

The University Living Learning Lab Model: Learning for Sustainability

The "University Living Learning Lab Model", a teaching and learning strategy, was developed by Siam University (SU) to promote sustainable development. The model consists of the "Triangle of Living Learning Lab" and the "UPC4Local SDGs Action Model. Using the Whole Institution Approach (WIA), the former model aims at structural transformation. It has three main components: the university itself, the educational program, and the learning ecosystem. This is complemented by the latter model, "UPC4Local SDGs Action Model", which is based on participatory approach through a network of the University, Public/Private sector, and Community working for local SDGs. This action model bestowed the philosophy of development of the late His Majesty King Bhumibol Adulyadej the Great. In other words, it emphasizes the "Geo-social principle" comprising "Understanding, Accessing, and Developing" and self-sufficiency principle in accordance to his teaching that "We shouldn't just give someone a fish, but rather provide them with a fishing rod and teach them how to fish". In implementing this model, every stakeholder plays an active role for our social living lab using the "4Cos", which stands for Co-create, Co-design, Co-produce, and Co-reflect, adhering to a participatory approach emphasized in this learning living lab strategy.

The "Triangle of Living Learning Lab" and the "UPC4Local SDGs Action Model are complementary as shown in Figure 1.

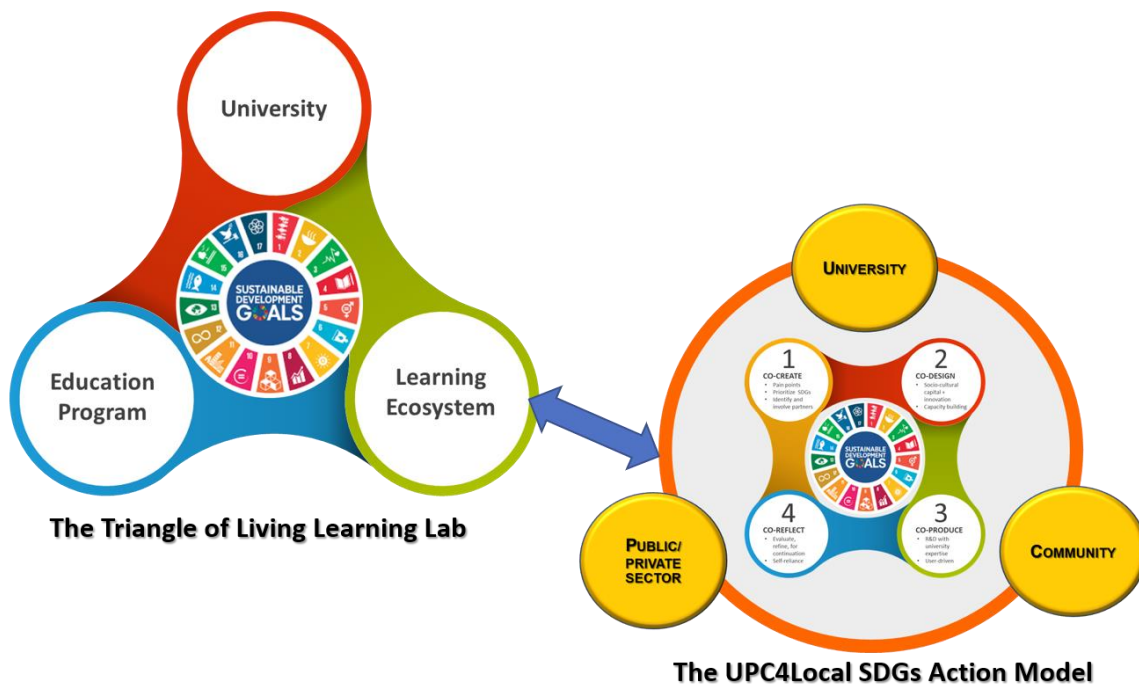


Figure 1 The University Living Learning Lab Model

The "Triangle of Living Learning Lab"

The three components of the "Triangle of Living Learning Lab" were shown in Figure 2.

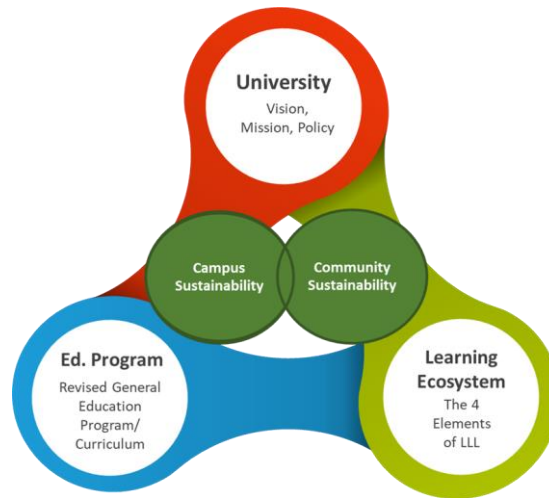


Figure 2 The Triangle of Living Learning Lab

1. Positioning the University toward sustainability

Siam University (SU) recognizes that we must transform our vision, mission, and policies to prioritize our commitment to campus and community sustainability with the '3Ss' - Students, Staff, and Surrounding communities – as our target groups. The new university's vision, “Leading University Creating Innovation for Sustainable Future,” based on the guiding principles of Sufficiency Economy Philosophy (SEP) and sustainable development (SD) is in line with our strategy “Sustainable University, Sustainable District.”

2. Transforming GE program to promote learning for SEP and SD

To assure that the new vision and mission are accomplished, Siam University implemented the policy to integrate SEP and SD in our education, research, and community engagement activities. Educational programs are recognized as a prime mover to nurture sustainability awareness and capacity-building for the '3Ss'. At SU, we chose General Education (GE) program as a testbed or platform for change since it involves all undergraduate students. We then redesigning our general education program to transform teaching and learning for sustainability. New courses in/about SD, SDGs, SEP were introduced and PLOs and CLOs were revised accordingly. Examples of courses are Sufficiency Economy Philosophy and Sustainable Development, Green Technology for Sustainability, and Living Lab for Campus Sustainability. The concept of living lab was integrated in our teaching and learning activities emphasizing active learning, real-life experiences, co-creation, and multi-stakeholder participation. It is believed that transformative learning will be nurtured through applying and practicing SEP and SD in a real-life context. In addition, interdisciplinary teams of instructors

were selected and reskilled to assure that they fully understood the mission and would commit to cultivate necessary sustainability competences.

3. Providing supportive learning ecosystem

Supportive learning ecosystem is vital in transforming a program and its learning modalities. It comprises four main elements:

3.1 People. Among all people involved; namely, learners, faculty members, staff, and community members, the learners are our prime responsibility to nurture with key sustainability competencies, sufficiency thinking, and growth mindset. One of the outcomes of our teaching and learning strategy is to promote "learning to transform oneself and society," an essential skill for sustainable development as suggested by UNESCO.

3.2 Pedagogy and Delivery Mode. Our interdisciplinary teaching teams and course managers moved away from traditional classroom lectures. GE courses are designed to encourage students to explore our social living labs before initiating projects that address trans-disciplinary and inter-disciplinary issues or problems. Various learning modes, including project/problem-based learning, service learning, experiential learning, and community-based learning, were implemented to ensure that both students and instructors are exposed to real-world problems. Evaluation criteria should also recognize students' projects and feedback from the stakeholders, especially community members.

3.3 Learning Infrastructure. This element consists of both human and physical infrastructure. Rather than just being knowledge providers, faculty members or instructors should take on roles as facilitators, coaches, and mentors. As for the physical infrastructure, elements such as classrooms, laboratories, libraries should be efficient. In addition, some financial support might be provided.

3.4 Learning Community. Partnerships for sustainable development is crucial. This learning community should involve partners who have the same passion and commit to turn it into action. To implement this element, the UPC4Local-SDGs action model was developed.

The "UPC4Local SDGs Action Model"

This model has been analyzed from SU commitment and long experiences in community development since we are the only university in the Phasi Charoen district. "UPC4Local SDGs" stands for University-Public/Private Sector-Community for local SDGs. Ideally, we will ask the students to work with those communities served as our social living labs so that continuous work will lead to sustainability and self-sufficiency finally. Through this learning community, students will be able to work alongside selected communities throughout the

process by using academic knowledge and expertise to help alleviate their problems or pain points. Most important is that all stakeholders play active roles in seeking sustainable development pathways. The action model of this learning living lab initiative consists of the "4Cos"; namely, Co-create, Co-design, Co-produce, and Co-reflect (see Figure 3).



Figure 3 The “4 Cos” of the UPC4Local-SDGs Action Model

- Co-create:** After learning about the concept and principles of SEP and SD as well as the 17 SDGs of the 2030 Agenda, the students will select a targeted community. The late King IX’s “Geo-Social” development formula, "Understand, Access, and Develop," will be utilized as the starting point. Subsequently, the students and instructors will engage with community leaders and members to comprehend and learn about their challenges and advantages, aiming to identify SDGs that ate real needs through surveys or interviews. However, with limit of time, these SDGs must be refined and prioritized by agreement from both community members and students. A project will be proposed and necessary partners will then be identified. Usually, we received well support from the Office of Phasi Charoen district and the Government Savings Bank.
- Co-design:** With concentration to the identified pain point (SDG), all partner will brainstorm to finalize sustainability-related initiatives or innovations beneficial to community members, the real users. Designing of the proposed initiatives or innovations should take into consideration the socio-cultural capital of the community. Capacity-building activities such as training or study tour might be needed to prepare the partners for the production phase.
- Co-produce:** This phase focuses on collaboratively developing a "prototype" of the product or crafting a "blueprint" for the activities. The university will use their expertise or R&D capabilities to produce the agreed innovations or initiatives as well as provide

suggestions for refinement and testing of the product. All partners are involved in the monitoring, commercialization, or utilization processes.

- **Co-reflect:** In the final phase, all partners evaluate to determine if the set goals and ambitions are met. This is followed by a "refinement" process, where the innovation undergoes improvements and adjustments. The subsequent step is "dissemination", where the learning mechanisms and processes gathered from the developmental activities are shared for future applications. The final step is "replication", which refers to the sustainment or reproduction of the developed innovation. Feedback, ideas, suggestions, and guidelines collected from the product's usage are utilized to enhance the project, fostering a more cohesive and sustainable community.

Example of the application of the model is in the course "Sufficiency Economy Philosophy and Sustainable Development". This course offers an in-depth understanding of the concept and principles of Sufficiency Economy Philosophy (SEP) and its relevancy to sustainable development (SD), and sustainable development goals (SDGs). Using project-based learning, students are asked to work collaboratively with selected communities to provide them with real-life experiences. Using the "4Cos", the partners will comprehend the unique challenges faced by the communities and jointly propose solutions. This multi-faceted approach, which encompasses Co-create, Co-design, Co-produce, and Co-reflect, ensures students gain a holistic understanding and are involved in all stages of these community-focused projects. At the end of semester, all partners including community members are asked to give feedback and evaluation of the students' projects so that they might lead to sustainable solutions. In addition, self-evaluation of the students has reviewed their satisfaction and showed increasing awareness and intention to act upon the 17 SDGs.