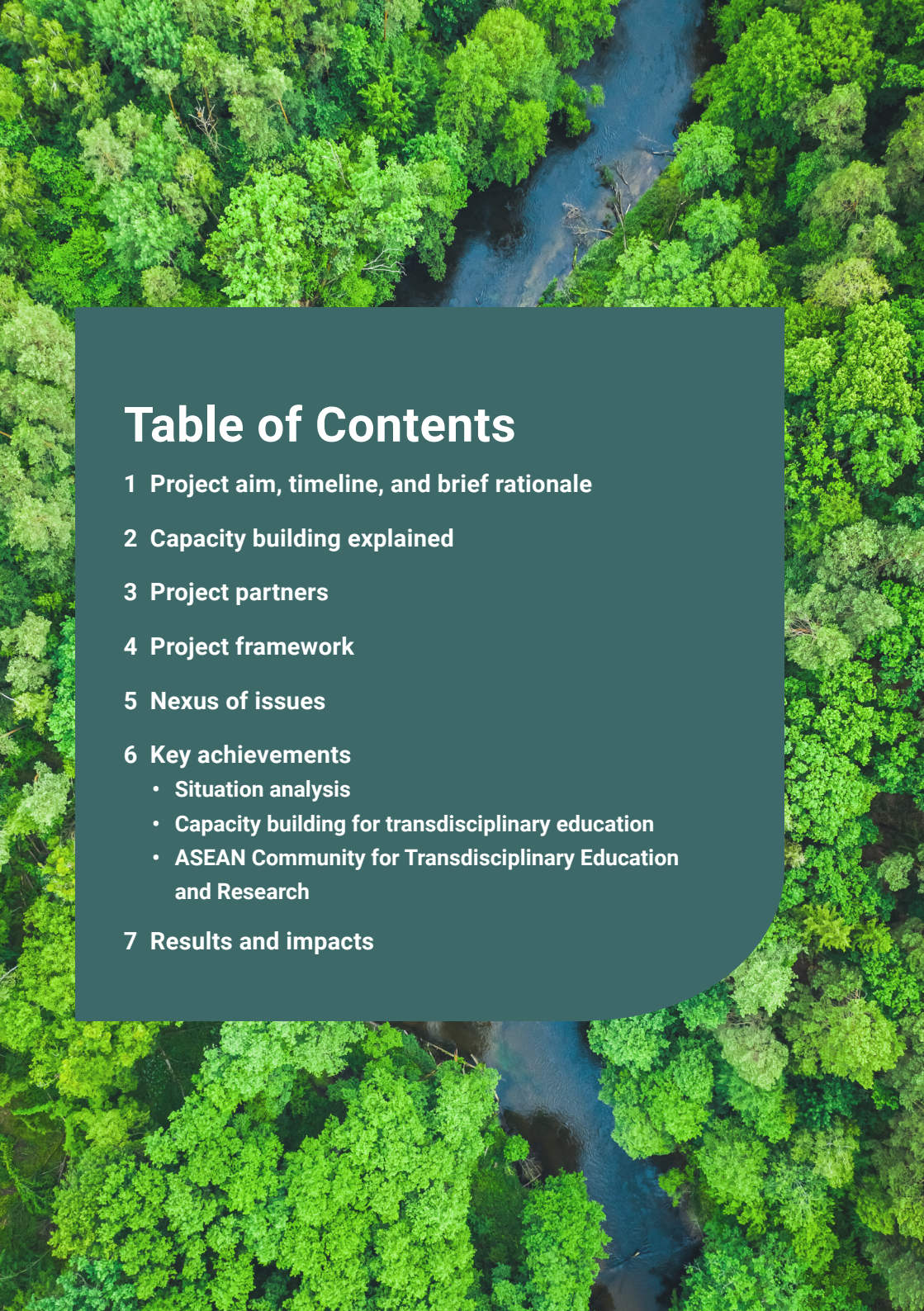
THE-GLOW
Transdisciplinary Higher Education for Global Wellbeing

Co-funded by the European Union

Transdisciplinary Higher Education for Global Wellbeing (THE-GLOW)

Bridging disciplines, fostering collaborations, shaping solutions for a sustainable future

Erasmus+ Capacity Building in Higher Education (CBHE) Programme
Project Reference: 101081819



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PROJECT AIM

THE-GLOW project aims to strengthen the capacities of Higher Education Institutions in Thailand and Europe, and eventually in countries neighbouring Thailand, to develop and implement curricula that train participants in the transdisciplinary approaches and skills required for the future workforce to address complex global problems.

PROJECT TIMELINE

January 2023 - December 2025

BRIEF RATIONALE

There is increasing recognition that many societal, environmental, economic, and population health problems result from complex interactions of multiple factors. Addressing these complex problems require expertise from multiple academic disciplines, sectors, and local communities.

Higher education often involves increasingly specialised knowledge areas rather than broad, proactive engagement with various disciplines and stakeholders. Governments, industry, and civil society increasingly recognise that the workforce of the future requires different skills that relate to transdisciplinary practice. This requires new approaches to higher education that help learners develop transdisciplinary competencies. This, in turn, requires academic institutions and staff to develop new approaches to teaching and learning. This is the focus of this project.

CAPACITY BUILDING EXPLAINED

Preparing graduates for transdisciplinary problem solving requires capacity building at many levels. This includes collaboration across and between higher education institutions, among instructors, students and other learners, as well as establishing and strengthening partnerships.

While this project includes activities focusing on each of these areas, the emphasis is on developing and implementing transdisciplinary curricula. This involves making changes to curriculum design, teaching methods, and assessment.

Participating instructors and professionals have learned through co-creation and co-delivery of transdisciplinary courses addressing issues of human security relevant to sustainable development.

Three rounds of training and mentoring, each with three phases

Training and mentoring include

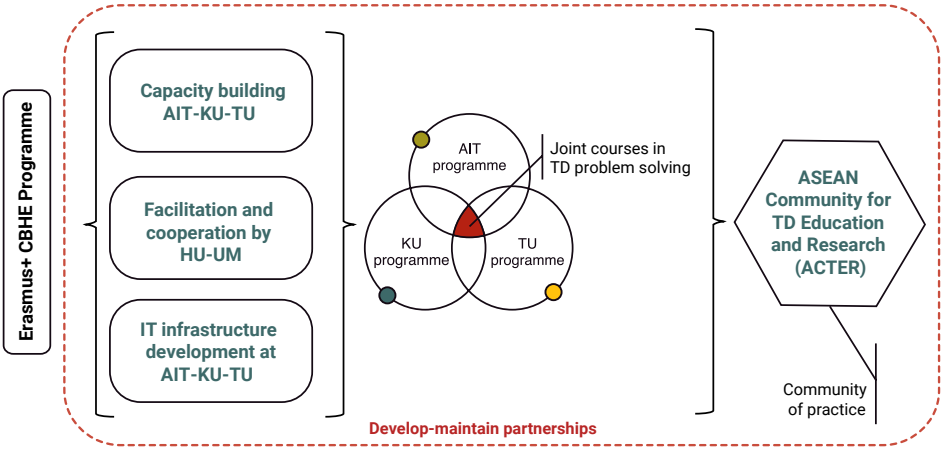
- Transdisciplinary curriculum design and delivery
- Competency-based curriculum design
- Problem-based educational approaches
- Technology strategies to support transdisciplinary teaching and learning
- Problem solving and peer support opportunities

PROJECT PARTNERS

The consortium under this project includes partners from Thammasat University (TU), Kasetsart University (KU), Asian Institute of Technology (AIT), Heidelberg University (HU), and Maastricht University (UM). Thammasat University is designated as the leading partner to coordinate project implementation.

PROJECT FRAMEWORK

Co-funded by the European Commission, AIT, KU, and TU in Thailand, and HU and UM in Europe, are partnering to develop capacity for designing and delivering transdisciplinary graduate courses.



The primary outcomes of the project are:

- Organizational and staff capacity building for all partners.
- Transdisciplinary courses incorporated as electives in existing programmes at AIT, KU, and TU.
- ACTER that facilitates dissemination, scaling-up of transdisciplinary education and research, and productive networking.

NEXUS OF ISSUES

The diagram below illustrates the concept of the nexus between issues of human security. These issues are interconnected and often mutually dependent, requiring a more integrated and holistic approach. There is a need to understand and address these linkages and their relevance to sustainable development and equitable human security.

Informed by global, regional, and national priorities, the THE-GLOW project aims to build capacity in partner institutions to equip graduates with the competencies required to practice transdisciplinary problem wsolving, applied to human security issues relevant to sustainable development.

KEY ACHIEVEMENTS

Situation analysis

A situation analysis was based on:

- A review of relevant literature and documentation
- Stakeholder consultations through interviews and workshops
- Feedback on the early activities of the project

The analysis was completed focusing on the three areas identified in the figure below:

The need for trans-disciplinary action	• **Limitations of siloed approaches identified** • **The need for academia to partner more with governments, industry, and communities emphasised** • **Transdisciplinary approaches called for in numerous Thai and regional policy documents**
The need for transdisci-plinary competen-cies	• **Soft skills related to teamwork, listening and communication, as well as a humble and receptive mindset** • **Ability to communicate clearly and relevantly to partners from other disciplines and sectors**
The need for capacity building	• **Instructors need to be role models of transdisciplinary practice.** • **Experiences in transdisciplinary learning need a range of educational tools and approaches.** • **Assessment of transdisciplinary learning need appropriate tools.** • **There is a need to overcome institutional barriers in transdisciplinary teaching and learning.**

Capacity building for transdisciplinary education

Across the three partner institutions in Thailand, a total of **24 instructors joined the capacity building for transdisciplinary education initiative**. In the co-creation workshops for transdisciplinary curriculum development and delivery, they formed teams of at least three instructors for each planned new graduate course. Coaches from the European partner institutions guided the co-creation process. These 24 trained instructors form a pool of resource persons that go on to become mentors for others within their institutions and beyond.

A total of **69 students, from the partner institutions in Thailand**, **enrolled for one or more of the six transdisciplinary courses** embedded in their respective master degree programmes. These students' exposure to transdisciplinary problem solving equipped them with competencies required for transformative practice in addressing complex challenges.

Co-creation workshops

Throughout the project cycle, three co-creation workshops were organised. Each workshop initiated the co-creation process for developing a set of three transdisciplinary courses. During these workshops, a transdisciplinary team of instructors from the partner institutions in Thailand was formed for each new course to be developed and delivered. Coaches from UM and HU guided the course teams in the co-creation process.

External stakeholders from public and private sectors and civil society joined the co-creation workshops providing a real-world perspective on the need for transdisciplinary problem solving.

Each workshop, through plenary sessions, introduced instructors to concepts concerning:

- Transdisciplinary problem solving
- Transdisciplinary related competencies
- The principle of constructive alignment in curriculum design
- The use of problem-solving stages (problem framing, problem analysis, and intervention) to structure the courses
- Principles of active learning
- Applications of e-learning

This was followed by teams adopting a specific Sustainable Development Goal focus and working on developing learning outcomes, teaching and learning activities, development of assessment tools, and course scheduling. Following the onsite co-creation workshops, teams of instructors for each course continued to meet online to further detail the course content.

Transdisciplinary courses

Six transdisciplinary courses have been delivered as part of existing Masters curricula in three Thai partner institutions.

For anyone wishing to utilise these courses, in full or in part, the **following resources are available:**

Detailed curriculum development

Report on reflections and learnings

Example course materials

Course 1
Transdisciplinary Approaches to Zero Hunger

This course provided students with an initial introduction to concepts of transdisciplinary problem solving for increasingly complex problems often referred to as “wicked problems”. The course focused on problem framing from the perspective of diverse disciplines and sectors. Problem framing refers to a process of conceptualising contributing factors and impacts of a problem to guide later detailed analysis and intervention development. Problem framing guides “where to look”, while problem analysis relates to the process of obtaining and using information about the problem guided by the problem framing.

To learn and apply transdisciplinary concepts and skills, students applied the 4D food security framework to illustrate and discuss the different fields and dimensions involved in achieving equal food security for all. These included the problems involved in the agricultural production of enough, sustainable and healthy food for everyone, the impact of food production on the environment and vice versa, food consumption, food preferences, securing equal access to food, and human health.

Course 2

Gender and Climate Change Intersections: A Transdisciplinary Approach

In an era defined by unprecedented environmental challenges and societal complexities, it has become increasingly evident that conventional, siloed approaches are inadequate for grappling with the multifaceted nature of climate change and its profound impacts on human societies.

Not only do gender inequalities contribute to climate change, its impacts also affect gender and health in intricate ways. Women often bear the brunt of climate-induced hardships, yet at the same time are frequently excluded from decision-making processes and resource allocation. The intricate web of interactions between climate change, gender dynamics, health outcomes, and environmental integrity demands a multifaceted approach that integrates insights from diverse disciplines such as environmental science, public health, sociology, economics, and gender studies.

This course focused on analysing the interactions between climate change, gender, agriculture, environment, and health. The analysis was based on analytical frameworks, case studies, observations and interviews that deepen understanding of these complex relationships, at the same time providing input for potential transdisciplinary interventions.

Course 3
A Transdisciplinary Approach to Health and Wellbeing

This course emphasised the need for intervention development to build upon solid problem formulation and analysis. It focused on the impact of climate change on human health, and as a major case study, the impact of climate change on dengue.

Students had two opportunities to discuss, with a variety of stakeholders, issues and interventions for dengue control and prevention.

The course emphasised the need for multiple perspectives in intervention development and the ability to critically analyse existing interventions from these multiple perspectives including technical, commercial and social perspectives.

Students were introduced to key concepts about social determinants of health, the unequal impacts of climate change on disadvantaged people and knowledge related to vector biology and strategies for vector control. Teams of students from the three institutions worked to develop their intervention plans.

Course 4

A Transdisciplinary Approach to Simian Malaria

Simian malaria has become a significant public health concern in regions where humans and non-human primates coexist. This course has been designed to equip students with the skills, knowledge, and mindset to tackle this complex issue through a holistic and collaborative lens and a systems thinking approach.

This course applied complexity concepts and tools to explore various factors involved in the emergence and spread of simian malaria, especially transmission of parasites from non-human primates to humans. Students integrated their disciplines - epidemiology, ecology, molecular biology, social perspectives, and public health - and information from other stakeholders to understand the mechanisms of simian malaria spread in a transdisciplinary way. This understanding was applied to evaluate existing interventions and propose ethical, environmentally sound, and transdisciplinary solutions. Throughout the course, there was an emphasis on building skills for transdisciplinary teamwork and leadership, and on valuing the contribution of diverse disciplines and stakeholders.

Course 5

Transdisciplinary Approaches to Complex Systems of Sustainable Production

Agricultural production is under increasing pressure from global forces such as climate change, resource depletion, economic pressures and shifting population dynamics. This course explored the urgent need for sustainable and resilient agricultural systems through a transdisciplinary lens. Students studied the bee industry (apiculture) in Thailand, examining how climate variability, environmental degradation, economic pressures, social change, and policy responses impact food production. They focused on systems thinking to analyse environmental, economic, and social systems to propose integrated approaches to sustainable apiculture in central, southern and northern Thailand. Knowledge shared drew from bee agronomy, environmental science (including climate science), economics, and social sciences.

Students engaged with government, commercial and community stakeholders to analyse the environmental and social dimensions of bee farming and hunting, and the production of bee products and services. A One Health approach was used to examine the multi-directional interactions between apiculture, climate threats, and human health considering issues such as, pesticide use, habitat destruction, and disease outbreaks.

Throughout the course, students were encouraged to gather and analyse data specific to their region in Thailand, ensuring their systems analysis was applied and grounded rather than merely abstract.

Course 6
Transdisciplinary Strategies for Disaster Risk Reduction and Resilience

This course emphasised the considerable advances many countries have made in Disaster Risk Reduction (DRR) and Resilience since the adoption of the Sendai Framework (2015-2030), but also emphasised the differential impact of disasters on low-income or geographically vulnerable countries, and marginalised groups, including women and children.

Students were equipped to apply DRR principles to analyse and address complex disaster-related challenges. They undertook activities to assess health, economic and environmental risks and impacts of disasters, emphasising gender-sensitive evaluations and addressing public health concerns such as vector-borne diseases during disasters.

Students were taught and applied an approach to intervention development that emphasised: 1) integrating diverse perspectives from various sectors, including local communities and experts; 2) prioritising gender inclusivity; 3) emphasising resilience in disaster recovery; and 4) building upon a strong and well-examined theory of change. Students applied this knowledge in developing risk reduction action plans related to four recent disasters in four countries/regions.

Courses 7 to 9
Scaling Up Transdisciplinary Courses

Courses 7, 8, and 9 are being developed based on the specific needs of each Thai partner institution and can later be integrated into the institution's long-term academic plan for sustained implementation.

Training of Trainers

Our approach to training of trainers involved a peer mentoring system, whereby those who have gone through the process of transdisciplinary course development go on to become mentors and resource persons to others (e.g., within their institutions and beyond). These experiences are complemented with a mentor roadmap that provides further guidance and support to mentors. Mentors have access to a package of resources, including a guide to developing transdisciplinary and active education, presentations, video clips and other key documents.

Learning Management System

To support its innovative teaching and learning goals, the project developed an e-learning environment, hosted on a dedicated server, managed by TU. It is designed to facilitate a blended learning model, integration of online modules, multimedia content, and interactive tools and resources both for online and face-to-face learning methods. The platform is enhanced by a significant investment in Information Technology (IT) infrastructure across all three partner institutions in Thailand. This infrastructure upgrade enhances the capabilities to deliver high quality, flexible education through advanced video recording studios, video conferencing ready classrooms to support the seamless integration of hybrid learning and collaborative educational experiences.

ASEAN Community for Transdisciplinary Education and Research

The ASEAN Community for Transdisciplinary Education and Research (ACTER) is a multi-institutional initiative aimed at promoting transdisciplinary approaches in higher education, research, and problem solving. It was established as a key component of the THE-GLOW project, with commitment to ensuring its impact and sustainability.

Vision

Creating a community and cultivating mindsets for transdisciplinary learning, research, and problem solving to address complex challenges.

Mission

ACTER addresses the aspirations of higher education teachers, researchers, students, practitioners, and funders by building capacity in transdisciplinary education, research, and problem solving within ASEAN and beyond.

ACTER is hosted by TU and organised as a virtual platform. Its various activities adopt a hybrid format.

ACTER promotes mutual learning among transdisciplinary educators, researchers, students, and practitioners across disciplinary, sectoral, and national boundaries. It aims to build pathways towards transformation and contribute to developing a professional community.

We warmly invite you to join us - a dynamic network that fosters collaboration and innovation across diverse academic fields and communities. By becoming a part of ACTER, you will engage with like-minded professionals committed to addressing complex challenges through integrated knowledge and cross-disciplinary partnerships. Together, let us advance transdisciplinary education and research for a sustainable and inclusive future.

RESULTS AND IMPACTS

Individual level

Twenty-four instructors across three Thai partner institutions have been trained in transdisciplinary curriculum development and delivery. Non-academic stakeholders from public and private sectors, civil society, and communities contributed to the process. The newly developed courses reached 69 students, most of whom reported improved transdisciplinary competencies through various assesments. The trained instructors form a pool of resource persons for ongoing capacity building through the training of trainers.

Institutional level

In addition, partner institutions in Thailand started to work on scaling-up transdisciplinary capacity building within their respective organisations:

Asian Institute of Technology

- Institution-wide seminar on transdisciplinary educational initiatives.
- A training course is under development engaging instructors from School of Environment, Resources and Development and School of Engineering and Technology.

Kasetsart University

- To offer transdisciplinary courses under the School of Integrated Science - a neutral space between discipline silos.
- University IT centre assisting the development of transdisciplinary courses online.
- Listing transdisciplinary courses as eligible for credit banking, allowing students to build a tailored curriculum.
- A new course is under development engaging instructors from Faculty of Agriculture and Faculty of Architecture.

Thammasat University

- Engaged university executives to explore opportunities to promote and build capacity in transdisciplinary higher education and research, including a neutral space for ACTER to develop internal and external collaboration.
- Commencing revision of the existing Master Programme in Global Health to transform most courses into transdisciplinary courses.
- A new course is under development engaging instructors from Faculty of Public Health, College of Innovation, and Faculty of Architecture and Planning.

Regional and global levels

ACTER was established and will continue beyond the project cycle providing a platform for networking, sharing resources and partnering. Resources developed during the project will continue to be made available here. Options to sustain collaboration in the area of transdisciplinary research between European and Asian partner institutions are being explored.

Within the Southeast Asian region, networking was established with institutions in Bangladesh, India, Malaysia, and Vietnam, while networking was initiated with the The Global Alliance for Inter- and Transdisciplinarity and the Heidelberg Centre for the Environment at the global level.

SAVE THE DATE

THE-GLOW Conference

10 - 11 October 2025

This conference will bring academia, graduate students, and professionals from a variety of disciplines and sectors together to discuss the need for transdisciplinary approaches in higher education and research in dealing with the complexities of real-world challenges. Participants will share lessons learned from initiatives in the region to build capacity in transdisciplinary problem solving. The event closes with a Colloquium, discussing transdisciplinary education, organisational reform, capacity building, and future collaborations within the region and with Europe.

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