community-based participatory research approach, in which residents, researchers, and other stakeholders jointly developed and tested a waste management model. Involving residents in the design helped each community select activities suited to the types of waste it generated and the options available locally. These activities ranged from composting household food scraps to collecting recyclables through community waste banks.

Turning Food Scraps into Compost and Collecting Recyclables Through Waste Banks



The communities tested separating food scraps from general waste for composting. This put the scraps to use and reduced the amount of organic waste sent for disposal. When food scraps accumulate in waste piles and decompose under low-oxygen conditions conditions, they can generate methane. Diverting food scraps before they reach disposal sites can therefore help reduce greenhouse gas emissions from municipal waste. Residents sorted recyclables either to sell them or to donate them through community waste banks. These banks served as collection points for materials that residents had already separated and helped channel them into the recycling system. Providing a collection route alongside sorting at source helped keep valuable materials in use and created opportunities to earn income from their sale.

Results from the Five Communities



After the communities introduced the circular waste management model, organic waste accounted for a smaller share of the waste sampled, falling by 6.09–11.29 percentage points. The share of plastic waste fell by 4.18–11.11 percentage points. The changes varied across the five communities, reflecting differences in local waste streams and the activities each community adopted. These figures describe changes in waste composition. Estimating how many kilograms of organic waste or plastic were diverted would also require data on the total weight of waste before and after the trial. The researchers estimated that, compared with an open-dumping scenario, the model could reduce greenhouse gas emissions across the five communities by approximately 4,234 kilograms of carbon dioxide equivalent per year, or 4.23 tonnes of CO_2e annually. Composting contributed to this potential reduction by diverting food scraps that could otherwise generate methane as they decompose in waste piles. The researchers also estimated that recovering materials through the model could generate a combined THB 19,537 per year in the study area, illustrating the economic value of separating and collecting materials for reuse or recycling.

The findings illustrate how the same circular economy approach can be adapted to different waste streams. In residential areas, where organic waste was the largest component, composting gave households a way to put food scraps to use. In market areas, where plastic waste was prevalent, sorting and collection helped recover recyclable materials from mixed waste.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13 CLIMATE ACTION



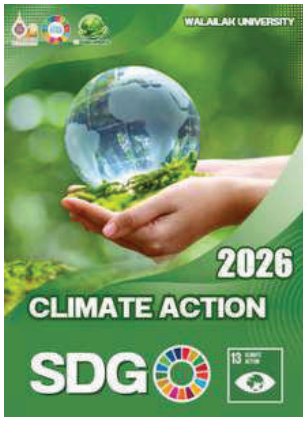
1. LOW-CARBON ENERGY TRACKING AND MEASUREMENT FOR A SUSTAINABLE UNIVERSITY
2. ACHIEVING CARBON NEUTRALITY BY 2030 THROUGH COMPREHENSIVE GREENHOUSE GAS MANAGEMENT
3. LOCAL CLIMATE EDUCATION PROGRAMMES AND CAMPAIGNS
4. INFORMING AND SUPPORTING GOVERNMENT FOR CLIMATE CHANGE DISASTER RISK EARLY WARNING AND MONITORING
5. RESEARCH ON RUNOFF CHANGES IN THE PAK PHANANG BASIN FOR CLIMATE CHANGE ADAPTATION UNDER SDG 13



SDG 13 : CLIMATE ACTION

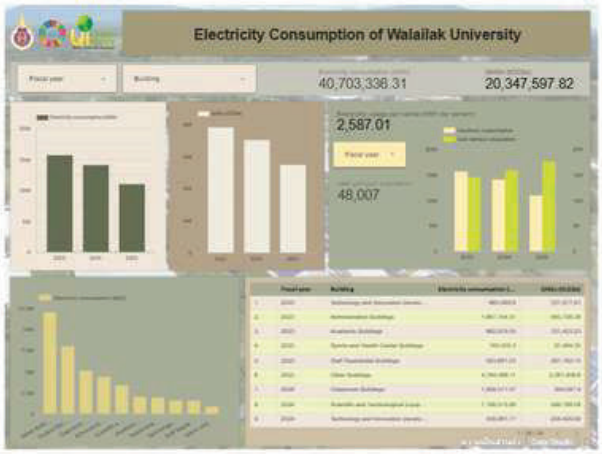
LOW-CARBON ENERGY TRACKING AND MEASUREMENT FOR A SUSTAINABLE UNIVERSITY

Walailak University (WU) recognizes that conventional electricity consumption can contribute to climate change and has therefore established policies and practices to promote the use of low-carbon and renewable energy across the university. To support the transition toward a more sustainable energy system, the university measures and tracks the amount of low-carbon energy used for the whole university, enabling it to assess current performance, identify opportunities for improvement, and guide future energy planning.





The university uses a total of 12,503.92 GJ/year of renewable energy out of total energy consumption of 39,519.41 GJ/year, representing 31.64% of total energy use. The renewable energy portfolio consists of solar energy at 12,400.75 GJ/year, combined heat and power (CHP) at 52.56 GJ/year, biogas at 39.42 GJ/year, and wind energy at 11.19 GJ/year. These figures provide quantitative evidence of the university's use of low-carbon energy and demonstrate the scale of renewable energy adoption across its operations.



The systematic collection and analysis of energy data provide a clear basis for measurement of low-carbon energy use. By quantifying renewable energy consumption and comparing it with total energy consumption, the university can assess its progress, identify gaps in the current energy mix, and determine opportunities to increase the share of low-carbon energy. The data also provide evidence for evaluating the effectiveness of existing energy policies and informing future energy strategies.

The implementation of multiple renewable energy sources demonstrates the university's development from policy commitment toward practical energy transformation. Solar energy serves as the primary renewable source, complemented by biogas, CHP, and wind energy. This diversification supports greater energy resilience while reducing dependence on higher-carbon energy sources and creating opportunities for further development of clean energy infrastructure.





The university's approach also supports diagnostics by using quantitative energy information to identify the current status and potential areas for improvement in low-carbon energy use. The results allow the university to understand the proportion of renewable energy within its overall energy consumption and use this information to determine where additional interventions may be most effective.

At the same time, promoting renewable energy contributes to engagement among relevant university units and stakeholders by translating the university's sustainability policies into practical energy practices. The measurable results provide a common basis for communicating progress and encouraging continued participation in the transition toward cleaner energy.



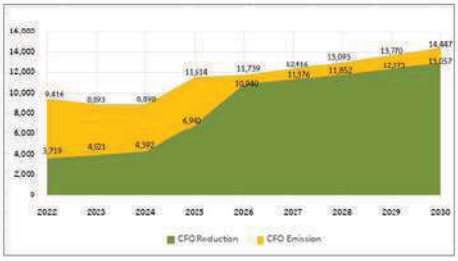


Overall, WU currently uses 12,503.92 GJ/year of renewable energy, equivalent to 31.64% of total energy consumption. The systematic measurement, evidence-based assessment, ongoing development, and stakeholder engagement provide a foundation for increasing low-carbon energy use and supporting the university's long-term transition toward a lower-carbon and more climate-resilient campus.

ACHIEVING CARBON NEUTRALITY BY 2030 THROUGH COMPREHENSIVE GREENHOUSE GAS MANAGEMENT



Walailak University has formally declared its commitment to becoming a Carbon Neutral University by 2030, reflecting its long-term commitment to climate action and sustainable university management. The university has publicly announced its Carbon Neutrality target through an official institutional declaration, establishing 2030 as the target year and providing a clear direction for systematic greenhouse gas reduction across university operations. In line with the Greenhouse Gas Protocol, the university conducts annual greenhouse gas inventories covering Scope 1, Scope 2, and Scope 3 emissions, enabling the university to identify major emission sources, monitor changes over time, and develop evidence-based measures for reducing its carbon footprint.



Scope 1: Direct Greenhouse Gas Emissions

Walailak University comprehensively accounts for emissions generated directly from its university operations. These include stationary combustion from diesel used in backup generators and LPG used in waste incineration, mobile combustion from university vans and buses, fugitive emissions from refrigerants such as R-32 and R-410A, chemical emissions associated with the university's water production system, fertilizer use in landscape management, and emissions related to waste management, including sanitary



landfill operations, organic waste composting, and the incineration of infectious and hazardous waste. To reduce these direct emissions, the university has implemented a range of mitigation measures, including replacing conventional diesel with B7 biodiesel, introducing electric vehicles to reduce dependence on fossil fuels, improving the efficiency of the university water production system, and replacing lolder refrigerants with lower-emission alternatives such as R-32. Collectively, these measures contribute to an estimated reduction of approximately 79.58 tCO_2e per year.

Scope 2: Indirect Emissions from Purchased Electricity



Walailak University monitors greenhouse gas emissions associated with electricity purchased from the national electricity grid. The university's annual inventory reports 5,214.37 tCO_2e from electricity purchased from the Provincial Electricity Authority (PEA). To reduce dependence on purchased electricity and lower associated greenhouse gas emissions, the university has continuously expanded the use of renewable and low-carbon energy sources across theuniversity. These include solar photovoltaic systems installed on university buildings, wind energy generation, and biomass energy initiatives. Renewable energy currently accounts for approximately 31.64% of the university's total electricity consumption, contributing to an estimated reduction of approximately 1,585 tCO_2e in greenhouse gas emissions annually.

Scope 3: Other Indirect Greenhouse Gas Emissions







In addressing Scope 3, or other indirect greenhouse gas emissions, Walailak University also identifies and monitors emissions arising from activities associated with university operations, including electricity consumption within leased facilities, waste generation and disposal, water consumption, transportation, and business travel, including air travel. To reduce these emissions, the university has implemented comprehensive waste reduction measures, expanded digital administration through E-Services to reduce paper consumption and unnecessary travel, promoted efficient water use, implemented vehicle registration and traffic management systems, and encouraged reductions in air travel where alternative approaches are practical. These measures contribute to an estimated reduction of approximately 49.75 tCO_2e per year, while also promoting more sustainable practices and behavioural change among students, staff, and other members of the university community.

As part of its ongoing carbon management system, Walailak University continuously monitors electricity generation and consumption from low-carbon energy sources. The university collects and evaluates data on electricity generated from solar photovoltaic systems, wind energy, and biomass,

together with annual electricity consumption, electricity use by individual buildings, greenhouse gas emissions associated with electricity consumption, and the proportion of renewable energy in the university's overall energy mix. Annual monitoring records total electricity consumption of 10,977,613.39 kWh, of which renewable energy accounts for 31.64%. This systematic monitoring provides the university with measurable evidence for evaluating the effectiveness of its renewable energy initiatives and identifying opportunities for further improvement.



Walailak University also places strong emphasis on public commitment, transparency, and accountability in its pathway toward Carbon Neutrality. The University's Carbon Neutrality commitment, greenhouse gas inventories, renewable energy information, and carbon reduction programmes are made publicly accessible through official university communication channels and websites. This approach enables students, staff, government agencies, partner organisations, and the wider community to monitor the university's progress toward its 2030 Carbon Neutrality target and demonstrates the university's commitment to transparent climate action.

Through comprehensive greenhouse gas accounting across Scope 1, Scope 2, and Scope 3, combined with measurable emission reduction programmes, systematic renewable energy monitoring, and continued investment in low-carbon technologies, Walailak University is strengthening its institutional capacity to manage greenhouse gas emissions and reduce its carbon footprint. These integrated actions provide a measurable and evidence-based pathway toward the university's goal of becoming a Carbon Neutral University by 2030, while supporting the broader transition toward sustainable and climate-resilient university development.

LOCAL CLIMATE EDUCATION PROGRAMMES AND CAMPAIGNS

Local Climate Education Programmes



Walailak University provides local education programmes and campaigns on climate change that connect climate-related knowledge with practical challenges faced by local communities. These programmes address climate change risks, impacts, mitigation, adaptation, impact reduction, and preparedness, while engaging community members, entrepreneurs, and local enterprises in developing practical solutions.

Key programmes include Sustainable Energy Management and Renewable Energy, which promotes reducing fossil fuel consumption and increasing renewable energy use to reduce greenhouse gas emissions and slow the rise in global temperatures. The Water Management and Water Resource Conservation programme helps communities understand and manage water variability while strengthening their capacity to prepare for risks such as droughts and floods.

The university also promotes Waste Management and Recycling to help communities understand the relationship between waste generation, greenhouse gas emissions, and environmental pollution. Through waste reduction, recycling, and resource recovery, communities can reduce emissions while using resources more efficiently.



In addition, the university presents village water supply quality assessment results and discusses the installation of solar-powered systems for village water-pumping meters. Using environmental and energy information in this way supports community decision-making and helps identify practical adaptation and low-carbon infrastructure options.

Another programme provides knowledge and technology transfer on producing bio-fermented liquid from waste generated by community fishing activities. The approach transforms organic waste that could otherwise generate greenhouse gases into a useful agricultural product, reducing waste and pollution while promoting resource circulation within the community.



The university also organizes a practical workshop entitled "Enhancing the Capacity of Entrepreneurs and Community Enterprises to Support a Low-Carbon Society through Greenhouse Gas Emission Reduction." The programme develops the capacity of Ranong Local Community Entrepreneurs to incorporate greenhouse gas reduction into business practices and prepare for emerging climate-related standards and regulations.

These programmes use local problems and available information as a basis for diagnostics, allowing learning activities and solutions to respond to actual community needs. Knowledge transfer and practical activities support development by turning climate knowledge into applicable technologies and practices, while community participation strengthens engagement. The success of these activities is measured through improvements among participants and participant satisfaction, with satisfaction scores exceeding 90%, providing evidence of the effectiveness and outcomes of the programmes.

Local Climate Awareness Campaign

Walailak University also implements the "Energy Awareness Campaign" to promote awareness of energy efficiency and climate change at the community level. The campaign encourages people to reduce unnecessary energy consumption and increase the use of renewable energy in everyday life and tourism-related activities.



The campaign communicates the relationship between energy consumption, greenhouse gas emissions, and climate change, encouraging practical behavioral changes that can contribute to mitigation and impact reduction while strengthening community adaptation and preparedness for future climate risks.

Through community communication and participation, the campaign creates opportunities for people to understand climate-related risks, discuss local challenges, and adopt more sustainable energy practices. Feedback and observations from implementation can help identify areas requiring further action, supporting diagnostics and continuous development of future climate education activities. Participation from local stakeholders strengthens engagement, while campaign activities and outcomes provide a basis for measurement and evaluation.

Together, the university's local education programmes and climate awareness campaign provide complementary approaches to local climate education. The programmes focus on developing knowledge, skills, technologies, and practical solutions, while the campaign promotes broader awareness and behavioral change among members of the Ban Laem Community and Ranong local community enterprises. These programmes and campaigns help improve understanding of climate change risks and impacts through mitigation, adaptation, impact reduction, and preparedness at the local level.

INFORMING AND SUPPORTING GOVERNMENT FOR CLIMATE CHANGE DISASTER RISK EARLY WARNING AND MONITORING

Walailak University plays an active role in informing and supporting local and regional governments by providing knowledge, data, technologies, and collaborative planning to strengthen climate change disasters and risk early warning and monitoring. Through collaboration with government agencies at both levels, the university helps strengthen risk assessment, preparedness, adaptation, and coordinated disaster response.

Local Level

At the local level, Walailak University works with government agencies in Nakhon Si Thammarat Province to inform and support information and develop collaborative approaches for strengthening the province's capacity to respond and adapt to the impacts of climate change. The collaboration focuses on sharing knowledge and information that can support government agencies in assessing local risks, developing preparedness measures, and strengthening coordinated responses to climate-related hazards.





The university also supports the Nakhon Si Thammarat Provincial Office of Disaster Prevention and Mitigation by informing and supporting knowledge and information on a low-cost, real-time landslide disaster early warning network system. This technology provides a practical mechanism for monitoring landslide risks and supporting timely decision-making. Access to real-time information enables relevant agencies to better assess changing conditions and strengthen their capacity to issue early warnings and prepare appropriate responses.

This local-level collaboration uses information on actual risks and local conditions as a basis for diagnostics, helping identify vulnerabilities and areas requiring stronger preparedness measures. The transfer of knowledge and early warning technology supports development by strengthening local disaster monitoring and response capabilities. At the same time, continuous collaboration with government agencies promotes engagement among Nakhon Si Thammarat Provincial Office of Disaster Prevention and Mitigation, while information from monitoring and implementation provides a basis for measurement, evaluation, and improvement of local disaster preparedness.

Regional Level



At the regional level, Walailak University collaborates with key agencies including Disaster Prevention and Mitigation Regional Center 12 in Songkhla, Disaster Prevention and Mitigation Regional Center 18 in Phuket, and meteorological agencies to support joint disaster preparedness and response planning for Southern Thailand.



The collaboration facilitates the exchange of knowledge, information, and operational approaches among agencies responsible for disaster management and meteorological monitoring. Joint planning strengthens the ability of agencies to consider risks that may extend across provincial boundaries and to coordinate preparedness and response measures at a broader regional scale.

The regional approach supports diagnostics by bringing together information and experiences from different areas to better understand interconnected disaster risks. It contributes to development through the improvement of coordinated regional preparedness and response strategies. Regular collaboration strengthens engagement among government agencies and knowledge institutions, while information and lessons generated through joint planning can support measurement and evaluation of preparedness and the continuous improvement of regional disaster risk management. After the collaboration, a network of academics in southern Thailand has been established to promote collaboration and personnel exchanges for knowledge transfer, enabling communities to understand risks, respond, adapt, and recover.

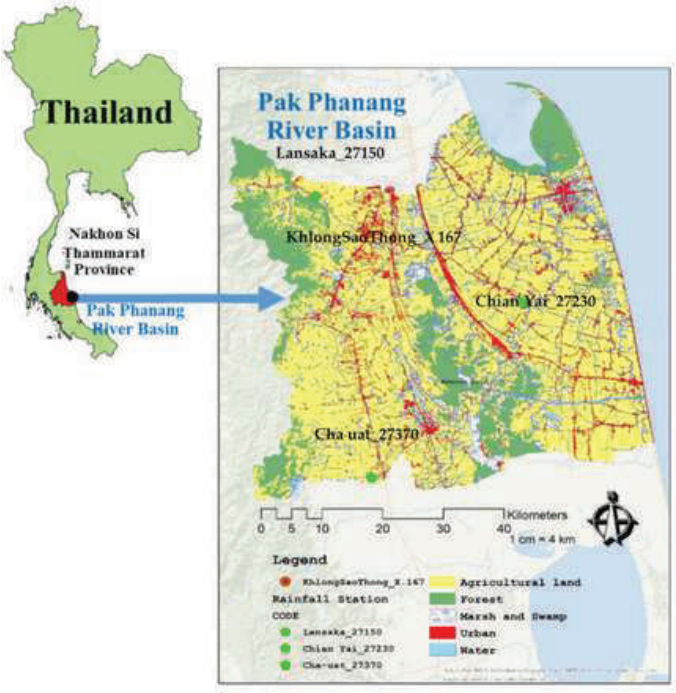
Conclusion

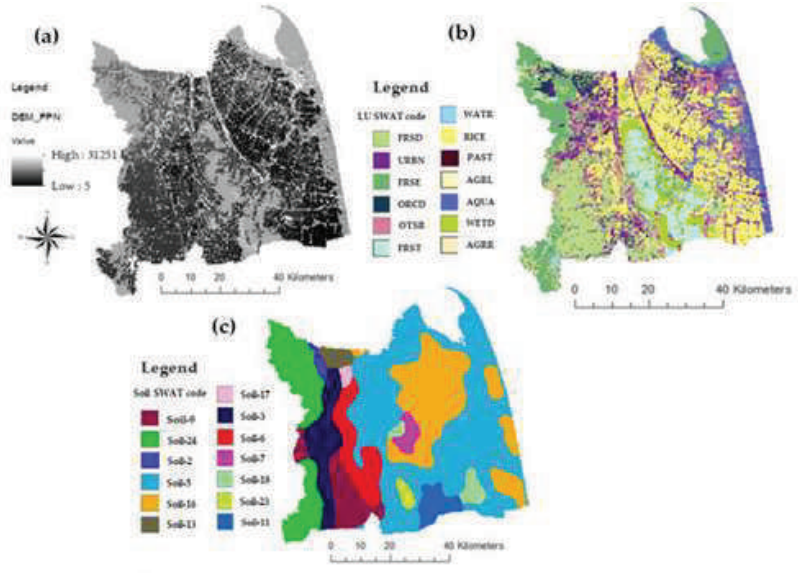
Overall, Walailak University's collaboration with government agencies demonstrates practical inform and support for local and regional governments in climate change disasters or risk early warning and monitoring. By combining evidence, knowledge transfer, technology, collaborative planning, and continuous evaluation, the university contributes to stronger local and regional capacity to anticipate, prepare for, and respond to climate-related disaster risks.

RESEARCH ON RUNOFF CHANGES IN THE PAK PHANANG BASIN FOR CLIMATE CHANGE ADAPTATION UNDER SDG 13

Climate change is one of the most significant challenges affecting natural resources, ecosystems, agriculture, and community livelihoods. Southern Thailand is particularly vulnerable to climate-related risks, including intense rainfall, flooding, drought, and fluctuations in water availability. Research on future runoff changes in the Pak Phanang Basin therefore plays an important role in supporting Sustainable Development Goal 13 (SDG 13): Climate Action. By applying scientific data and climate modeling, the research provides insights into potential future changes in climate and water resources, supporting government agencies, local communities, and farmers in developing appropriate adaptation and risk management strategies.

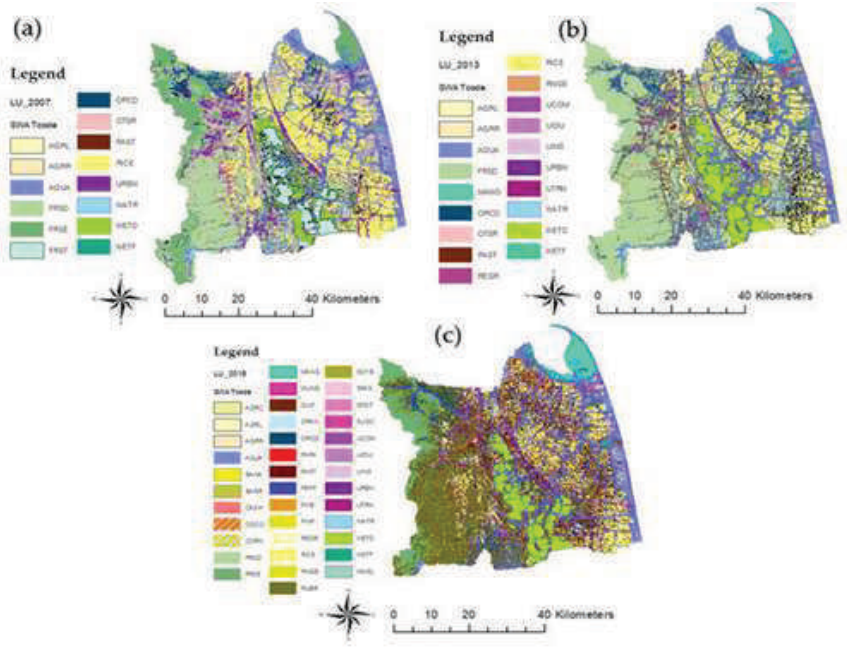
The study projected future climate and runoff conditions for approximately 2025, 2055, and 2085 under three greenhouse gas emission scenarios: RCP2.6, RCP4.5, and RCP8.5. These scenarios represent low, moderate, and high levels of greenhouse gas emissions, respectively. The results indicate that changes in greenhouse gas concentrations are associated with variations in runoff in the Pak Phanang Basin. These findings highlight the importance of understanding how climate change may affect water systems over different time periods and demonstrate the role of scientific research in assessing climate-related risks. Such evidence is essential for developing informed policies and adaptation measures in line with the objectives of SDG 13.



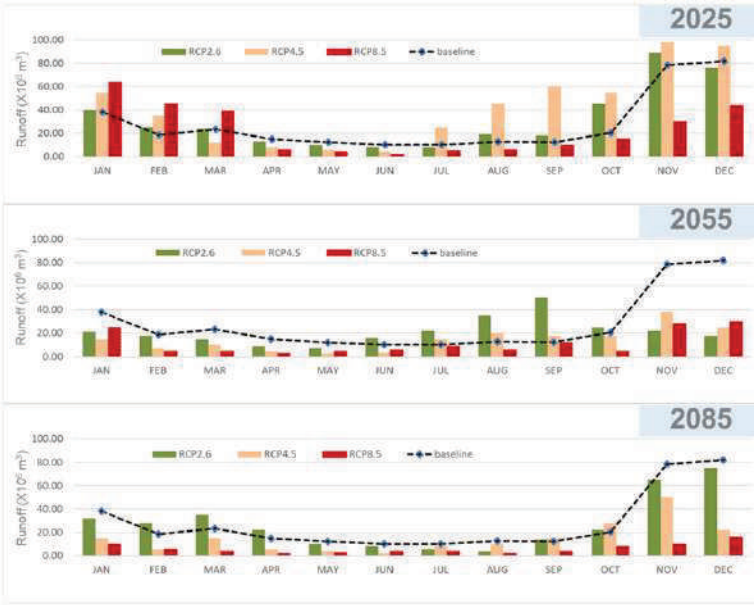


The projections further indicate that the basin may experience different types of climate-related risks over time. In the short term, around 2025, rainfall and runoff are projected to increase above the baseline average, potentially increasing the risk of waterlogging and flooding in low-lying areas. Such conditions may negatively affect agricultural production, particularly crops such as rice and watermelon. In the medium and long term, particularly around 2055 and 2085, runoff is projected to decline substantially,

potentially reaching approximately 50% below the baseline average across the scenarios examined. This trend could increase the risks of drought and water shortages, with potential consequences for agricultural productivity, food security, and the livelihoods of communities dependent on local water resources.



To address these potential impacts, the research proposes adaptation approaches that can be implemented at the local level. In the short term, improving water management in low-lying areas and developing effective drainage systems can help reduce the impacts of flooding and waterlogging on agricultural production. In the medium and long term, promoting agroforestry systems can strengthen the resilience of agricultural areas to drought by improving soil moisture retention, reducing water loss through evaporation, and supporting more sustainable management of land and water resources. The study also emphasizes the importance of conserving and restoring upstream forests. A conservation scenario involving an increase in protected forest areas to 25% highlights the important role of forests in regulating runoff and maintaining the hydrological balance of the basin.



The research therefore serves not only as a tool for projecting future changes in water availability but also as a scientific basis for climate adaptation, water resource management, and spatial planning. By identifying potential risks in advance, the findings can support government and local communities in developing water management, agricultural adaptation, ecosystem conservation, and more effective land-use planning. The research also highlights the importance of integrating climate projections into long-term decision-making, enabling stakeholders to prepare for increasing flood risks in the short term and potential water shortages in the future. These approaches directly support SDG 13, particularly on strengthening resilience and adaptive capacity to climate-related hazards and natural disasters. More broadly, the study demonstrates how scientific knowledge, climate modeling, and local adaptation measures can be integrated to support evidence-based decision-making and sustainable resource management. Also, the study can strength the resilience of the Pak Phanang Basin, agricultural communities, and ecosystems in southern Thailand.

14 LIFE BELOW WATER



1. BUILDING NATURE-BASED WEIRS FOR WATER SECURITY AND BIODIVERSITY CONSERVATION
2. COMMUNITY OUTREACH ON SUSTAINABLE FISHERIES AND LOW-CARBON TOURISM
3. MONITORING THE HEALTH OF ENDANGERED MARINE ANIMALS THROUGH AERIAL SURVEYS
4. STRENGTHENING MARINE PROTECTED AREAS AND ARTIFICIAL HABITATS

SDG 14 : LIFE BELOW WATER

BUILDING NATURE-BASED WEIRS FOR WATER SECURITY AND BIODIVERSITY CONSERVATION



Communities in Na Mai Phai Subdistrict, Thung Song District, Nakhon Si Thammarat Province, face seasonal water shortages, unpredictable rainfall, riverbank erosion, and degradation of freshwater habitats.

Although the area is connected to coastal and marine ecosystems that support local aquaculture, environmental changes, fluctuations in water disease risks, and the availability of suitable habitats can affect the health and survival of aquatic animals. These challenges require a systematic diagnostic assessment of marine animal populations, aquaculture conditions, and the environmental factors affecting aquatic animal health and productivity. Efforts are also needed to strengthen community knowledge and capacity in marine animal conservation and sustainable aquaculture practices to support ecosystem health and the long-term sustainability of local livelihoods.

Community-Based Freshwater Ecosystem Conservation

For more than five years, WU has continuously implemented the Building Nature-Based Weirs in Na Mai Phai Subdistrict Project, locally known as the “Living Weir Project”. The project is implemented in collaboration with local residents, community leaders, local government agencies, non-governmental organizations (NGOs), and international partners.



The project functions as both a freshwater ecosystem restoration initiative and a free educational programme for local communities. WU transfers practical knowledge about freshwater conservation, water resource management, irrigation and water-retention practices, riverbank protection, aquatic biodiversity, ecological restoration, and monitoring environmental changes.

Collaborative Planning for Sustainable Water Management

In 2026, WU continued the Living Weir Project through close collaboration with the partners. Community meetings were organized to review previous restoration activities, identify continuing water-management challenges, and develop plans for further restoration. Local residents reported encouraging signs of ecological recovery, including a gradual increase in aquatic animals, such as Giant freshwater prawn, minnows and red cheek barbs compared with previous years.



At the same time, the community identified limitations affecting the performance of existing weirs. Several structures had been partially damaged or washed away by strong monsoon currents, reducing their ability to retain water during the dry season. These observations demonstrated the importance of combining local environmental knowledge and scientific assessment when planning freshwater ecosystem restoration.

Hands-On Learning Through Nature-Based Weir Construction



Participants gain practical experience by assisting with the construction and restoration of nature-based weirs using locally available and environmentally friendly materials, including small boulders, bamboo, coconut leaves, and sandbags. The structures are designed as stepped and permeable systems rather than rigid barriers, allowing water to flow gradually downstream.

The project also promotes community-based learning and knowledge transfer. By involving local people directly in surveying, planning, construction, and restoration, WU helps develop local skills that can be applied beyond the individual project sites. Community members can subsequently contribute to the maintenance of existing weirs and the development of similar freshwater conservation activities in other locations.

Free Educational Programme on Freshwater Ecosystems

A key component of the Living Weir Project is the provision of a free educational programme on freshwater ecosystems and sustainable water management. The programme is designed for local residents, community leaders, local government officers, and WU student volunteers, providing opportunities for participants to learn directly from researchers and through practical field activities. Educational activities cover freshwater ecosystem conservation, water management, water conservation, irrigation practices, aquatic biodiversity, erosion prevention, and water retention.





The promotion of sustainable aquaculture practices provides an approach to conserving and managing aquatic resources. By improving aquaculture conditions and protecting aquatic habitats, these efforts can help enhance the survival, growth, and health of marine animals. The resulting improvements support sustainable aquaculture production, conserve marine biodiversity, and strengthen local livelihoods.

The structures also contribute to riverbank stabilization, erosion control, soil moisture retention, and flood-risk reduction. By reducing the velocity of flowing water, nature-based weirs can help minimize the impacts of intense water flows on riverbanks while supporting the recovery of riparian vegetation.

Freshwater Biodiversity Conservation and Ecosystem Restoration

Freshwater biodiversity is an important component of healthy aquatic ecosystems. Stable water conditions and improved freshwater habitats can support fish, freshwater invertebrates, aquatic insects, riparian vegetation, and other aquatic organisms. The nature-based design of the weirs allows water to continue moving downstream and provides habitat conditions that are more compatible with aquatic ecosystems.

Local communities have observed a gradual increase in aquatic animals compared with previous years, providing an encouraging indication of ecological recovery. These observations also demonstrate the value of involving communities in environmental monitoring and freshwater biodiversity conservation, as local residents can contribute important knowledge about changes in aquatic ecosystems over time.

COMMUNITY OUTREACH ON SUSTAINABLE FISHERIES AND LOW-CARBON TOURISM



Coastal and marine communities face growing challenges from the degradation of marine and coastal resources, unsustainable resource use, climate change, pollution, and increasing tourism activities. In particular, tourism activities can increase carbon emissions and resource consumption while placing additional pressure on sensitive coastal environments.

To diagnose these challenges and identify appropriate approaches for sustainable resource management, WU has undertaken community outreach and educational activities that promote sustainable fisheries and coastal resource management while connecting fisheries, aquaculture, marine conservation, and sustainable tourism with local economic development.



In 2025, WU organized educational and participatory programs to develop sustainable tourism management and low-carbon tourism (Low-Carbon Tourism) in Koh Samui, Surat Thani Province. The programs were conducted under the project “Blue Crab Bank as an Integrated Coastal Resource Management Tool for Sustainable Utilization”, which aims to strengthen the use of blue crab banks as a community-based mechanism for managing marine and coastal resources. Through workshops and community outreach, participants gained knowledge of sustainable tourism, sustainable fisheries, coastal resource management, marine conservation, blue crab conservation, blue economy, climate change adaptation, carbon reduction, and sustainable livelihoods.

The outreach programme also involved participatory planning for low-carbon tourism routes designed to support sustainable management of marine and coastal resources. Participants were encouraged to apply the ADAPT-REDUCE-OFFSET approach. ADAPT focuses on adapting tourism

activities, seasons, and spatial use to climate change. REDUCE focuses on reducing carbon emissions through walking, cycling, shared transportation, efficient energy use, waste and plastic reduction, and the use of seasonal local food. OFFSET promotes carbon compensation through activities such as mangrove and coastal vegetation restoration.





WU also conducted the “LOW CARBON JOURNEY SAMUI” training programme at the Ban Tai Blue Swimming Crab Bank, providing knowledge on sustainable tourism and carbon reduction to tourism operators, tourism communities, and relevant agencies. The programme demonstrated how community tourism can be connected with sustainable fisheries and marine resource management, using the blue crab bank as a practical tool for coastal conservation and sustainable resource utilization.

The programme further demonstrates how sustainable fisheries, aquaculture, and tourism can be addressed through integrated community outreach. The blue crab bank approach supports the restoration and sustainable utilization of marine resources while contributing to marine biodiversity conservation, sustainable fisheries management, food security, blue economy development, community livelihoods, and low-carbon coastal development.



Through these educational programmes, WU has strengthened community knowledge and stakeholder capacity for sustainable fisheries, aquaculture, marine and coastal resource management, and sustainable tourism. The initiatives have encouraged cooperation among fishing communities, tourism operators, businesses, government agencies, and other stakeholders, while promoting the blue crab bank as a practical community-based tool for sustainable coastal resource management. The programme also contributes to local economic development by creating opportunities for fishing communities and local tourism operators to generate income through sustainable fisheries and community-based tourism. As a result, the programme contributes to supporting the sustainable use and conservation of oceans, seas, and marine resources, while also contributing to promoting sustainable fisheries and food resources, strengthening local economic opportunities, and supporting low-carbon and resilient coastal community development.



MONITORING THE HEALTH OF ENDANGERED MARINE ANIMALS THROUGH AERIAL SURVEYS



Marine and coastal ecosystems provide essential habitats for biodiversity and support ecological balance, but rare marine animals such as dugongs, sea turtles, and dolphins face increasing pressures from habitat degradation, changes in marine resources, fishing activities, and marine debris. Effective conservation therefore requires continuous monitoring of aquatic ecosystems, including population size, species distribution, habitat use, and animal health. To address these challenges, WU collaborated with the Lower Andaman Marine and Coastal Resources Research Center and the Lower Gulf of Thailand Marine and Coastal Resources Research Center to diagnose the status and health of rare marine animals and strengthen evidence-based marine and coastal ecosystem management.

WU participated in a comprehensive marine wildlife survey and aquatic ecosystem monitoring programme in Trang Province, covering areas around Koh Libong, Koh Muk, Pak Meng Beach, Ban Pak Khlong, Sikao Bay, Laem Sai, Koh Sukorn, Koh Petra, and surrounding islands. The survey combined aerial surveys, boat-based surveys, line-transect methods, and unmanned aerial vehicles (Multirotor UAVs) to monitor the abundance, distribution, habitat use, and health condition of rare marine animals. Fixed-wing aircraft, including two double aircraft, were used for aerial line-transect surveys, while UAV technology was applied to survey areas around Ao Ban Phrao and Laem Chu Hoi on Koh Libong. The total aerial survey area covered approximately 616 square kilometres, providing systematic spatial data for marine biodiversity and ecosystem assessment.



The programme also incorporated marine animal health assessment through direct visual observation. Dugongs were observed swimming and feeding over seagrass meadows, demonstrating the ecological importance of healthy seagrass habitats for marine wildlife. Their observed respiration rate was approximately 3–5 breaths per five minutes. Body condition assessment showed that six dugongs had a low body condition score (BCS 2/5), nine were in good condition (BCS 3/5), and four were relatively well-conditioned (BCS 4/5). The observation of a mother-calf pair of Indo-Pacific humpback dolphins provided evidence of reproductive activity and indicated that the surveyed marine environment continues to support important biological functions of marine wildlife.

Overall, the visual health assessment indicated that the observed marine animals were generally in normal condition. No abnormal behaviours, visible injuries, or signs of entanglement in fishing gear or marine debris were detected during the survey. The information collected through population monitoring, species distribution surveys, health assessment, habitat observation, aerial monitoring, UAV surveys, line-transect surveys, and photo-identification (Photo-ID) will be used to identify individual dugongs and improve estimates of the actual population size of rare marine animals in Trang Province.

Through this collaborative monitoring programme, WU has strengthened the scientific measurement of marine ecosystem health by generating systematic data on species abundance, distribution, population characteristics, habitat use, reproductive activity, physical condition, and potential threats. The results provide a baseline for future surveys and enable changes in marine wildlife populations and health to be tracked over time. By combining field observation, aerial technology, UAVs, line-transect methodology, and Photo-ID, WU contributes to evidence-based monitoring of aquatic ecosystems and sustainable marine and coastal resource management, supporting the long-term conservation of endangered marine animals and the ecological health of Thailand's coastal waters.

STRENGTHENING MARINE PROTECTED AREAS AND ARTIFICIAL HABITATS



Coastal and marine ecosystems in Tha Sala District, Nakhon Si Thammarat Province, face increasing pressures from overfishing, habitat degradation, destructive fishing practices, and the declining abundance of juvenile aquatic animals. These pressures can disrupt marine food webs, reduce biodiversity, and threaten the livelihoods of small-scale fishing communities that depend on healthy coastal resources. To address these challenges, WU has worked directly with local communities, government agencies, and marine-industry partners to diagnose threats to coastal ecosystems and develop practical conservation measures that maintain and restore marine habitats, protect aquatic biodiversity, and support sustainable fisheries.

In 2025, WU organized environmental education and community engagement activities focused on the construction of artificial fish habitats in the coastal waters of Tha Sala District. The initiative brought together local fishermen, community members, local government organizations, the Thai Frozen Foods Association as a marine-industry partner, and the Ban Nai Thung Fisherfolk Association.



The artificial habitats were constructed using environmentally appropriate materials and deployed in the Ban Nai Thung Sea, an area recognized for its marine biodiversity and importance as a nursery ground for juvenile aquatic animals. These structures provide shelter for young fish, shellfish, and other marine organisms, reducing exposure to predators and creating favorable conditions for growth and survival. They can also provide surfaces for coral, seaweed, and other marine organisms to colonize, contributing to habitat restoration, ecological connectivity, biodiversity conservation, and greater resilience of coastal ecosystems.

WU also emphasized that artificial habitats should be established within appropriately designated conservation areas where fishing activities are controlled or prohibited. Such areas can function as safe zones for the natural nursery and replenishment of aquatic species, allowing juvenile animals to mature before contributing to surrounding fishing grounds. This approach links habitat restoration with sustainable fisheries management, marine resource conservation, ecosystem-based management, and the long-term recovery of economically important species such as blue swimming crabs, shrimps and fish.

Beyond individual habitat-restoration activities, WU has also worked with government agencies and community representatives to strengthen community-based marine conservation. The University participated in consultations on transforming community conservation zones into community-based marine protected areas in Tha Sala District.



A key outcome of this participatory process was the development of a Memorandum of Understanding (MOU) for the community-based management and protection of marine and coastal resources in Ban Nai Thung, Ban Sa Bua, and Ban Na Thap. The agreement provides a framework for cooperation among communities, government agencies, and other stakeholders to maintain conservation areas, protect nursery grounds, restore aquatic populations, monitor illegal activities, and promote sustainable utilization of marine resources.





The results demonstrate the practical value of WU's direct engagement in marine and coastal biodiversity conservation. Artificial habitats provide physical refuges and potential nursery areas, while community conservation zones establish longer-term mechanisms for protecting marine resources and regulating their use. Through ongoing ecological monitoring, habitat restoration, and measurement of changes in aquatic populations, WU can assess the effectiveness of these interventions and continuously improve marine conservation practices in Tha Sala and surrounding coastal areas. The event also enacted an MOU agreement on community marine protection under the Locally Managed Marine Area (LMMA) initiative.

15 LIFE ON LAND

WU SDG MOVE



1. ECOSYSTEM BIODIVERSITY ENHANCEMENT THROUGH THE CONSERVATION OF PLANT AND ANIMAL SPECIES
2. EDUCATIONAL PROGRAMMES ON ECOSYSTEMS FOR LOCAL AND NATIONAL COMMUNITIES
3. PROMOTING CONSERVATION AND SUSTAINABLE UTILISATION OF LAND
4. SUSTAINABLE LAND MANAGEMENT, AGRICULTURE, TOURISM AND EDUCATIONAL OUTREACH
5. INTEGRATING LOCAL PLANT WISDOM INTO TEACHINING AND LEARNING TO ADVANCE SDG 15: LIFE ON LAND

15 LIFE ON LAND

SDG 15 : LIFE ON LAND

ECOSYSTEM BIODIVERSITY ENHANCEMENT THROUGH THE CONSERVATION OF PLANT AND ANIMAL SPECIES

Walailak University is committed to conserving, restoring, and enhancing biodiversity within its university ecosystems through the coordinated efforts of the Walailak University Botanic Park and related academic units. These initiatives aim to preserve natural habitats, protect native plant and animal species, and strengthen ecosystem resilience in support of the university's sustainability mission.

Maintaining Existing Ecosystems and Biodiversity

Walailak University works directly to maintain existing ecosystems by designating conservation forests and ecologically important areas under the management of the University Botanic Park. To raise awareness among students, staff, and visitors, educational and conservation signboards have been installed at key locations, including reservoirs, conservation forests, and other environmentally sensitive areas across the university. These signboards communicate the ecological importance of these areas and encourage responsible use of natural resources.



In addition, the university has established clearly marked Wildlife Conservation Zones and Plant Conservation Zones through the installation of conservation signage. These designated areas help safeguard important habitats while promoting public awareness of biodiversity conservation of plants and animals.

Surveying and Conserving Plant Diversity



To support long-term ecosystem management, Walailak University conducts regular surveys of plant species within its protected forest areas. These surveys provide valuable information on species diversity and distribution, enabling the university to monitor changes in biodiversity and develop effective conservation strategies. The collected data also support academic research, environmental education, and long-term biodiversity management, ensuring that valuable plant genetic resources are preserved for future generations.

Maintaining and Extending Wildlife Biodiversity



Beyond protecting existing ecosystems, Walailak University actively contributes to wildlife conservation through research and rehabilitation programmes. One of the university's significant initiatives is the Sunda Pangolin Rehabilitation and Reintroduction Project, which focuses on the rescue, health assessment, rehabilitation, and eventual release of Sunda pangolins back into their natural habitats.

As the Sunda pangolin is a protected and critically threatened species, this research contributes to improving rehabilitation techniques, increasing survival rates after release, and supporting long-term conservation efforts for one of Thailand's most vulnerable mammals which is ecosystems under threat.

Conserving Plant Species Through Biotechnology



Walailak University also applies biotechnology to conserve and extend valuable plant species through plant tissue culture techniques. Current conservation efforts include tissue culture propagation of pitcher plants (*Nepenthes spp.*), an ecologically important carnivorous plant, and mangosteen (*Garcinia mangostana*). These activities increase the number of healthy plant specimens, reduce pressure on natural populations, preserve valuable genetic resources, and support long-term biodiversity conservation.

Promoting Biodiversity Conservation Through Research and Public Engagement

The university's biodiversity conservation initiatives are publicly disseminated through the university's official websites, allowing students, researchers, government agencies, and the wider public to access information on conservation activities and research outcomes.





By integrating ecosystem conservation, scientific research, environmental education, and public communication, Walailak University continues to maintain and extend existing biodiversity across its university. These efforts contribute to protecting both plant and animal species, strengthening ecosystem resilience, and ensuring the sustainable management of natural resources for future generations.

EDUCATIONAL PROGRAMMES ON ECOSYSTEMS FOR LOCAL AND NATIONAL COMMUNITIES

Free Educational Life on Land Programmes on Ecosystems for Local Communities



Walailak University offers educational life on land programmes on ecosystems, with a focus on both wild flora and fauna, through accessible learning resources and community-based activities. The Sirin Museum serves as an important learning centre where local communities and learners can explore knowledge about ecosystems, biodiversity, plants, and animals. Through exhibitions and educational programmes, the museum provides opportunities for the public to understand the relationships between living organisms, natural resources, and ecosystems.



At the local level, the university also works with local communities, educational institutions, and local administrative organizations through the Plant Genetic Conservation Project under the Royal Initiative (RSPG). The programmes provide special lectures on ecosystems of school botanical gardens and local resources databases. The programmes respond to local learning need by strengthening participants' knowledge and capacity to survey, document, conserve, and appropriately use local biological resources.

The approach combines diagnostics of local ecosystem and resource needs with the development of knowledge and practical capacity. It also promotes engagement among schools, communities, and local authorities, while measurement is supported through evidence of educational programmes, participating groups, and publicly available information. This demonstrates that ecosystem education is not limited to the university but is delivered as a practical learning opportunity for local communities.

Free Educational Life on Land Programmes on Ecosystems for National Communities

At the national level, the university offers educational programmes on ecosystems to extend its role as a knowledge hub by sharing expertise with communities, schools, and local administrative organizations beyond the immediate university area. The RSPG provides opportunities for participants from different areas to learn about wild flora and fauna, biodiversity, school botanical gardens, and the systematic management of local biological resources.



The special lectures on school botanical gardens and local resource databases support the development of institutional and community capacity, enabling participants to apply ecosystem knowledge within their own local contexts. The Sirin Museum further strengthens this national role by providing a public learning space where visitors can access knowledge about plants, animals, ecosystems, and biodiversity.



Through this integrated approach, the university connects diagnostics, development, engagement, and measurement throughout the educational process. Local and national stakeholders are identified as key learning partners, knowledge is developed and transferred through structured educational activities, stakeholders are actively engaged in ecosystem learning and conservation, and evidence of implementation is documented and made publicly accessible. These activities demonstrate the university's commitment to providing educational programmes on ecosystems for both local and national communities, while strengthening awareness and capacity for the sustainable conservation of natural resources.

PROMOTING CONSERVATION AND SUSTAINABLE UTILISATION OF LAND



Walailak University promotes the conservation and sustainable utilisation of land, including forest and wild land, through practical land management and learning events that balance environmental protection with appropriate land use. The university assesses the condition and characteristics of its land areas and applies suitable approaches to prevent soil degradation, reduce erosion, and maintain the ecological functions of the land.



Within the university's areas, soil quality is maintained through the events of utilisation of manure and biological products in both internal and external areas. These events support soil fertility while reducing reliance on approaches that may negatively affect the environment. In vacant areas along canals and drainage ditches, vetiver grass is planted to stabilize the soil, reduce bank erosion, and prevent soil loss. These measures demonstrate the application of nature-based approaches to sustainable land use and long-term land conservation.



The university also supports and organises the events of the sustainable utilisation of natural land at Khao Wang, where a "Suan Somrom" (mixed traditional garden) has been developed as a form of land use that integrates diverse plant species with local knowledge and ecological conditions. This approach enables the productive use of land while maintaining plant diversity and reducing unnecessary alteration of the natural environment. A nature study trail has also been established, providing opportunities for students, staff, and visitors to learn directly from the landscape about natural resources, ecosystems, conservation, and responsible land use.

These events function as learning opportunities to promote conservation and sustainable utilisation of the land. The university identifies environmental and land-management needs, develops appropriate conservation practices, engages university communities through learning from real sites, and documents implementation through evidence, e.g land-management activities, vetiver planting, the “Suan Somrom”, and the nature study trail.



Through this integrated approach, Walailak University demonstrates a continuous process of identifying land-related challenges, developing sustainable solutions, engaging stakeholders in conservation and learning, and measuring and documenting outcomes. The activities therefore directly support the events about sustainable use of land by demonstrating tangible action for the conservation and sustainable utilisation of land, including forests and wild land.

SUSTAINABLE LAND MANAGEMENT, AGRICULTURE, TOURISM AND EDUCATIONAL OUTREACH

Walailak University promotes sustainable land management by connecting academic knowledge with practical solutions for local and national communities. Through free educational outreach programmes, the university supports sustainable practices in tourism and agriculture while conserving natural resources, reducing environmental impacts, and strengthening community capacity.

Sustainable Land Management for Tourism

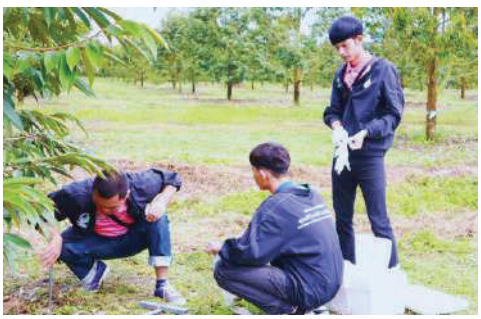


Walailak University promotes sustainable management of land for tourism through the development of free educational outreach programmes, namely, Carbon Neutral Tourism Promotion Programme in local coastal communities. The programme offers sustainable land management for tourism by promoting the use of land for tourism activities for local communities.

Through collaboration with local communities, the programme identifies local needs and translates knowledge into practical tourism activities and routes by supporting the development of tourism models that generate local value while conserving natural resources. The implementation is supported by evidence of activities and outcomes, including the development of tourism routes and knowledge-transfer activities.

Sustainable Land Management for Agriculture

The university offers educational outreach programmes for sustainable management of land for agriculture, namely, the Organic Fertilizer Programme C. P. Mo Din NT 009. The programme offers knowledge on how to increase the amount of nutrients and reduce the amount of fungal diseases in durian, rubber and oil palm plantations at Sichon District Local Agricultural Community.



For the local community, there is another community that offers educational outreach programmes through knowledge transfer on the use of biological agents, particularly Trichoderma, as an environmentally friendly approach to agricultural land management. The use of Trichoderma supports more sustainable land management for agricultural practices by reducing reliance on chemical inputs that may affect soil quality and surrounding ecosystems.

The New Generation Farmer Development Programme, under the course "Pest Management by Integrated Methods," is an important mechanism for promoting sustainable agriculture and land management at the community and national levels. As part of a national network, the programme aims to strengthen the capacity of new-generation farmers across the country. It provides knowledge on biological pest control and the use of organic substances as alternatives to chemical inputs, helping reduce pollution and the accumulation of toxic residues in soil and water. This contributes to maintaining soil fertility, restoring ecosystems and beneficial microorganisms in agricultural areas, and promoting environmentally friendly agriculture.

INTEGRATING LOCAL PLANT WISDOM INTO TEACHINING AND LEARNING TO ADVANCE SDG 15: LIFE ON LAND

Biodiversity conservation begins with understanding and valuing the natural resources within local communities. Education plays an important role in developing this awareness among young people by connecting learning with local ecosystems, plants, and traditional knowledge. Walailak University has applied this approach through learning activities focused on the nipa palm in the Pak Phanang River Basin, using local plant knowledge to promote biodiversity awareness, preserve local wisdom, and foster future environmental stewards in support of SDG 15: Life on Land.

Building Awareness and Knowledge of Biodiversity through Local Plants



Achieving SDG 15 requires strengthening young people's understanding and appreciation of local biodiversity. Walailak University has integrated knowledge of the nipa palm, an important plant in the Pak Phanang River Basin, into primary-level learning activities to help students understand its ecological and biodiversity value. As Target Plant No. 7 under the Plant Genetic Conservation Project under the Royal Initiative (RSPG), the nipa palm also highlights the importance of conserving and sustainably using local plant genetic resources.

Understanding the Nature of Plants and Conserving Genetic Resources



The learning process applies the Nature of Life (NOL) dimension to help students understand the nipa palm through its physical characteristics, identification, life cycle, reproduction, and uses. This approach encourages them to recognize plants as living organisms essential to ecosystems and human well-being, while strengthening their awareness of local plant species and genetic resources. Such knowledge provides a foundation for biodiversity conservation.

Connecting Plants, Ecosystems, and Community Lifestyles

Through Interconnectedness of All Things (IOAT) and place-based learning, students explore the relationships between the nipa palm, ecosystems, and communities in the Pak Phanang River Basin. They learn how nipa roots help stabilize soil and reduce erosion, while nipa ecosystems provide habitats and nursery grounds for aquatic species. This understanding highlights that conserving local plants also helps sustain healthy ecosystems and community resources, supporting SDG 15.

Preserving Local Wisdom alongside Sustainable Utilization



The Greatest Public Benefit (GPB) dimension connects biodiversity conservation with community livelihoods, economic development, and cultural heritage. The nipa palm can be processed into products such as vinegar, alcohol, molasses, and syrup, creating value and income for local communities. However, students showed limited knowledge of local wisdom and cultural heritage (LPK10), with an average score of only 1.97 out of 5.00. Integrating traditional nipa palm knowledge into learning can therefore help preserve cultural heritage while promoting sustainable resource use and community development.

From the Classroom to the Creation of Environmental Stewards



This initiative is supported by a 13-component assessment model for evaluating students' knowledge of local plants. The model was statistically validated using a sample of 173 students in the Exploratory Factor Analysis (EFA) stage and 174 students in the Confirmatory Factor Analysis (CFA) stage, with Cronbach's alpha coefficients exceeding 0.75, demonstrating the reliability of the assessment instrument. The model therefore provides a systematic tool for designing and evaluating biodiversity learning that is grounded in local contexts. It also offers potential as a scalable framework that can be adapted to other local plant species and communities across Thailand.

Conservation Begins by Helping Young People Value the Nature Around Them



Integrating knowledge of the nipa palm into primary education represents a practical approach aligned with SDG 15 because it goes beyond teaching students to memorize plant species. Instead, it develops an understanding of the nature of plants, their relationships with ecosystems, and their economic, social, and cultural values. The integration of NOL, IOAT, and GPB transforms local knowledge into a learning tool that builds environmental awareness, responsibility, and stewardship while nurturing young people as "green citizens" and future guardians of local natural resources. Beginning with the nipa palm in the Pak Phanang River Basin is therefore not simply an effort to conserve a single plant species; it represents a model for using education as a mechanism to conserve biodiversity, preserve local wisdom, and strengthen the long-term sustainability of ecosystems and communities in support of SDG 15.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



1 EMPOWERING STUDENTS THROUGH INDEPENDENT STUDENT UNION RECOGNITION

2 ANTI-CORRUPTION AND BRIBERY PREVENTION THROUGH TRANSPARENCY AND ETHICAL GOVERNANCE

3 STRENGTHENING FINANCIAL TRANSPARENCY THROUGH THE PUBLICATION OF FINANCIAL DATA

4 DEVELOPING LAW STUDENTS THROUGH COMMUNITY-BASED LEGAL EDUCATION

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

SDG 16 : PEACE JUSTICE AND STRONG INSTITUTION

EMPOWERING STUDENTS THROUGH INDEPENDENT STUDENT UNION RECOGNITION



Student participation is an important component of inclusive and accountable university governance. Without effective student representation, students may have limited opportunities to express concerns, communicate their needs, influence decisions, and participate in matters affecting student welfare and university life.

WU therefore conducted a diagnostic assessment of student participation and representation to identify appropriate mechanisms for strengthening student voice, democratic participation, and independent student governance. In response, WU recognizes and supports independent student representative bodies that enable students to elect their representatives, communicate their views, participate in decision-making, and organize activities according to student interests.

Independent Student Representation and Democratic Participation

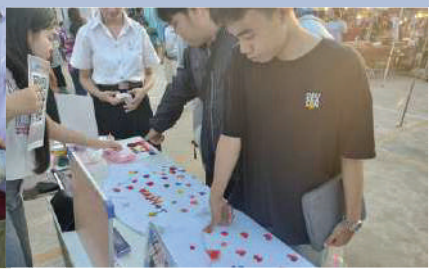
WU has two main student representative bodies: the Student Administrative Board of WU and the Student Council of WU. Both organizations represent students from diverse backgrounds, including Thai and international students, non-traditional students, students from different religious backgrounds, immigrant students, and students with disabilities.

The recognition of these student organizations provides an institutional mechanism for student representation, student voice, student welfare, democratic governance, leadership development, and participatory decision-making. The organizations are student-led and provide students with opportunities to represent their peers and raise issues concerning university life.

Fair and Transparent Student Elections

To support a fair and transparent student election process, WU facilitates the establishment of the Election Commission of WU. The Election Commission organizes and oversees elections for the Student Administrative Board and Student Council.





In 2025, elections were organized for both student representative bodies using different voting methods. A physical election was conducted for the Student Administrative Board, allowing students to vote directly for candidates. For the Student Council, an online election was organized to provide an accessible and convenient voting channel for students.

Strengthening Student Organizations Beyond the Campus



WU's commitment to student representation also extends beyond the university campus. In 2025, the Student Administrative Board of WU hosted the "1st National University Student Union Meeting," bringing together representatives of student unions from universities across Thailand.

The meeting created a platform for student leaders, student unions, and student organizations to exchange experiences and discuss the role of students in university governance. Participants shared approaches, challenges, experiences, and good practices from their respective institutions, creating opportunities for student organizations to learn from one another and identify approaches that could be adapted to their own universities.



The effectiveness of these mechanisms can be assessed through measurement of student participation in elections, the functioning of elected student representative bodies, student-led activities, engagement in university governance and cooperation among student organizations. These outcomes demonstrate that WU has established practical mechanisms for independent student representation, democratic student governance, student participation, leadership development, and student welfare, strengthening students' ability to have a meaningful voice in shaping the university community of which they are a part.

ANTI-CORRUPTION AND BRIBERY PREVENTION THROUGH TRANSPARENCY AND ETHICAL GOVERNANCE



Corruption, bribery, conflicts of interest, and a lack of transparency can undermine public trust, weaken institutional accountability, and affect the quality of university governance. As a public higher education institution, WU recognizes the need to diagnose potential risks related to corruption and unethical conduct and to establish clear principles, commitments, and preventive measures.

WU therefore promotes integrity, transparency, accountability, ethical governance, and responsible conduct through publicly communicated policies and institutional assessment mechanisms.

No Gift Policy



A key measure is *WU's No Gift Policy* for fiscal year 2025, which declares the university's intention not to accept gifts or benefits of any kind arising from the performance of official duties. The policy applies during all festivals and occasions and is intended to prevent conflicts of interest, inappropriate influence, favoritism, and potential corruption.

The policy emphasizes that university administrators and personnel should not accept gifts or rewards connected to their duties, whether before or after performing those duties, when such benefits could contribute to corruption or misconduct. Through this commitment, WU promotes a culture of integrity, honesty, transparency, accountability, anti-corruption, and ethical decision-making whilestrengthening public confidence in university administration.

The university leadership has also reaffirmed its commitment to combating corruption in all forms and developing a strong and sustainable organizational culture based on morality, integrity, good governance, and responsible public service.

Integrity and Transparency Assessment (ITA)



WU's commitment to anti-corruption and transparent governance is further demonstrated through its participation in Thailand's Integrity and Transparency Assessment (ITA) conducted by the Office of the National Anti-Corruption Commission (NACC). For fiscal year 2025, WU achieved an ITA score of 94.34, an improvement of 2.01 points from the previous year, and was ranked 28th among 87 higher education institutions assessed.

The assessment measures institutional integrity and transparency through three components:

1. Internal Integrity and Transparency Assessment (IIT): Assesses internal integrity, ethics, transparency, and governance. WU scored 29.17/30 (97.23%).

2. External Integrity and Transparency Assessment (EIT): Collects feedback from external stakeholders and service recipients. WU scored 26.42/30 (88.07%).

3. Open Data Integrity and Transparency Assessment (OIT): Evaluates public information disclosure through WU's official website. WU scored 38.75/40 (96.88%).

Together, these measures demonstrate WU's systematic approach to preventing corruption, high transparency, and bribery. WU's 94.34-point ITA score, representing an improvement from the previous year, demonstrates continued progress in institutional integrity and transparency. These outcomes provide an important measurement of the university's progress in implementing principles on corruption and bribery. By maintaining its No Gift Policy, publicly communicating its anti-corruption commitments, assessing integrity and transparency, and using assessment results to support continuous improvement, WU continues to build a transparent, accountable, ethical, and trustworthy higher education institution.

STRENGTHENING FINANCIAL TRANSPARENCY THROUGH THE PUBLICATION OF FINANCIAL DATA

As WU continues to expand its organizational units and operations, financial procedures, regulations, announcements, guidelines, and information systems must be continuously updated to respond to changing circumstances. The University therefore recognizes the importance of regularly reviewing and diagnosing financial management practices, budgetary controls, and accounting procedures to identify potential challenges and strengthen transparency, efficiency, accountability, and auditability.

WU promotes financial transparency by officially publishing its financial data and financial reports. The University's financial reports are certified by the Office of the Auditor General of Thailand, providing independent verification and supporting the accuracy, reliability, accountability, and credibility of the University's financial information. The publication of financial data enables stakeholders to access information relating to the University's financial position and supports transparency in institutional financial management. The financial report is publicly available.





To further strengthen financial governance and management, WU has organized knowledge-sharing activities on finance and accounting to improve the efficiency of financial receipts, disbursements, and budget management. These activities respond to the University's continuing organizational expansion and ongoing improvements to financial and accounting regulations, announcements, operational guidelines, and information systems.



The activities aim to:

1. Build knowledge and understanding of financial regulations, delegated authority, rules, announcements, criteria, and operational guidelines relating to financial receipts, disbursements, budget control, and budget auditing.

2. Strengthen the knowledge and capacity of personnel responsible for finance and accounting so that they can perform their duties effectively, in compliance with applicable regulations and procedures, and in a manner that is transparent and auditable.

3. Promote mutual understanding and effective coordination between personnel responsible for financial receipts, disbursements, and accounting within the Finance and Accounting Division and other University units.

4. Provide opportunities for personnel to exchange knowledge, opinions, attitudes, and professional experiences, as well as identify problems, obstacles, and appropriate solutions for improving financial and accounting operations.

Through the publication of certified financial reports and the continuous development of financial and accounting capacity, WU strengthens transparency, good governance, financial accountability, responsible budget management, and institutional integrity. These efforts also serve as an important measure for improving the efficiency and effectiveness of financial operations, ensuring that financial activities are properly controlled, monitored, and subject to appropriate verification. By continuously strengthening financial management systems and publishing reliable financial data, the University promotes public accountability and supports the principles of transparent, responsible, and sustainable institutional governance.

DEVELOPING LAW STUDENTS THROUGH COMMUNITY-BASED LEGAL EDUCATION



Access to legal education plays an important role in strengthening the rule of law, legal awareness, justice, and social responsibility. However, communities may still face challenges in understanding their legal rights, responsibilities, and legal procedures.

To diagnose these challenges and identify opportunities for improving legal literacy and access to justice, WU supports legal education, community outreach, and experiential learning through its School of Law. These efforts connect academic knowledge with real

community needs while preparing students to contribute to legal awareness, crime prevention, human rights protection, social justice, and sustainable community development.

In 2025, WU had 175 students enrolled in the School of Law, providing a substantial pool of future legal professionals equipped with knowledge and skills relevant to law, justice, legal services, and law enforcement. Through their academic and community-based learning experiences, law students are encouraged to apply legal knowledge beyond the classroom and develop professional competencies, communication skills, ethical awareness, public service values, and a strong sense of social responsibility.



As part of its community engagement and legal education initiatives, WU law students conducted the academic outreach activity "Empowering Youth with Legal Knowledge to Prevent Drug Abuse". The activity brought legal knowledge from the classroom into the community, particularly focusing on drug-related laws, legal consequences, drug prevention, and the protection of children and youth from drug-related risks.

Students developed their ability to communicate complex legal concepts in accessible language for children, young people, older persons, and members of the general public who do not have a legal background.



The law students also organized the community legal outreach project "(Simple Law: Know Your Rights, Stay Ahead" at the Health Rehabilitation and Potential Development Center for Older Persons and the Community Learning Center in Thung Tha Lat, under the Social Welfare Division of Nakhon Si Thammarat Municipality.

The activity provided practical legal knowledge relevant to the daily lives of older persons, including inheritance law, equal marriage law, loans, debt guarantees, and wills. Law students used interactive approaches, including educational performances, lectures, and direct engagement with older persons. Students worked closely with community members to listen to their concerns, provide basic legal guidance, explain legal procedures, and increase awareness of legally enforceable wills.

By connecting students with children, youth, older persons, and other community members, WU provides opportunities for students to translate academic legal knowledge into practical social benefits and develop the communication, consultation, problem-solving, ethical, and public-service competencies required of future legal professionals.

The results demonstrate WU's contribution to developing a pipeline of law graduates and future legal professionals while extending legal knowledge and rights awareness to the wider community. With 175 students in the School of Law in 2025, together with hands-on legal outreach activities addressing drug-related legal awareness, inheritance, marriage equality, loans, debt guarantees, wills, and fundamental rights, WU strengthens both student competencies and community legal empowerment. WU can measure these contributions through student participation in law-related education and outreach, the development of legal and social skills, and the reach and outcomes of community legal education activities, supporting its broader commitment to justice, rule of law, legal awareness, and sustainable community development.

17 PARTNERSHIPS FOR THE GOALS



1 CROSS-SECTORAL DIALOGUE ON HIGHER EDUCATION IN PROMOTING BLUE CARBON

2 DATA GATHERING AND BEST PRACTICE IN PROMOTING WOMEN'S PEACEBUILDING

3 INTERNATIONAL COLLABORATION IN DATA GATHERING THROUGH THE GLOBE PROGRAM

4 ADVANCING BEST PRACTICE IN FISHERY RESTORATION THROUGH INTERNATIONAL COLLABORATION

SDG 17 : PARTNERSHIPS FOR THE GOALS

CROSS-SECTORAL DIALOGUE ON HIGHER EDUCATION IN PROMOTING BLUE CARBON



As countries around the world confront urgent environmental challenges such as climate change, WU demonstrates its role as a key hub that brings together researchers, NGOs, non-governmental organizations, government agencies, and the private sector to collectively support the United Nations' Sustainable Development Goals (SDGs). WU recognizes that higher education institutions play a critical role in addressing these challenges–not only by generating knowledge and advancing research, but also by diagnosing environmental and societal challenges, raising public awareness, and driving policy and technological innovation. Universities are therefore not merely centers of learning; they are catalysts for meaningful societal transformation toward sustainability.



In 2025, WU hosted a cross-sectoral dialogue titled "The Role of Higher Education in Driving Sustainability and Blue Carbon Research" as part of the Walailak Research Convention 2025. The convention serves as an international platform for scholars and researchers to share cutting-edge research, innovations, and perspectives on sustainability. The dialogue featured four distinguished speakers from leading institutions across Asia and Europe:



- Prof. Ir. Dr. U. Johnson Alengaram, Department of Civil Engineering, Faculty of Engineering, University of Malaya, Malaysia
- Prof. Vikas Kumar, Deputy Vice Chancellor for Research and Innovation, University of Portsmouth, United Kingdom
- Prof. Dr. Ikuo Hirono, Tokyo University of Marine Science and Technology, Japan, and International Advisory Board Member of BIOTEC
- Assoc. Prof. Dr. Mullica Jaroensutasinee, Vice President and Dean of the School of Science, Walailak University, and Chair of the GLOBE Science Working Group

During the dialogue, Prof. Vikas Kumar highlighted major challenges related to blue carbon and environmental sustainability, including the degradation of blue carbon ecosystems, limited public awareness, difficulties in restoration and conservation, policy gaps, socioeconomic implications, and the need for stronger international coordination.



Prof. Dr. Ikuo Hirono addressed the projected global population growth to nine billion by 2050 and its implications for global food security. He emphasized the crucial role of sustainable aquaculture in mitigating food shortages while reducing environmental impacts.

Prof. Ir. Dr. U. Johnson Alengaram presented research on sustainable construction materials, such as oil palm shells, iron industry byproducts, and residues from coal-fired power plants. These materials offer environmentally friendly alternatives to conventional cement, contributing to reduced carbon emissions while improving thermal comfort in housing construction.

Finally, Assoc. Prof. Dr. Mullica Jaroensutasinee showcased WU's ongoing research initiatives, including the deployment of marine sensors at Racha Island to monitor biodiversity. Her findings revealed that certain fish species declined during the COVID-19 pandemic due to the absence of tourist feeding, while coral reefs showed signs of recovery. She also highlighted projects on blue swimming crab restoration, the influence of government policies on land use and land cover change, and the application of drone mapping technologies for mangrove ecosystem monitoring.

The Walailak Research Convention 2025 not only functions as a forum for cross-sectoral knowledge exchange, but also strengthens international collaboration in addressing global sustainability challenges. Through continued commitment to impactful research and partnerships, WU reaffirms the essential role of higher education in advancing sustainability and shaping a more resilient future.

DATA GATHERING AND BEST PRACTICE IN PROMOTING WOMEN'S PEACEBUILDING

The Southern Thailand insurgency remains an ongoing conflict affecting the three southern border provinces of Pattani, Yala, and Narathiwat, as well as certain districts of Songkhla. The prolonged violence has significantly disrupted social structures, community trust, and everyday life. Among those most deeply affected are women, who remain one of the most vulnerable groups in the conflict-affected areas. Beyond physical insecurity, many women experience psychological distress, social marginalization, and a persistent feeling that their voices and perspectives are neither heard nor valued in peace processes. Diagnosing these challenges and understanding the specific needs and experiences of women in conflict-affected communities are essential for developing inclusive, evidence-based approaches to peacebuilding and social recovery.

Recognizing these challenges, in 2025 WU established international partnerships with Global Affairs Canada (GAC), the Embassy of Canada to Thailand, as well as independent scholars and social activists, to implement the project titled “Truth-telling: Empowering Women's Voice for Building Peace in 3 Southern Provinces of Thailand.”





The initiative aimed to create a safe and inclusive platform for women directly affected by the insurgency to share their lived experiences, reflect on the impacts of violence, and articulate their needs and aspirations for peace. Through structured dialogue sessions, participatory workshops, and community-based reflection activities, the project gathered qualitative data to better understand the realities faced by women, including rights violations, unrecognized voices, gender inequality, and invisible forms of violence.

Multiple sessions were facilitated by community leaders, and social activists. Participants were encouraged to express emotions and experiences that had long remained unspoken due to fear, trauma, or social constraints. The program emphasized safe spaces for dialogue, nonviolent communication, and confidence-building strategies to strengthen women’s courage in speaking truthfully and constructively. Some of the participants were members of NGOs, such as Pattani Muslimah Association.







Importantly, the project integrated the principles of United Nations Security Council Resolution 1325 on Women, Peace and Security, reinforcing the critical role of women in conflict prevention, peacebuilding, and post-conflict recovery. Participants collaboratively developed community-based best practices aimed at reducing violence, strengthening social cohesion, and promoting dignity and equality for women in their communities.

As part of experiential learning, participants visited the Ban Laem community, a locality known for peaceful coexistence among people of diverse religious backgrounds. This visit provided practical insights into intercultural harmony, mutual respect, and grassroots peacebuilding, allowing participants to exchange ideas and reflect on adaptable models for their own communities.

Upon completion of the program, participants were expected to serve as catalysts within their provinces, fostering dialogue, promoting nonviolence, and strengthening women's networks for peace. The collected data were submitted to WU as part of an ongoing research collaboration with international partners to analyze impact, monitor progress, and contribute evidence-based recommendations for sustainable peace and women's empowerment in Southern Thailand.

The project resulted in greater recognition of women's voices and experiences in conflict-affected communities and strengthened their confidence to participate in peacebuilding processes. Through dialogue, reflection, and community-based learning, participants gained a deeper understanding of women's rights, nonviolent communication, and the importance of inclusive approaches to peace and social cohesion. The data and insights generated through the project also provided valuable evidence for WU and its international partners to identify challenges, develop community-based best practices, and formulate recommendations for strengthening women's participation in peacebuilding. By connecting women from affected communities with researchers, civil society actors, and international partners, the initiative helped strengthen networks for dialogue and created a foundation for continued collaboration toward more inclusive, peaceful, and resilient communities in Southern Thailand.

INTERNATIONAL COLLABORATION IN DATA GATHERING THROUGH THE GLOBE PROGRAM



Environmental degradation and climate change are increasingly affecting ecosystems and biodiversity around the world. Understanding these complex environmental challenges requires reliable, systematic, and geographically diverse data to diagnose environmental conditions, monitor changes in ecosystems, and identify emerging environmental risks. WU therefore recognizes the importance of contributing to collaborative environmental monitoring and scientific data collection for the SDGs.

In 2025, WU conducted the project "Promoting STEM Education in Environmental Education and Climate Change". The project was implemented through international and national collaboration involving WU, NASA, UNICEF, GLOBE Thailand, the Institute for the Promotion of Teaching Science and Technology (IPST), and the GLOBE Program - Asia Pacific.



The project brought together educational institutions and international partners to promote STEM education, environmental education, climate change learning, scientific research, environmental observation, data gathering, and SDG-related education. Pathummanukul School was among the schools participating in the project.

Through this collaboration, students were provided with opportunities and workshops to develop scientific knowledge and practical skills while contributing to environmental research and sustainable development. The workshop and practical training were designed around four major activities:

1. Training students in scientific research and environmental measurement, including the GLOBE protocols for environmental observations and data gathering.

2. Supporting environmental data entry, enabling locally gathered observations and measurements to be submitted to the relevant data systems.

3. Encouraging student participation in the GLOBE Student Research Competition (GLOBE SRC), providing opportunities for students to present and share their environmental research.

The University subsequently mobilized and supported students in participating in the GLOBE SRC 2025. Importantly, environmental data gathered through the project were submitted to the GLOBE Program. One of the student research projects supported through this initiative was entitled "Water Quality and Bioluminescent Plankton Abundance at Golden Bay." The study focused on the marine ecosystem of the Gulf of Thailand in Tha Sala District.

The student researchers investigated water quality and phytoplankton abundance during periods associated with changes in seawater colour and plankton blooms. The research compared two study areas, Tha Sung Bon Beach and Ban Nai Thung Beach, with three observation points at each location.





Using GLOBE environmental research and measurement protocols, the students collected and analyzed data on key water-quality indicators, including water temperature, salinity, pH, and water transparency. They also investigated the density and abundance of phytoplankton. These observations enabled the students to conduct a local diagnostic assessment of environmental conditions and investigate factors associated with plankton blooms and changes in coastal ecosystems.

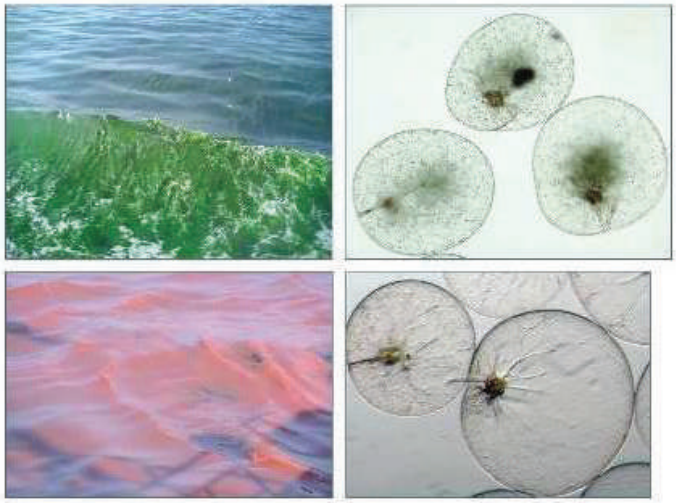


Fig.1 Two forms of *Noctiluca scintillans*: the green form (upper) with the endosymbiont *Pedinomonas noctilucae* and the heterotrophic red form (lower)

Environmental observation data collected through GLOBE activities were submitted to the GLOBE data and information system, where they can contribute to a worldwide resource for scientific research and inquiry. The system enables locally gathered data and measurements to be connected with environmental observations from participating communities around the world. Some GLOBE observations also contribute to the validation and understanding of NASA satellite data products.





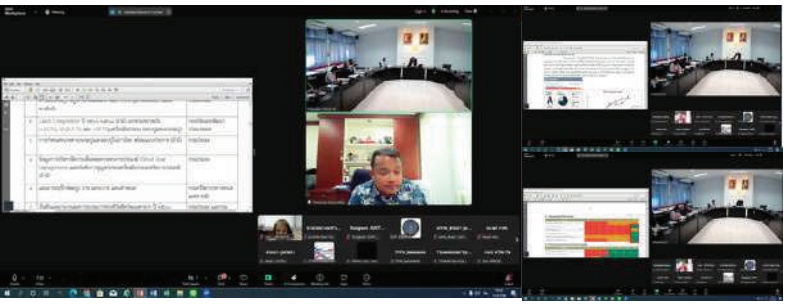


Through the Promoting STEM in Environmental Education Integrated with Climate Change project, WU demonstrated its commitment to collaboration in SDG-related data gathering and measurement. The initiative connected local schools, university researchers, national organizations, and international partners while strengthening environmental monitoring, scientific research, STEM education, climate change education, and sustainable development.

As a result, the project enabled students to develop practical skills in environmental research, data gathering, data entry, observation, and measurement while contributing locally collected information to the international GLOBE Program. The successful participation of the student research team in GLOBE SRC 2025, where the project received the Second Runner-Up Award, demonstrated the positive outcomes of international collaboration in environmental education and scientific inquiry.

ADVANCING BEST PRACTICE IN FISHERY RESTORATION THROUGH INTERNATIONAL COLLABORATION

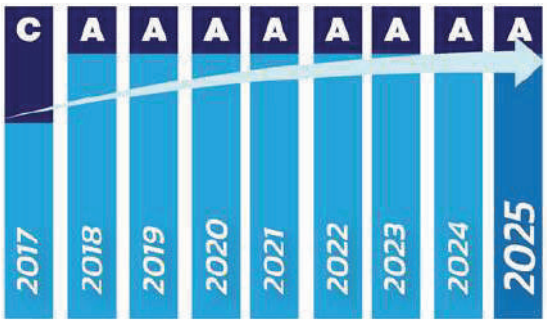
The blue swimming crab fishery in the Gulf of Thailand faces significant sustainability challenges, including declining crab populations, overexploitation in heavily fished inshore areas, and the harvesting of undersized and gravid female crabs. These challenges threaten marine biodiversity, sustainable fisheries, food security, and the livelihoods of fishing communities. To diagnose these ecological and fisheries-management challenges and support evidence-based solutions, WU contributes research and scientific expertise to the Thailand Blue Swimming Crab Fishery Improvement Project (Thailand BSC FIP).



The Thailand BSC FIP focuses on improving the sustainability of the blue swimming crab fishery in the Gulf of Thailand. The fishery is an important Thai export industry, making sustainable resource management essential for both marine ecosystems and coastal communities. The project brings together partners, including the World Wide Fund for Nature (WWF), Marine Resources Assessment Group (MREG), NFI Crab Council of the United States, WU, and other FIP participants.

WU participated in meetings of the committee responsible for the sustainable management of Thailand's blue swimming crab resources, where research findings were presented and discussed with government and fisheries stakeholders. The research included assessment of blue swimming crab resources in Surat Thani and Nakhon Si Thammarat using Length-Based Spawning Potential Ratio (LB-SPR) analysis. These scientific assessments provide evidence for understanding stock status, fishing

pressure, reproductive capacity, and the sustainability of current fishing practices.



Research collaboration also supported the assessment of potential interactions with Endangered, Threatened and Protected (ETP) species associated with blue swimming crab fishing. Under the FIP workplan, WU lecturers and fisheries stakeholders collaborated to collect updated field data, conduct research, and organize stakeholder workshops. The work included investigating ETP species interactions associated with crab gillnets and collapsible crab traps in Ban Don Bay, Surat Thani. The resulting evidence supports the evaluation of fisheries impacts and the improvement of management practices in accordance with international fisheries sustainability frameworks. By combining field research, stakeholder participation, and international fisheries-management principles, the project contributes to the development and refinement of best practices for reducing ecological impacts from fishing activities.

Another important component of the collaboration is the development and monitoring of Harvest Control Rules (HCRs) for the blue swimming crab fishery. The FIP action plan establishes a process for collecting monthly fisheries data from crab gillnets and crab traps in Surat Thani, including fishing grounds, fishing effort, catch, species composition, and crab size. These data are analyzed to estimate natural mortality, fishing mortality, exploitation rates, size composition, and Spawning Potential Ratio (SPR). The results are compared with established HCR criteria, allowing management responses to be proposed when sustainability thresholds are triggered. This process supports a best-practice approach to adaptive fisheries management, in which scientific monitoring and stock-status information are used to guide appropriate management responses.



In 2025, WU received national recognition for its Blue Swimming Crab Bank Initiative, demonstrating the practical application of sustainable marine resource management and community-driven development. The initiative received the 2025 National Research Awards from the National Research Council of Thailand (NRCT) in the categories of Research and Innovation for Utilization and the Government Excellence Award, presented at the NRCT Forum 2025.

The initiative has conserved at least 60,000 brood crabs annually and supported the release of more than 3.8 billion juvenile blue swimming crabs into Thailand's marine ecosystem. The conservation activities have also been associated with an increase in crab catches, from approximately 5 kilograms to 10–15 kilograms per boat per day, helping strengthen local fishing livelihoods while supporting the long-term sustainability of marine resources. These outcomes demonstrate how scientific knowledge, community participation, government support, private-sector engagement, and civil-society collaboration can be translated into practical best practices for fisheries conservation and community development.

WALAILAK UNIVERSITY AWARDS 2025

Times Higher Education
Sustainability
Impact Ratings 2026

OVERALL WORLDWIDE
47th
Score 92.8
IN THAILAND
3rd

WALAILAK UNIVERSITY
Top 30 Worldwide across 4 SDGs.



5 GENDER EQUALITY
WORLD RANK **#5**
Score 82.1
Thailand #1



11 SUSTAINABLE CITIES AND COMMUNITIES
WORLD RANK **#14**
Score 89.3
Thailand #2



2 ZERO HUNGER
WORLD RANK **#23**
Score 85.3
Thailand #4



14 LIFE BELOW WATER
WORLD RANK **#27**
Score 87.8
Thailand #3

Good Health & Well-being
World #35 · Score 84.3
Thailand #3

Quality Education
World #69 · Score 77.7
Thailand #4

Clean Water & Sanitation
World #73 · Score 81.0
Thailand #4

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OUTSTANDING CONTRIBUTION TO REGIONAL DEVELOPMENT
Though The Restoration of
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มหาวิทยาลัยวลัยลักษณ์
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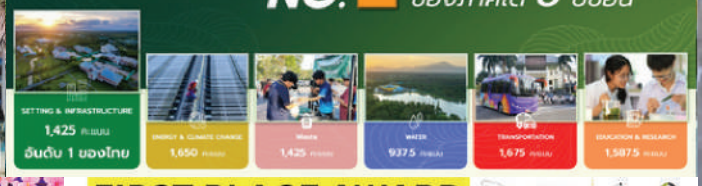
UI GREENMETRIC
WORLD UNIVERSITY RANKINGS 2025
NO. 1

อันดับ **6** ของไทย
82 ร่วมของโลก

มหาวิทยาลัยสีเขียว
ของภาคใต้ 6 ปีซ้อน



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SUN Sustainable University Network of Thailand



FIRST PLACE AWARD
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WU SDG MOVE

WALAILAK UNIVERSITY SDG REPORT 2024-2025
SDG COMMITTEE STRUCTURES

Advisory Board:	**Prof. Dr. Sombat Thamrongthanyawong**	**Acting President**
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	Assoc. Prof. Dr. Sarawoot Palipoch	Vice-President
	Assoc. Prof. Dr. Surin Maisrikrod	Vice-President
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	Mrs. Preeyarat Thorarit Daungkaew	
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SUSTAINABLE DEVELOPMENT GOALS



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Fax. +667567-3708 Email : wu@wu.ac.th

WALAILAK UNIVERSITY AWARDS 2025

Times Higher Education
Sustainability
Impact Ratings 2026

OVERALL WORLDWIDE
47th
Score 92.8
IN THAILAND
3rd

WALAILAK UNIVERSITY
Top 30 Worldwide across 4 SDGs.



5 GENDER EQUALITY
WORLD RANK **#5**
Score 82.1
Thailand #1



11 SUSTAINABLE CITIES AND COMMUNITIES
WORLD RANK **#14**
Score 89.3
Thailand #2



2 ZERO HUNGER
WORLD RANK **#23**
Score 85.3
Thailand #4



14 LIFE BELOW WATER
WORLD RANK **#27**
Score 87.8
Thailand #3

Good Health & Well-being
World #35 · Score 84.3
Thailand #3

Quality Education
World #69 · Score 77.7
Thailand #4

Clean Water & Sanitation
World #73 · Score 81.0
Thailand #4

www.wu.ac.th Walailak University @Walailak_U

WALAILAK UNIVERSITY
Proudly Receives
GLOBAL GOOD GOVERNANCE AWARDS 2026



3G Excellence Award for Green Campus in Thailand

3G Impact Award for Sustainable Development

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THE Awards Asia 2025
WALAILAK UNIVERSITY
Finalist Among Asia's **Top 8**
for
OUTSTANDING CONTRIBUTION TO REGIONAL DEVELOPMENT
Though The Restoration of
Blue Swimming Crab Population Project

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รางวัล NRCT AWARD 2025
ผลงานวิจัยและนวัตกรรมตอบโจทย์ประเทศ เนื่องในวันคล้ายวันสถาปนา วช. ครบรอบ 66 ปี

ธนาคารปูม้า

ธนาคารปูม้า เครื่องมือบริหารจัดการทรัพยากรทางทะเล
และชายฝั่งและสร้างสรรค์เศรษฐกิจสีน้ำเงินชุมชนประมงพื้นบ้าน
จังหวัดนครศรีธรรมราช จังหวัดสุราษฎร์ธานี





มหาวิทยาลัยวลัยลักษณ์
ได้รับการจัดอันดับ
UI GREENMETRIC
WORLD UNIVERSITY RANKINGS 2025
NO. 1
อันดับ **6** ของไทย **82** ร่วมของโลก
มหาวิทยาลัยสีเขียว
ของภาคใต้ 6 ปีซ้อน

SETTING & INFRASTRUCTURE 1,425
อันดับ 1 ของไทย

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