Annual Report
on SDG17 Partnership for the Goals

Partnerships for Advancing SDG 15: Life on Land

1. Introduction

In 2025, Thaksin University worked with university units, communities, government agencies, and international partners to conserve biodiversity and promote the sustainable use of land and biological resources. Activities combined conservation planning, campus greening, agricultural research, farmer training, and environmental education. International exchanges and sustainable development dialogue connected local experience with wider knowledge networks. This report outlines these partnerships and their contributions to Life on Land.

2. Objectives and Targets of Partnerships for Poverty Reduction

The partnerships aim to conserve local plant and animal genetic resources; encourage sustainable farming and land use; strengthen environmental learning and community participation; and expand research and knowledge exchange through national and international cooperation. Progress is reflected in conservation plans, planting activities, training, field research, and academic exchanges, with further monitoring needed to assess long-term ecological outcomes.

3. Internal University Collaboration

3.1 Participating University Units

The Research and Innovation Institute, Thaksin University plays a central role in coordinating the university's initiatives under the Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG). As part of this national initiative, the university promotes the conservation, documentation, and sustainable utilization of plant genetic resources and local biodiversity through interdisciplinary research, education, and community engagement. In 2025, the university organized a participatory

workshop to develop the Plant Genetic Resource Conservation Action Plan for 2027, providing an opportunity to review previous conservation activities, exchange knowledge, and establish coordinated priorities for future conservation efforts.

Collaboration across university units involves the Research and Innovation Institute, the Faculty of Science and Digital Innovation, the Faculty of Agriculture (formerly the Faculty of Technology and Community Development), and the Phatthalung Campus Office. The Faculty of Science and Digital Innovation contributes expertise in environmental science and related technologies, particularly in carbon management and carbon sequestration assessment. Meanwhile, the Faculty of Agriculture collaborates with the Research and Innovation Institute to promote the conservation and sustainable utilization of indigenous plant genetic resources through agricultural research and knowledge transfer. The Phatthalung Campus Office supports campus-based environmental initiatives, including the establishment of Thaksina Forest Park, which promotes green-space development and engagement among university personnel and students.

In addition, Thaksin University Demonstration School (Secondary Division) collaborates with the Faculty of Science and Digital Innovation to integrate environmental education into school-level learning activities. In 2025, the school implemented a practical environmental science programme based on GLOBE Protocols, covering soil measurements, land-cover assessment, and water measurements. The programme was connected to GLOBE Academy 2025, involving the Institute for the Promotion of Teaching Science and Technology (IPST) and UNICEF Thailand. This collaboration illustrates how the university integrates scientific expertise and educational resources to promote environmental literacy and understanding of terrestrial ecosystems. Collectively, these institutional partnerships strengthen Thaksin University's capacity to advance SDG 15 through biodiversity conservation, environmental education, and sustainable natural resource management.

3.2 Joint Projects and Activities

In 2025, Thaksin University implemented several collaborative projects and activities to promote biodiversity conservation, sustainable utilization of plant genetic resources, environmental education, and responsible management of terrestrial resources. These initiatives were undertaken through cooperation among academic and administrative units, integrating research expertise, educational activities, and community engagement. Five major collaborative initiatives are summarized below.

1. Collaborative Planning for Plant Genetic Resource Conservation

On 1 May 2025, Thaksin University organized a participatory workshop to develop the Plant Genetic Resource Conservation Action Plan for 2027 under the RSPG framework. The workshop brought together relevant participants to review previous conservation activities, exchange scientific knowledge, and discuss future directions for plant genetic resource conservation. Activities included presentations on the university's conservation progress, discussions of the RSPG master plan for 2027–2031, and group discussions to formulate coordinated action plans. The initiative provided an institutional platform for strengthening conservation planning and promoting the long-term protection and sustainable utilization of biological resources.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250717145557&id_list=1115

2. Development of Thaksina Forest Park

On 26 February 2025, the Phatthalung Campus Office organized a university-wide tree-planting activity to establish Thaksina Forest Park. University administrators, staff, and students participated in planting 1,307 trees within an area of more than 4.96 hectares on the Phatthalung Campus. The initiative incorporated a variety of tree species, including *Cassia fistula* and *Dipterocarpus alatus*, contributing to the development of a diverse planted landscape. This collaborative activity aimed to improve campus green spaces, encourage participation in environmental stewardship, and establish a foundation for future vegetation development and ecological education.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250626115829&id_list=974

3. Capacity Building in Carbon Management and Carbon Sequestration Assessment

On 15 March 2025, the university's RSPG Coordination Center organized a training workshop on carbon management and carbon sequestration assessment, supported by academic experts from the Faculty of Science and Digital Innovation.

The programme engaged 105 participants, including academic staff, students, school pupils, and other relevant personnel. Training activities addressed carbon management approaches and practical methods for estimating carbon storage. The initiative promoted environmental awareness and provided technical knowledge relevant to vegetation assessment, natural resource management, and the development of school botanical garden activities under the RSPG framework.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250704132729&id_list=1026

4. Conservation and Sustainable Utilization of Indigenous Chai Buri White Chili

On 25 July 2025, the Research and Innovation Institute collaborated with the Faculty of Agriculture to organize a practical training workshop on the cultivation of the indigenous Chai Buri white chili variety. The activity involved 50 farmers from Phatthalung Province and surrounding areas. Training sessions covered cultivation practices during the transition period, fungal plant diseases, and the preparation and application of *Trichoderma* in chili production. Through the integration of agricultural expertise and community-oriented knowledge transfer, the initiative supported awareness of local plant genetic resources and promoted their sustainable utilization in agricultural production.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250730090907&id_list=1257

5. Environmental Education through the GLOBE Protocols Programme

On 17 May 2025, Thaksin University Demonstration School (Secondary Division), in collaboration with the Faculty of Science and Digital Innovation, conducted a practical environmental science programme using GLOBE Protocols for Grade 8 students. The activity was connected to the GLOBE Academy 2025 programme, involving IPST and UNICEF Thailand. The programme provided hands-on learning through four thematic stations covering soil measurements (Pedosphere), land-cover assessment (Biosphere), water measurements (Hydrosphere), and the effects of climate change on coral reefs. Students also participated in activities involving scientific questioning and the development of environmental research ideas. Particularly relevant to SDG 15 were the soil and land-cover measurement activities, which introduced students to standardized approaches for observing terrestrial environmental conditions and understanding the importance of environmental monitoring.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250719104301&id_list=1143

Together, these five initiatives demonstrate Thaksin University's integrated approach to advancing SDG 15 through institutional conservation planning, campus greening, environmental capacity building, sustainable utilization of local plant genetic resources, and science-based environmental education.

3.3 Outputs, Outcomes, and Impact

The collaborative initiatives implemented by Thaksin University in 2025 generated tangible outputs in plant genetic resource conservation, campus greening, environmental capacity building, sustainable agricultural practices, and environmental education. Through cooperation among academic and administrative units, these initiatives supported interdisciplinary knowledge exchange and strengthened the university's institutional contribution to SDG 15.

Outputs

The major outputs of these collaborative initiatives included the following:

1. Plant Genetic Resource Conservation Planning: A participatory workshop was conducted to develop the Plant Genetic Resource Conservation Action Plan for 2027 under the RSPG framework. The activity included a review of previous conservation progress, discussions of future priorities, and the formulation and presentation of coordinated action-planning proposals.
2. Campus Greening and Tree Planting: A total of 1,307 trees representing various species were planted within an area of more than 4.96 hectares under the Thaksina Forest Park initiative. The activity engaged administrators, staff, and students in campus-based environmental stewardship.
3. Environmental Capacity Building: A training workshop on carbon management and carbon sequestration assessment engaged 105 participants and provided practical learning opportunities related to carbon storage estimation, vegetation assessment, and natural resource management.
4. Conservation and Sustainable Utilization of Local Plant Resources: A practical training workshop on indigenous Chai Buri white chili cultivation engaged 50 farmers. The programme delivered knowledge on crop production, fungal disease management, and the application of *Trichoderma* in agricultural production through collaboration between the Research and Innovation Institute and the Faculty of Agriculture.
5. Environmental Education and Scientific Learning: A GLOBE Protocols training programme was delivered to Grade 8 students at Thaksin University Demonstration School

(Secondary Division). The programme included learning stations covering soil measurements, and land-cover assessment, which encouraging environmental research.

Outcomes

These collaborative initiatives strengthened institutional coordination and expanded opportunities for interdisciplinary knowledge exchange among university units. The RSPG planning workshop provided a basis for aligning future plant genetic resource conservation activities with national conservation priorities. The Thaksina Forest Park initiative mobilized participation in campus greening, while the carbon management workshop increased access to practical training in environmental assessment.

The indigenous Chai Buri white chili workshop facilitated the transfer of agricultural knowledge to local farmers, supporting opportunities for the sustainable utilization of locally important plant resources. In addition, the GLOBE Protocols programme connected scientific expertise from the Faculty of Science and Digital Innovation with school-level environmental education, providing students with practical exposure to standardized methods for observing soil, land cover, and other environmental conditions. Although these activities created opportunities for knowledge development and collaboration, evidence of long-term knowledge retention, practice adoption, or measurable ecological improvement requires further evaluation.

Impact

Collectively, these initiatives provide a foundation for Thaksin University's continued contribution to biodiversity conservation, environmental education, and sustainable terrestrial resource management. The integration of conservation planning, campus green-space development, agricultural knowledge transfer, and environmental monitoring education supports the broader objectives of SDG 15, particularly Target 15.1 (conservation and sustainable use of terrestrial ecosystems), Target 15.5 (reducing biodiversity loss), and Target 15.9 (integrating biodiversity values into planning and development processes).

The university's interdisciplinary partnerships also have the potential to encourage long-term environmental awareness and responsible utilization of biological resources among students, university personnel, and local communities. Nevertheless, the publicly available evidence primarily documents activities and immediate outputs. Long-term impacts, including

tree survival rates, changes in biodiversity, adoption of conservation practices, and improvements in ecosystem conditions, have not yet been established by the available records. Continued monitoring and evaluation will therefore be essential for assessing the effectiveness and sustainability of these initiatives.

4. Community and Local Partnerships

4.1 Community and Local Partners

Thaksin University actively collaborated with local communities, farmers, community enterprises, and local development networks in Phatthalung Province to promote sustainable land use, the conservation of local biological resources, and community-based natural resource management. These partnerships integrate scientific knowledge, agricultural innovation, and indigenous wisdom to support sustainable livelihoods while encouraging the responsible utilization of terrestrial ecosystems and plant genetic resources.

In 2025, significant community engagement activities were implemented through the Phatthalung Model, a research and social innovation programme aimed at addressing local development challenges. Participating communities included households in Pa Phayom District and community groups associated with traditional agricultural practices and locally important biological resources. The university collaborated with local stakeholders to develop integrated farming systems, promote diversified crop cultivation, and facilitate knowledge exchange between researchers and community members. These initiatives provided opportunities to connect sustainable land management with household food production and local economic development.

Furthermore, community partnerships extended to agricultural heritage and the utilization of indigenous plant resources. Local farmers participated in training activities related to the cultivation of Chai Buri white chili, while community enterprises in Khuan Khanun District contributed knowledge of locally important plants, including sago palm and sedges used in traditional handicrafts. Such partnerships provide a foundation for strengthening community participation in biological resource conservation and sustainable utilization, supporting the objectives of SDG 15

4.2 Joint Projects, Activities, and Research

In 2025, Thaksin University implemented community-oriented projects integrating applied research, agricultural knowledge transfer, local resource utilization, and participatory learning. The following initiatives illustrate the university's engagement with local communities in promoting sustainable management of terrestrial resources.

1. Sustainable Land Use through the Khok Nong Na Model

On 23 March 2025, Thaksin University organized a community planting activity under the "Khok Nong Na Poverty Alleviation Model" at the Phatthalung Campus. The activity formed part of the Phatthalung Model research and social innovation programme and involved 50 participants from Pa Phayom District. The project developed an agricultural area into an integrated farming system incorporating a diversity of economic crops, vegetables, medicinal plants, and perennial species. These included maize, peanuts, cucumbers, chilies, eggplants, bananas, lemongrass, and other locally useful plants. The activity promoted community participation in diversified agricultural production and provided practical opportunities to exchange knowledge on integrated land use.

By June 2025, the project had progressed from planting to harvesting agricultural products. This initiative demonstrated the practical application of university research to community-based farming and the diversified use of agricultural land, contributing to sustainable land management and local food production.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250708102445&id_list=1054

2. Community-Based Conservation and Utilization of Indigenous Chai Buri White Chili

On 25 July 2025, Thaksin University's Research and Innovation Institute and Faculty of Agriculture organized a training workshop for 50 farmers on the cultivation of the indigenous Chai Buri white chili variety. The workshop transferred agricultural knowledge concerning crop management, fungal plant diseases, and the application of *Trichoderma* in crop production. Through direct engagement with local farmers, the activity supported the dissemination of cultivation knowledge relevant to maintaining and utilizing a locally important plant variety.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250730090907&id_list=1257

3. Community Learning on Local Biological Resources and Agricultural Heritage

On 21 April 2025, Thaksin University presented community-based research and social innovation initiatives during a field visit by representatives of the Ministry of Higher Education,

Science, Research and Innovation. The activities highlighted local biological resources, agricultural heritage, and traditional knowledge in Phatthalung Province. The programme included the presentation of community initiatives involving sago palm resources and visits to community enterprises in the Thale Noi area. Participants exchanged knowledge on the processing and value addition of locally available sedges, including traditional weaving and natural dyeing practices. These activities demonstrated the value of connecting research institutions with communities to document and communicate local knowledge associated with biological resources.

They also created opportunities to discuss the responsible utilization of locally important plants within community development initiatives. Together, these projects illustrate Thaksin University's approach to community engagement through integrated farming, agricultural knowledge transfer, and the sustainable utilization of local biological resources.





Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250708164216&id_list=1091

Outputs, Outcomes, and Impact

The university's community and local partnerships in 2025 generated documented outputs in integrated agricultural production, farmer training, and community-based knowledge exchange.

Outputs

1. Integrated Agricultural Land Use: Phatthalung Campus developed area as an integrated farming demonstration site. An initial community planting activity engaged 50 participants from Pa Phayom District and involved the cultivation of diverse agricultural and medicinal plants.
2. Agricultural Production: The Khok Nong Na Model produced measurable harvests. One reported harvest from communal plot No. 4 included 93 kg of yardlong beans, 27 kg of eggplants, 8 kg of chilies, and 12 kg of gourds, representing a combined reported harvest of 140 kg.
3. Community Agricultural Training: A practical workshop on indigenous Chai Buri white chili cultivation engaged 50 farmers and provided training in crop management and biological approaches to plant disease management.
4. Local Resource Knowledge Exchange: Community-based activities and field demonstrations presented the utilization of local plant resources, including sago palm and sedges, together with traditional processing and handicraft practices.

Outcomes

These initiatives expanded opportunities for community participation in agricultural research and practical learning. The Khok Nong Na Model demonstrated the feasibility of diversified crop production within a shared agricultural area and generated harvests documented through public university reports. The indigenous chili workshop provided farmers with access to technical knowledge relevant to local crop production, while community learning activities strengthened opportunities for exchanging traditional knowledge and scientific perspectives on locally important plants. The initiatives also supported connections between university researchers and community groups, creating a basis for continued collaboration in sustainable land utilization and community resource management.

Impact

Collectively, these community partnerships contribute to the broader objectives of SDG 15 by encouraging diversified agricultural land use, supporting knowledge of local plant genetic resources, and promoting community participation in natural resource management. They are

particularly relevant to Target 15.1, concerning the sustainable use of terrestrial ecosystems, and Target 15.9, concerning the integration of biodiversity considerations into development processes. The initiatives have the potential to strengthen community capacity for environmentally responsible agricultural practices and continued stewardship of local biological resources.

5. National Partnerships

5.1 National Partners

Thaksin University collaborates with national government agencies, research funding organizations, and conservation networks to promote biodiversity conservation, sustainable agricultural land use, and the preservation of locally important genetic resources. These partnerships connect university-based research and community engagement with national conservation frameworks and area-based development priorities. In 2025, key national partners included the Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG), the Program Management Unit on Area-Based Development (PMU A), and government agencies involved in agricultural and natural resource management. Thaksin University's Science Park and Social Innovation (SSIP) also serves as an institutional coordinating unit for nationally supported, multi-sectoral initiatives, including the Premium Phatthalung Model.

The Plant Genetic Conservation Project (RSPG) serves as an important national framework for Thaksin University's biodiversity conservation activities. Through its Research and Innovation Institute and RSPG Coordination Center, the university works with RSPG representatives to coordinate conservation planning, exchange technical knowledge, and develop activities supporting the conservation and sustainable utilization of plant genetic resources.

In May 2025, representatives of the national RSPG programme contributed to the university's conservation planning workshop, helping align institutional activities with the RSPG master plan for 2027.

The Program Management Unit on Area-Based Development (PMU A) and Thailand's Science, Research and Innovation Fund supported research and social innovation initiatives under the Phatthalung Model. These initiatives promoted cooperation among university

researchers, government agencies, and local communities to address development challenges through applied research. Furthermore, Thaksin University engaged with the Ministry of Higher Education, Science, Research and Innovation (MHESI) and local livestock authorities to facilitate research communication, field investigations, and knowledge exchange related to biological resources and agricultural heritage. In particular, the District Livestock Office of Khuan Khanun and other relevant livestock authorities supported field research concerning swamp buffalo health and genetic diversity in the Thale Noi agricultural heritage landscape.

5.2 Joint Projects, Activities, and Research

In 2025, Thaksin University strengthened its collaboration with national conservation organizations, research funding agencies, and government authorities through initiatives focusing on plant genetic resource conservation, agricultural biodiversity, and sustainable natural resource management. These partnerships integrated scientific research, conservation planning, and area-based development to support the objectives of SDG 15. Four major collaborative initiatives are summarized below.

1. National Collaboration on Plant Genetic Resource Conservation under the RSPG Framework

On 1 May 2025, Thaksin University, in collaboration with the Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG), organized a participatory workshop to develop the university's Plant Genetic Resource Conservation Action Plan for 2027. The workshop provided a platform for reviewing previous conservation activities, exchanging knowledge, and aligning institutional priorities with the national RSPG framework.

A representative of the national RSPG programme provided guidance on conservation planning, while participating university personnel engaged in group discussions to identify priorities and formulate proposals for future activities.

This collaboration strengthened coordination between the university and the national plant genetic conservation network. It also provided a foundation for integrating biodiversity

conservation and the sustainable utilization of plant genetic resources into institutional research, education, and development planning.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250717145557&id_list=1115

2. National Research Collaboration on Swamp Buffalo Genetic Resources in the Thale Noi Agricultural Heritage Landscape

During September–October 2025, researchers from Thaksin University conducted field investigations associated with the Thailand–China Research and Technology Exchange Center on Swamp Buffalo Raising Systems in Agricultural Heritage Areas. The research was linked to the Phatthalung Model and supported through the national research funding system. At the national and local levels, the research team coordinated with livestock authorities, including the District Livestock Office of Khuan Khanun, and stakeholders in the Thale Noi wetland area.

Research activities included farmer interviews, field observations, and biological sample collection to investigate swamp buffalo health and genetic diversity. The study area included a buffalo-rearing population of more than 450 animals, with blood and fecal samples collected from selected animals for hematological, parasitological, infectious disease, and genetic investigations. These activities provided baseline research information relevant to locally

important animal genetic resources and traditional livestock management within the Thale Noi Globally Important Agricultural Heritage System (GIAHS).

The collaboration illustrates how university researchers, government livestock authorities, and local stakeholders can contribute to the documentation and scientific understanding of agricultural biodiversity. The resulting research activities provide a basis for future studies and conservation planning concerning swamp buffalo genetic resources and sustainable agricultural heritage management.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20251008152033&id_list=1366

3. National Government Engagement in Community-Based Biological Resource Management

On 21 April 2025, Thaksin University welcomed representatives from the MHESI to review research and social innovation initiatives implemented under the Phatthalung Model. The visit highlighted university research and community-based activities involving locally important biological resources, including sago palm and sedges, as well as traditional agricultural knowledge in Phatthalung Province.

The programme included research presentations, field demonstrations, and exchanges with community stakeholders concerning the utilization and value addition of local biological

resources. These activities demonstrated the integration of academic knowledge, local wisdom, and community participation in area-based development.

The engagement provided an opportunity to communicate university research and community experiences to national government representatives, supporting knowledge exchange and discussion of sustainable resource-based development. Its relevance to SDG 15 lies in promoting awareness of local biological resources and encouraging the consideration of sustainable resource utilization in regional development initiatives.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250708164216&id_list=1091

4. Multi-Sectoral Collaboration through the Premium Phatthalung Model

On 29 July 2025, Thaksin University's Science Park and Social Innovation (SSIP) organized a multi-stakeholder meeting under the Premium Phatthalung Model, supported by Thailand's Science, Research and Innovation Fund and the Program Management Unit on Area-Based Development (PMU A). The meeting brought together representatives from government

agencies, the private sector, academia, and local communities to discuss sustainable area-based development in the Lower Songkhla Lake Basin.

The initiative adopted the "Khao–Pa–Na–Le" (Mountains–Forests–Rice Fields–Lake) concept, recognizing the interconnectedness of natural landscapes, agricultural systems, local livelihoods, and cultural resources. Participants exchanged perspectives on development strategies that integrate local knowledge, natural resources, community participation, and economic opportunities. The discussions emphasized the importance of balancing resource utilization with long-term regional sustainability.

This multi-sectoral collaboration provided a platform for incorporating natural resource considerations into area-based development discussions. The initiative is particularly relevant to SDG Target 15.9, which emphasizes integrating ecosystem and biodiversity values into planning and development processes.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250804153853&id_list=1264

Outputs, Outcomes, and Impact

Thaksin University's national partnerships in 2025 generated documented outputs in biodiversity conservation planning, agricultural genetic resource studies, and government–university knowledge exchange. These contributed to stronger coordination between university research activities and national frameworks for conservation and sustainable development.

Outputs

The major outputs included the following:

1. Plant Genetic Resource Conservation Planning: A participatory workshop was conducted on 1 May 2025 to develop the university's Plant Genetic Resource Conservation Action Plan for 2027. Activities included presentations on previous conservation progress, technical guidance concerning the RSPG master plan for 2027, and group discussions to formulate coordinated conservation planning proposals.
2. Agricultural Genetic Resource Research: Field investigations were conducted in the Thale Noi agricultural heritage landscape, covering a buffalo-rearing population of more than 450 animals. Farmer surveys and biological sample collection were undertaken to support studies of buffalo health, disease conditions, and genetic diversity.
3. National Research and Policy Engagement: A government field visit and research presentations were organized to communicate area-based innovations involving local biological resources, agricultural heritage, and community development.
4. Multi-Sectoral Collaboration for Sustainable Area-Based Development: A multi-stakeholder meeting was organized on 29 July 2025 under the Premium Phatthalung Model, supported by Thailand's Science, Research and Innovation Fund and the Program Management Unit on Area-Based Development (PMU A). The meeting brought together representatives from government agencies, the private sector, academia, and local communities to discuss sustainable development strategies for the Lower Songkhla Lake Basin. The discussions applied the "Khao–Pa–Na–Le" (Mountains–Forests–Rice Fields–Lake) concept to promote the integration of natural resources, local knowledge, and community participation into area-based development planning.

Outcomes

The national partnerships strengthened coordination between Thaksin University, government agencies, research funding organizations, and local stakeholders in biodiversity conservation and sustainable resource management. The RSPG planning workshop provided a basis for aligning the university's future plant genetic resource conservation activities with national conservation priorities. Meanwhile, the swamp buffalo research activities generated

opportunities for scientific investigation and knowledge exchange concerning animal health, genetic diversity, and traditional livestock management within the Thale Noi agricultural heritage landscape. Engagement with the MHESI facilitated communication of university research and community-based innovations involving local biological resources. In addition, the Premium Phatthalung Model promoted multi-sectoral dialogue on sustainable area-based development, encouraging stakeholders to consider the interconnectedness of mountains, forests, agricultural land, and lake ecosystems in regional development planning. Collectively, these activities strengthened opportunities for research collaboration, knowledge exchange, and the integration of natural resource considerations into development processes.

Impact

The Premium Phatthalung Model provides a framework for integrating biodiversity and ecosystem considerations into regional development discussions through the "Mountains–Forests–Rice Fields–Lake" approach. By connecting government agencies, academic institutions, private sector representatives, and local communities, the initiative supports collaborative planning that recognizes the relationships between natural ecosystems, agricultural landscapes, and community livelihoods. This approach is particularly relevant to SDG Target 15.9, which emphasizes the integration of ecosystem and biodiversity values into development planning. Nevertheless, measurable ecological impacts resulting from these collaborative planning activities have not yet been established.

6. International Partnerships

6.1 International Partners

Thaksin University actively collaborates with international academic institutions, research networks, and development organizations to promote sustainable agriculture, scientific knowledge exchange, and the sustainable utilization of biological resources. In 2025, the university strengthened its international engagement through academic cooperation with institutions in Malaysia and Indonesia, research activities associated with a Thailand–China research and technology exchange initiative, and sustainable development dialogue involving the United Nations in Thailand. These engagements connected regional agricultural challenges with international scientific knowledge and sustainability perspectives, supporting the broader objectives of SDG 15.

The Faculty of Agriculture collaborated with four international academic institutions: Universiti Putra Malaysia (UPM), Universiti Pendidikan Sultan Idris (UPSI), University College of Agroscience Malaysia (UCAM), and Universitas Muria Kudus (UMK), Indonesia. These institutions participated in the International Symposium on Sustainable Agriculture 2025, facilitating academic exchanges concerning sustainable agricultural production, environmentally responsible farming practices, and agricultural innovation.

Furthermore, Thaksin University undertook research activities associated with the Thailand–China Research and Technology Exchange Center on Swamp Buffalo Raising Systems in Agricultural Heritage Areas, focusing on agricultural biodiversity within the Thale Noi wetland landscape. The university also participated in discussions with the United Nations Resident Coordinator for Thailand and the Phatthalung provincial administration on sustainable agriculture, green economic development, and environmental sustainability. Together, these international engagements strengthened opportunities for academic cooperation and knowledge exchange relevant to the conservation and sustainable management of biological resources.

6.2 Joint Projects, Activities, and Research

In 2025, Thaksin University participated in international academic and research activities addressing sustainable agricultural production, agricultural biodiversity, and environmental sustainability. These initiatives facilitated knowledge exchange among academic institutions and

development organizations while supporting the university's contribution to SDG 15. Three major activities are summarized below.

1. International Academic Collaboration through the International Symposium on Sustainable Agriculture 2025

On 19 August 2025, the Faculty of Agriculture, Thaksin University, hosted the International Symposium on Sustainable Agriculture 2025 at the Phatthalung Campus. The event brought together researchers, academics, and students from Thailand, Malaysia, and Indonesia, including representatives from Universiti Putra Malaysia (UPM), Universiti Pendidikan Sultan Idris (UPSI), University College of Agroscience Malaysia (UCAM), and Universitas Muria Kudus (UMK), Indonesia.

The symposium featured 16 research presentations and attracted more than 80 participants. Research topics included artificial intelligence for rubber yield prediction, sensor-based plant disease assessment, biological pest control, soil and water management, digital agricultural marketing, and community-based agricultural development. Particularly relevant to SDG 15 were the presentations addressing biological pest control and sustainable soil and water management, which provided scientific perspectives on environmentally responsible agricultural practices and the sustainable use of agricultural land. The symposium served as an international platform for exchanging research findings, sharing agricultural technologies, and strengthening regional academic networks. These activities supported international cooperation and knowledge dissemination relevant to sustainable agricultural development and terrestrial resource management.



Public evidence: https://sk.tsu.ac.th/home/details.php?id=5421

2. Thailand–China Research Initiative on Swamp Buffalo Genetic Diversity

In 2025, Thaksin University conducted research activities associated with the Thailand–China Research and Technology Exchange Center on Swamp Buffalo Raising Systems in Agricultural Heritage Areas. The initiative focused on swamp buffalo populations in the Thale Noi wetland landscape, part of Thailand's Globally Important Agricultural Heritage System (GIAHS).

The research addressed traditional livestock management, animal health, and genetic diversity to support the understanding and sustainable utilization of locally important agricultural genetic resources. During September–October 2025, the research team conducted field surveys and collected biological samples in cooperation with livestock authorities and local farmers. The study area contained a buffalo-rearing population of more than 450 animals. Blood and fecal samples were collected from selected buffaloes for hematological, parasitological, infectious disease, and genetic investigations. The initiative provided opportunities to connect local agricultural knowledge with research approaches relevant to the conservation of agricultural biodiversity. While the publicly available records confirm the implementation of field research under the Thailand–China initiative, they do not identify the Chinese institutional participants involved in these particular field activities.

Therefore, the documented results are reported as university-led research activities associated with an international research framework, rather than as completed jointly conducted international research outputs.



Public evidence: https://www.tsu.ac.th/home/details.php?id=4907

3. International Dialogue with the United Nations on Sustainable Development

On 14 March 2025, representatives of Thaksin University participated in discussions with Ms. Michaela Friberg-Storey, United Nations Resident Coordinator for Thailand, and the Governor of Phatthalung Province to advance sustainable regional development. The meeting formed part of the broader Statement of Commitment to Sustainable Thailand, emphasizing the five dimensions of sustainable development: People, Prosperity, Planet, Peace, and Partnership.

Discussions highlighted the provincial development vision, "Sustainability Phatthalung," which promotes sustainable agriculture, biotechnology-based innovation, green economic development, and environmental sustainability. The dialogue provided opportunities to connect university research and community-based innovations with international sustainable development priorities. Although the discussions addressed multiple SDGs rather than a dedicated biodiversity conservation initiative, the emphasis on sustainable agriculture and environmental management was relevant to the broader objectives of SDG 15 and provided a foundation for future cooperation.



Public evidence: https://sdg.tsu.ac.th/detail.php?aNum=20250704113253&id_list=1025

6.3 Outputs, Outcomes, and Impact

Thaksin University's international partnerships in 2025 generated documented outputs in academic knowledge exchange, agricultural biodiversity research, and sustainable development dialogue. These activities strengthened opportunities for international cooperation and supported the university's broader contribution to SDG 15 as below.

Outputs

The major outputs included the following:

1. International Academic Collaboration: The International Symposium on Sustainable Agriculture 2025 involved four international academic institutions from Malaysia and Indonesia, with 16 research presentations and more than 80 participants. The symposium provided a platform for exchanging scientific knowledge and research findings according to SGD 15 on sustainable agricultural production, biological pest control, soil and water management, and agricultural innovation.

2. Agricultural Biodiversity Research: Field investigations associated with the Thailand–China research and technology exchange initiative were conducted in the Thale Noi agricultural heritage landscape. The activities involved farmer surveys, stakeholder engagement, and biological sample collection to support research on swamp buffalo health and genetic diversity within a study population of more than 450 animals.

3. International Sustainable Development Dialogue: Thaksin University participated in discussions with the United Nations Resident Coordinator for Thailand and the Phatthalung provincial administration concerning sustainable agricultural development, green economic development, and environmental sustainability.

Outcomes

The International Symposium on Sustainable Agriculture 2025 facilitated knowledge exchange and strengthened academic connections among institutions from Thailand, Malaysia, and Indonesia. The participation of international researchers and students provided opportunities to share scientific findings and approaches relevant to sustainable agricultural production, biological pest management, and natural resource management.

The Thailand–China research initiative supported the collection of field information relevant to swamp buffalo health and genetic diversity within the Thale Noi agricultural heritage landscape. These activities established a foundation for subsequent scientific analysis and potential conservation planning for locally important agricultural genetic resources. In addition, dialogue with the United Nations connected university research and area-based development initiatives with broader international sustainability priorities. Collectively, these initiatives expanded opportunities for international networking, academic collaboration, and knowledge exchange. However, additional evidence is required to establish completed joint research outcomes, long-term adoption of sustainable agricultural practices, or measurable improvements in biodiversity conservation.

Impact

These international engagements contribute to Thaksin University's long-term efforts to promote sustainable agricultural development and the conservation of agricultural biodiversity. International academic exchange supports the dissemination of scientific knowledge relevant to environmentally responsible farming practices, while research on swamp buffalo genetic diversity has the potential to inform future conservation strategies for locally important animal genetic resources. The initiatives are relevant to the broader objectives of SDG 15, particularly Target 15.1 (conservation and sustainable use of terrestrial ecosystems), Target 15.5 (reducing biodiversity loss), and Target 15.9 (integrating biodiversity and ecosystem values into planning and development processes). Nevertheless, the available evidence primarily demonstrates academic participation, research implementation, and institutional dialogue. Long-term ecological impacts have not yet been established and will require further monitoring and scientific evaluation.