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The Transformation of Higher Education Institutions into Social Engagement Institutions

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Abstract

This research project, titled *"Reinvent and transform from an educational institute into a social engagement institution with research and innovation practices to proactively respond to the challenges of the country."* employed a participatory action research (PAR) methodology to engage with three key societal challenges: (1) municipal water management in Nong Khai and Udon Thani provinces, (2) saline soil rehabilitation in the Thung Kula Ronghai area (Maha Sarakham and Roi Et provinces), and (3) support for an aging society in the Pak Nam Prasae community (Rayong province). A total of 94 activities were conducted, involving 2,539 participants from diverse sectors including youth, university students, community members, local authorities, academics, and external partners. In addition, eight hybrid learning sessions delivered via a digital platform reached more than 14,553 participants, and the platform was also effectively applied during an earthquake to disseminate real-time, accurate information through a network of higher education institutions. The project led to the development of a comprehensive transformation mechanism, grounded in an open management structure that facilitates systematic collaboration among stakeholders, driven by four institutional pillars: research and academic services addressing national issues, practice-based academic innovation, international network building, and strategic domestic collaboration. Four core social innovations were developed: the Contemplative Arts Process for Community Mobilization (CAP- CM), the Community Classroom Mechanism (CCM), the Six Milestones of Dynamic Network Mobilization (6M-DNM), and the X-ON digital platform- a hybrid learning model with seven integrated curricula to cultivate community-based social entrepreneurs. These innovations demonstrated high transferability and policy scalability for broader application in other regions and the further transformation of higher education institutions.

Keywords: Social Innovation, Transformation of Higher Education Institutions, Community Classroom, Network Mobilization, Hybrid Digital Platform

Introduction

The contemporary global landscape is characterized by complex challenges, including climate change, social inequality, and shifting demographic structures, necessitating a profound reassessment of the roles and missions of higher education institutions (World Economic Forum, 2025). This transformation extends beyond the traditional functions of producing graduates and academic knowledge to embrace new roles that effectively address the needs of the 21st century. Despite global advancements

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in social engagement, there remains a lack of concrete mechanisms linking higher education institutions' missions with local challenges, particularly in developing countries like Thailand.

Barnett (2011) proposes that universities should not be confined to a single form but rather embody a "state of possibility" (being possible) that is open to the development and transformation of institutional concepts. He asserts that "Universities could be other than they are" (p. 1), highlighting the diversity of ideas that each university may integrate in terms of both structure and educational ideology (pp. 1-3). This perspective led to the development of the Ecological University theory (Barnett, 2017), which posits that universities should function as integral components of social, environmental, and economic ecosystems, with an ethical mission towards the future of humanity and the planet, serving as "change agents" to systematically drive social innovation.

Similarly, Boyer (1996) introduced the concept of "The Scholarship of Engagement," emphasizing proactive university-community collaboration across all domains, including education, research, and academic services. This approach advocates for co-learning and co-production of knowledge processes, grounded in principles of social justice and civic responsibility. This concept has become the foundation for the "University of Society" direction, which is gaining prominence in higher education institutions worldwide.

Universities in various countries have been implementing these concepts in tangible ways. For instance, the University of Victoria in Canada operates through the Centre for Indigenous Research and Community-Led Engagement (CIRCLE), employing Participatory Action Research methodologies with indigenous communities to foster relationships that respect local cultures and traditional knowledge systems. The University of Brighton in the United Kingdom runs the Community-University Partnership Programme (CUPP), which collaboratively designs social innovations with immigrant and vulnerable communities, emphasizing mutually beneficial and sustainable partnerships from individual to policy levels. Cornell University in the United States operates the Cooperative Extension System, a learning network that systematically connects university research with real-world applications, particularly in agriculture and rural community development.

In the Thai context, the Office of the Permanent Secretary for Higher Education, Science, Research and Innovation initiated the Reinventing University project in 2020. This initiative aims to reform university management systems, develop specialized capacity-building plans, and create curricula, innovations, and teaching methods that address 21st-century challenges through five platforms: Manpower, Brain Power, Research & Innovation, Global Perspective, and Engagement with academic and civil society communities.

Within this conceptual framework, the Arsom Silp Institute of the Arts has undertaken a research project titled "Transforming Higher Education Institutions into Social Engagement Institutions through Research and Innovation Management on National Challenges." The project aims to develop research and innovation management mechanisms that align with the core missions of higher education institutions, driving their new role as social development partners through the cultivation of social innovators capable of designing processes to create opportunities and address national challenges, while elevating practical knowledge to academic development.

The research project focuses on three main challenges: (1) The saline soil challenge in the Thung Kula Ronghai area: Namun Mang Ta Yai. Agri-Nature Learning Center in

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Phayakkhaphum Phisai District, Maha Sarakham Province; (2) The aging society challenge: Ban Kao Rim Nam Pak Nam Prasae community in Klaeng District, Rayong Province; and (3) The urban water management challenge: Wat That Sub-District Municipality (Bueng Nong Khai) in Mueang District, Nong Khai Province. The project implements short-term courses and integrates field outcomes into institutional staff development through workshops and academic article production for dissemination at national academic conferences. The ultimate goal is to achieve systemic expansion and develop learning approaches that can contribute to the future transformation of Thai universities' roles.

Research Objectives

1. To develop a Research and Innovation Mechanism that integrates the core missions of higher education institutions with regional-level national challenges.
2. To establish a Collaborative Mechanism with network partners for the development of academic work and innovations through hands-on practice.
3. To design a Collaborative Information Technology Framework to support collective learning, knowledge management, and cross-regional coordination.

Research Methods

This study employs a Participatory Action Research (PAR) framework, aiming to produce actionable outcomes for communities while fostering shared learning and deep understanding of social contexts (Kemmis & McTaggart, 2005). The PAR approach serves as the primary framework for developing a "Research and Innovation Mechanism" that links higher education missions with national challenges.

The research process begins with collaborative problem identification, solution design, and field implementation, followed by continuous reflection and improvement. The study designs learning processes in the form of short-term courses that integrate the four core missions of universities: education, research and innovation, social services, and cultural preservation. These are aligned with systemic challenges in three target areas: soil salinity in Maha Sarakham province, preparation for an aging society in Rayong province, and urban water management in Nong Khai province.

The implementation in each area aims to create dynamic, flexible mechanisms that can be concretely applied to institutional policy and system development. The study utilizes the "Social Lab" concept (Hassan, 2014) as an approach to address complex social problems, characterized by three key aspects: social (emphasizing multi-stakeholder collaboration), experimental (focusing on prototyping and learning by doing), and systemic (designing system-level solutions) (Figure 1).

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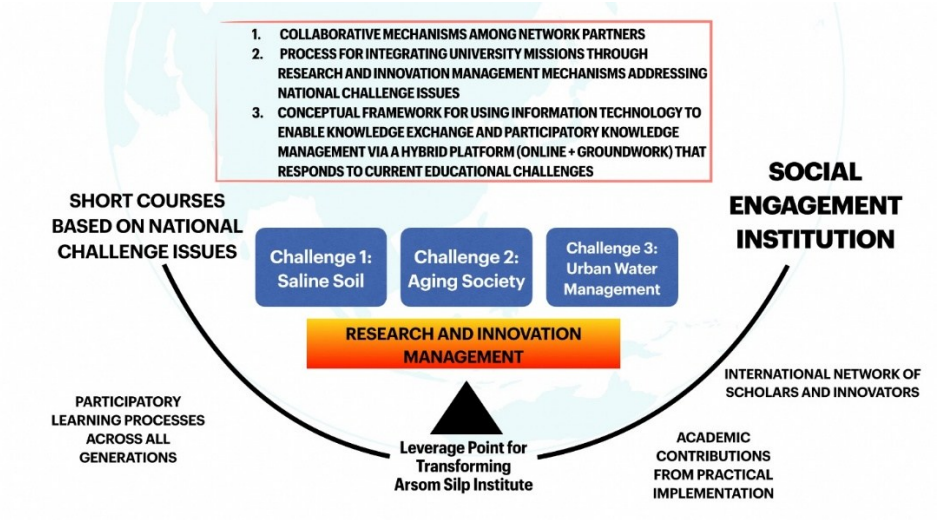

Figure 1: Conceptual Framework for Research and Implementation

Data collection employs qualitative methods with a target group of 150 participants, including community leaders from the three areas (30 per group), students, and network partners (60 participants). Purposive sampling is used to select participants from all four phases of the project. Data collection tools include field observation and interaction in context, group reflection, in-depth interviews, and expert interviews.

Data analysis is conducted using keyword analysis techniques. Data from the first round of collection is used to develop tools for the second phase. Findings are then systematically synthesized to align with research objectives. To ensure reliability and comprehensiveness, researchers employ triangulation, considering data from the three prototype areas with different challenges, along with interview results from diverse target groups. Analysis results are presented and discussed with the Learning Innovation Board, revised based on recommendations, and presented to the Arsom Silp Institute Council to obtain comprehensive conclusions that are relevant to the context of systemic changes in higher education institutions (Figure 2).

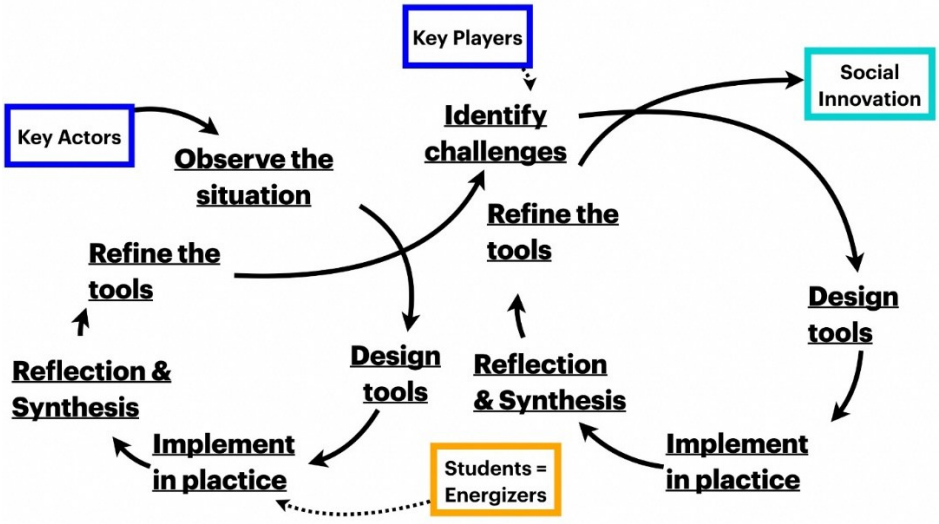

Figure 2: Conceptual Framework for Participatory Action Research (PAR)

Results

The research findings indicate that the implementation of the designed conceptual framework and processes resulted in the development of systemic mechanisms and innovations that effectively facilitated the role of higher education institutions in becoming active partners in social development. The specific outcomes are as follows:

1. Project Outputs

1.1 Collaborative Mechanism for Academic and Innovation Development Based on Real-world Challenges

The research project designed and developed three instrumental mechanisms to drive "social laboratories," which emphasize stakeholder participation in addressing national challenges at community, institutional, and network levels. These tools serve to connect higher education institutions, local communities, local wisdom experts, and civil society organizations through processes of knowledge exchange, experiential learning, and collaborative innovation based on practical application.

1.1.1 The Contemplative Arts Process for Community Mobilization (CAP-CM)

The CAP-CM is a learning management process for internal development, utilizing art as a foundation to cultivate community and learner "inner strength" through the integration of art, cultural values, and community identity. The core of this process comprises four key contemplative practices: (1) present-moment awareness, (2) seeing things as they are, (3) acting accordingly, and (4) consistent practice.

This process was developed based on the knowledge transfer from Professor Phong Seng-king, the "founding teacher" of contemplative arts at Arsom Silp Institute of the Arts. Originally designed for small groups of up to 20 participants due to the constraints of providing individual feedback, the research team adapted it for community-level implementation through "four-generation classrooms." These classrooms connect internal learning with local identity and cultural capital, aiming to bridge local wisdom experts with youth and local administrative teams.

Additionally, this research aimed to identify processes for transmitting knowledge and the spiritual essence from the founding teachers of Arsom Silp Institute of the Arts. This was accomplished by establishing a contemplative arts team to apply these processes in perpetuating local wisdom, values, and community identity.

Table 1: Key Components in the Transmission of Specialized Knowledge with Dimensions of Value and Spirituality

Component	Description
Close apprenticeship with master teacher (inner circle students)	Learners demonstrate commitment and maintain close proximity to the master teacher, learning through practical application in the teacher's life and context. This is based on contemplative arts principles, with the teacher serving as a model for knowledge, values, and spiritual aspects.
Establishment of knowledge transfer teams (central and local teams)	Comprises central staff and community teams collaborating to transmit knowledge through integrated activities in schools and community settings, concurrent with community team development.

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Regular practice activities	Practice activities, such as meditative line drawing and continuous storytelling, enhance concentration, awareness, and deep internal understanding. These reflect identity, values in culture, architecture, and elements the community wishes to preserve.
Collaborative design and quality assurance	Activity design processes are conducted jointly between students and master teachers, with close apprentices overseeing alignment with original intentions.
Holistic learning approach	Contemplative arts learning is designed to link personal development with the restoration of intergenerational relationships in the community. This occurs through meditative art and meaningful safe spaces, emphasizing listening without judgment and self-reflection through processes focused on "observing the mind and heart."

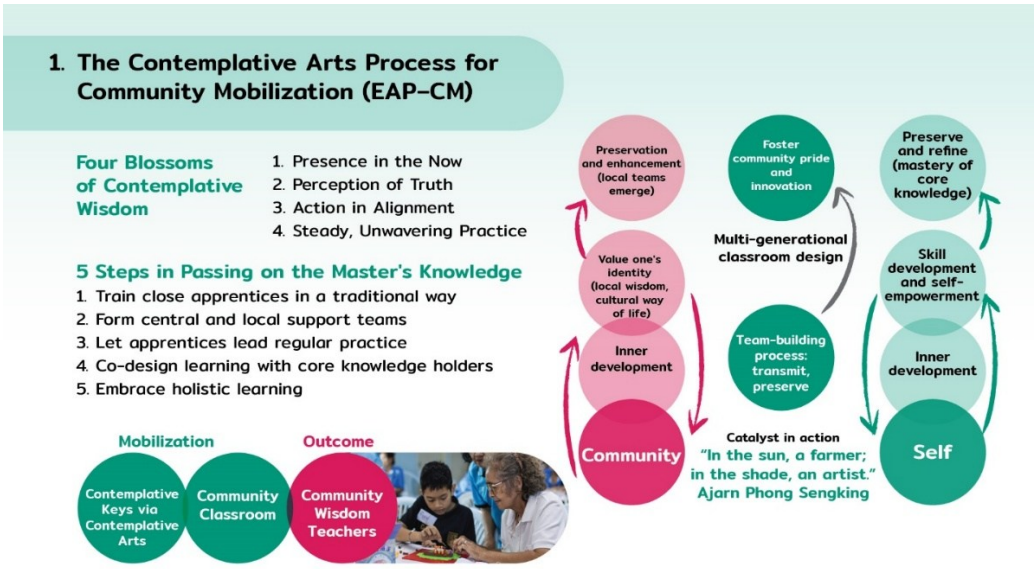

Figure 3: The Contemplative Arts Process for Community Mobilization (CAP-CM)
Note: Developed by the research team (2025)

The application of the Contemplative Arts Process for Community Mobilization (CAP-CM) at the local level is crucial for revitalizing and preserving foundational community knowledge, including local wisdom, attitudes, values, and beliefs that reflect the area's identity, both tangible (e.g., architecture, mural patterns, textile designs) and intangible (e.g., values, traditions, rituals). For instance, the Pak Nam Prasae community in Rayong Province has consistently implemented activities under this process, with at least 10 sessions, including three main workshops and a minimum of six supplementary activities. These events engaged over 150 participants, comprising elderly individuals, youth, teachers, and local network partners.

The process has led to the discovery of community values, with residents identifying the "HTMS Prasae" as a source of pride and value. Additionally, the century-old tradition of floating alms-giving and the unique "Sea Naga" pattern discovered during activities at a local temple have emerged as significant cultural elements. These findings have inspired social entrepreneurship initiatives, such as creating Sea Naga-inspired Art Toys, painting the HTMS Prasae, and organizing international events like the wreath-laying ceremony honoring Korean naval vessels.

Field evaluations and feedback indicate that this process enhances the self-worth of older adults through their participation in knowledge transfer to younger generations as "wisdom teachers," significantly restoring their social status. Reflective statements from participants, such as "No one has ever brought children to listen to our stories like this before," demonstrate a sense of recognition and value for their experiences. The comment "Knowledge is passed on to children; knowledge will never die" illustrates the power of living heritage transmission.

The CAP-CM serves as a high-potential social innovation mechanism for systematically transmitting cultural knowledge and values. It employs a learning approach that connects individual internal dimensions (e.g., awareness, confidence, and self-pride) with community-level social relationships. This process promotes "knowledge ownership," enabling local communities to inherit, adapt, and build upon traditional wisdom in alignment with contemporary contexts. Consequently, it leads to the sustainable design and implementation of social innovations based on the community's cultural and spiritual capital.

1.1.2 Community Classroom Mechanism (CCM)

The Community Classroom Mechanism (CCM) is the second tool, representing a structural innovation designed to create collaborative learning spaces between higher education institutions, communities, and external partners. This mechanism utilizes area-based challenges as a foundation for learning, supporting experiential learning that emphasizes hands-on practice in real-world situations. CCM is particularly suitable for fostering social innovators, building networks, and driving systemic change.

Implementation results from three target areas-Maha Sarakham Province (saline soil issue), Rayong Province (aging society), and Nong Khai Province (municipal water management)-demonstrate that CCM effectively functions as a central mechanism for gathering knowledge, wisdom, and collaborative efforts from all sectors into a joint learning process. The selection of issues and areas is tailored to target groups and contexts.

Research findings indicate that CCM operates as a learning system driven by a "Tripartite Team," consisting of:

1) Area Team: Strong, committed groups from various sectors aiming to create change.
2) Field Mobilization Team: Social mobilizers with similar socio-geographical backgrounds to the area, serving as connectors and supporters.
3) Support Team: Fulfilling five support roles: a) Moral support: Providing encouragement b) Technical support: Offering knowledge and methodologies c) Material support: Supplying necessary equipment d) Financial support: Providing budgetary assistance e) Mass support: Coordinating with local administrators and nearby residents

The Community Classroom Mechanism (CCM) learning process comprises six main stages (Learning Cycle):

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Table 2: Learning Process of the Community Classroom Mechanism (CCM)

Process	Description
1. Building the Dream Teams	Selection and development of multi-stakeholder, multi-generational core teams in the area with inspiration and potential to drive learning and community engagement across various dimensions.
2. Formulating the Goal	Collaborative design of learning objectives linked to real community issues and contexts, allowing learners and community groups to set goals aligned with their specific interests and contexts.
3. Observing the Challenges (using Problem-Based Learning)	Identification of shared issues through deep listening and societal representative participation, defining challenges from real contexts using Problem-Based Learning and Social Lab concepts. Emphasis on four-generation community participation and in-depth problem analysis.
4. Experiential Learning Design	Design of learning processes focusing on participation through hands-on practice, reflection, and understanding derived from direct experiences in learners' and community's real contexts.
5. Crystallizing and Mass Communicating	Dissemination of learning outcomes through creative media, community forum presentations, and various forms of community communication.
6. Formulating Action Research Framework (using Developmental Evaluation and Participatory Engagement)	Application of Developmental Evaluation framework combined with Participatory Engagement to elevate outcomes to policy or systemic levels.

This process aligns with the concept of Problem-Based Learning (PBL), which emphasizes learning through questioning and solving real-world problems (Hmelo-Silver, 2004), and Kolb's (1984) Experiential Learning Theory (ELT), which posits that learning occurs through hands-on experience and collective reflection. An illustrative example is the expansion of the saline soil challenge from Phayakkhaphum Phisai District, Maha Sarakham Province, to Chaturaphak Phiman District, Roi Et Province. The research team established a community classroom at the Suksala in Si Khot Sub-district, collaboratively designing five interest-based classrooms: carpentry, debt resolution, space design, processing, and artistic rendering of the Suksala building. This approach integrated local wisdom teachers with support teams and knowledge from educational institutions, reflecting a reduction in social inequality and an enhancement of community value and pride.

The outcomes of this mechanism illustrate its effectiveness in fostering systemic thinking, multi-stakeholder collaboration, and self-directed learning among participants. It also facilitates a deeper understanding of local contexts and challenges. Importantly, this approach empowers communities to take ownership of their learning processes and collaboratively develop sustainable innovations (Freire, 1970; Hassan, 2014).

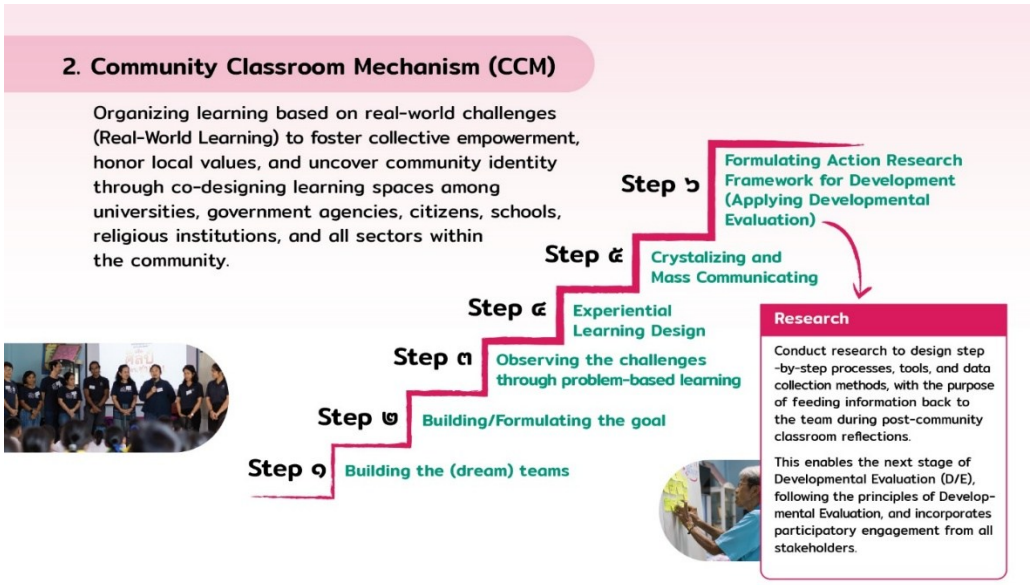

Figure 3: Community Classroom Mechanism: CCM
Note: Developed by the research team (2025)

1.1.3 Six Milestones for Driving Dynamic Network Mobilization: DYNAMO 6

The third tool in the research mechanism of this project is the learning process that the research team calls DYNAMO 6 (Six Milestones for Driving Dynamic Network Mobilization). This process is developed based on the Adaptive Cycle concept of Gunderson and Holling (2002), which explains the dynamics of change in ecological and social systems. The DYNAMO 6 framework is applied to the context of collaborative learning in this project to reflect the developmental trajectories of learners, groups, and networks throughout the continuously complex and changing learning process.

The research team recognizes that traditional outcome-focused evaluation may be insufficient in contexts that constantly face new challenges. The DYNAMO 6 tool is designed to be dynamic, enabling the monitoring, reinforcement, and assessment of group development at each stage. It also serves as a guide for designing increasingly challenging activities to help groups progress to new levels of learning and transformation.

Based on field experiences, the researchers found that working on complex challenges, such as saline soil, water, or an aging society, requires a "social mobilization" process that creates collective interest and participation from diverse groups. However, in many cases, good models in small-scale settings cannot be easily scaled up in the long run. The DYNAMO 6 framework is therefore crucial as a tool that helps visualize the cycles of emergence, development, decline, and revitalization of groups and networks. This allows the designers of the learning process to define new challenges that are appropriate for the developmental stage of the group, ensuring that the learning process remains on track and can grow organically within each context.

The DYNAMO 6 tool is a significant contribution of this project, as it enables the monitoring, reinforcement, and assessment of the dynamic learning and transformation processes, while also guiding the design of increasingly appropriate challenges to foster sustainable growth within diverse contexts.

Table 3: DYNAMO 6: Six Milestones of the Adaptive Learning Cycle

Phase	Milestone	Signals Observed
Exploit	1. Shifting Mindset towards New Value	Learners begin to open up and become aware of new concepts
	2. Self-initiated Action	Learners initiate activities or new practices in the field
Converse	3. Collaborative Formation of Interest Groups	Emergence of collaborative small groups
Release	4. Group Regression/Disintegration	Groups face problems, conflicts, or resistance
	5. Persistence of Some Subgroups	Subgroups continue to experiment and sustain the group
Reorganize	6. Designing More Challenging New Tasks	The group is ready to design more complex new processes

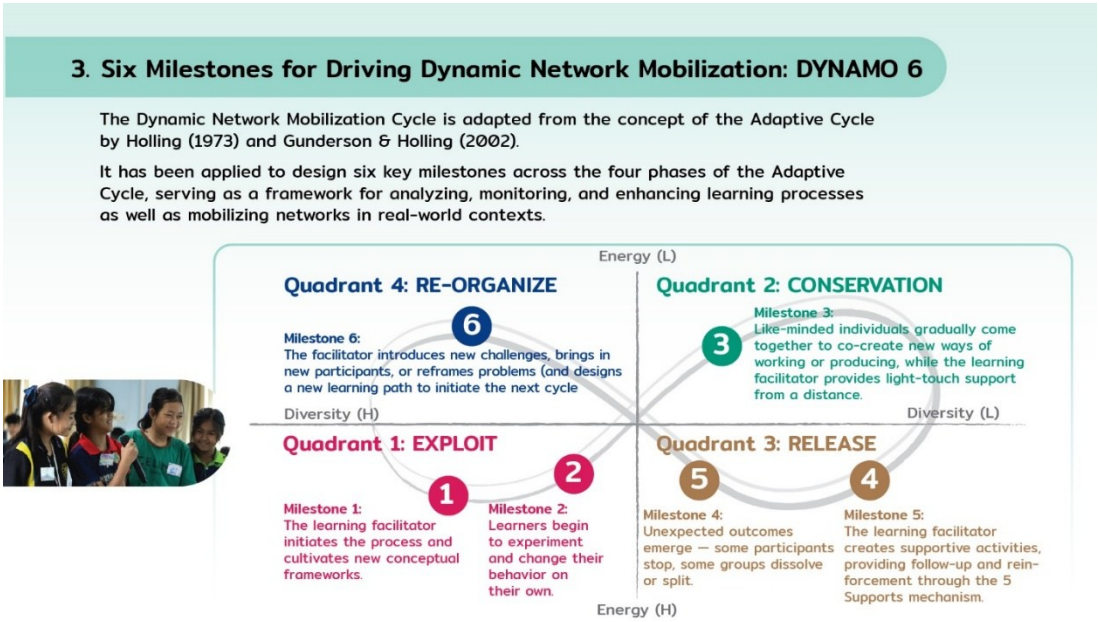

Figure 5: Six Milestones for Driving Dynamic Network Mobilization
Note: Developed by the research team (2025)

These six milestones serve as a reflective tool for individual and group learning, used to monitor and assess the dynamic learning processes. When a group is able to complete the full cycle and create new processes on their own, they enter a "Second Cycle"-a level at which the instructor or process designer can shift their role from "leader" to "coach" or "learning facilitator." This allows the learning to continue without being dependent on a central authority, creating a safe space and fostering greater equality within the group. This transition has been observed in the research with groups of older adults, farmers, and youth.

The DYNAMO 6 framework is therefore both an assessment mechanism and a learning mechanism in itself. It facilitates coordinated and sustainable changes in conceptual systems, practical systems, and relational systems.

The DYNAMO 6 framework is a crucial tool in this project, as it enables the monitoring, reinforcement, and assessment of the evolving learning and transformation

processes experienced by learners, groups, and networks. When groups are able to progress through the full cycle and create new processes independently, the role of the instructor or process designer can shift from "leader" to "coach" or "learning facilitator," allowing the learning to continue in a more self-directed and equitable manner. This dynamic has been observed across the diverse participant groups involved in the research, including older adults, farmers, and youth. The DYNAMO 6 framework thus serves as both an assessment mechanism and a learning mechanism, facilitating integrated and sustainable changes in the conceptual, practical, and relational systems of the participants.

1.2 Research and Innovation Management Mechanism

The first year of project implementation has yielded significant systemic outcomes, resulting from the design and pilot testing of a Research and Innovation Management Mechanism. This mechanism connects the four core functions of higher education institutions (teaching, research, academic service, and cultural preservation) with the management of nationally and locally relevant challenge areas, such as saline soil, aging society, and urban water management.

The implementation process has involved participatory learning approaches, combined with Participatory Action Research (PAR) and real-world academic service delivery. Three pilot provinces-Nong Khai, Rayong, and Maha Sarakham-have served as model platforms for experimenting with and developing the mechanism in diverse contexts, leading to the identification of five key components:

1. Challenge-Based Research and Innovation (R&I): These refer to systemic problems or strategic issues with wide-ranging national or regional impact, which require the integration of knowledge from diverse disciplines and the participation of multiple stakeholders in jointly seeking solutions through research and innovation.

2. Pilot Areas: These are areas with engaged partners and communities ready to collaborate.

3. Integration of the Four Core Functions: The four core functions of higher education (teaching, research, academic service, and cultural preservation) are integrated and implemented in the pilot areas together with the community.

4. Driving Mechanism: The primary driving mechanism of this research and innovation initiative employs a toolkit designed based on the participatory approach paradigm. The objective is to catalyze change through practice-based collaboration with communities. Three key instruments function as the central driving mechanisms:

4.1. Contemplative Arts Process for Community Mobilization (CAP-CM)

4.2. Community Classroom Mechanism (CCM)

4.3. Developmental Evaluation (DE)

5. Knowledge and Data Integration: A Hybrid Learning Platform framework is used to systematically connect data, processes, and outcomes among the network partners.

The implementation of this mechanism has led to systemic changes within the institution, including cross-disciplinary and cross-functional collaboration among units. The role of the university has been elevated from a "knowledge producer" to a "social engagement" partner, able to connect learning processes with local stakeholders such as local governments, schools, the elderly, and community enterprises.

Furthermore, a "Social Lab Node" prototype has been designed, which facilitates participatory processes for addressing national-level challenge areas. This model can be adapted and scaled up to inform policies or be applied in other contexts. All of these mechanisms are currently in the testing and development phase during the first year of the

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project, with preliminary outcomes synthesized into guideline documents and a conceptual framework for collaborative data management, which can serve as a basis for designing future research management systems at the institutional level.

1.3 Conceptual Framework of Information Technology for Knowledge Exchange, Problem-Solving, and Addressing National and Global Challenges

The project has developed an Information Technology conceptual framework that serves as a "Collaborative Learning System" with the goal of supporting learning that can connect local contexts with national and global-level problems. Digital technology is used as a tool to empower research, academic services, and participatory learning processes of stakeholder networks at various levels.

The integrated digital platform mechanism, or X-ON (eXchange-Onsite-Online Network), was developed to function as a "central support system" for collaborative knowledge exchange. It can connect field-based learning with the online world and flexible access to knowledge, with a focus on addressing national and global challenges through participatory approaches.

The X-ON mechanism is designed as a Hybrid Learning Platform with three learning modes: Groundwork (field-based), Online, and On-Demand, connected to four main support systems:

Table 4: Structure of the X-ON Platform Mechanism

Component	Description
1. Collaborative Knowledge Platform	A platform for collaborative knowledge collection, communication, and exchange among learners, researchers, communities, and partners.
2. Integrated Knowledge Management	A knowledge management system that supports field data, research reports, and multimedia to create a central database for all stakeholders.
3. Monitoring & Impact Dashboard	Monitoring & Impact Dashboard: Tools for real-time monitoring, analysis of outcomes, and impact data display.
4. Policycomics Communication & Social Engagement	Public communication and policy advocacy mechanisms using creative media, such as infographics, videos, and Policycomics, to create social momentum.

Note: Policycomics Communication refers to the communication of policy or substantive content from real-world contexts in the form of cartoons, infographics, or visual storytelling. This helps make complex content more accessible, stimulates participation, and clearly communicates impacts or policy recommendations. Examples include animated videos "How to Solve Saline Soil?" and "POWER WSD RANGERS Mae-orn," presented at the FAO in Rome, and "Hero of Nan Forests," presented at the district administration meeting in 15 districts of Nan Province, as well as an infographic video story on intergenerational connections through community arts in Rayong, shared on the Social Entrepreneur Arsom Silp Facebook page. (https://www.facebook.com/SE.Arsomsilp)

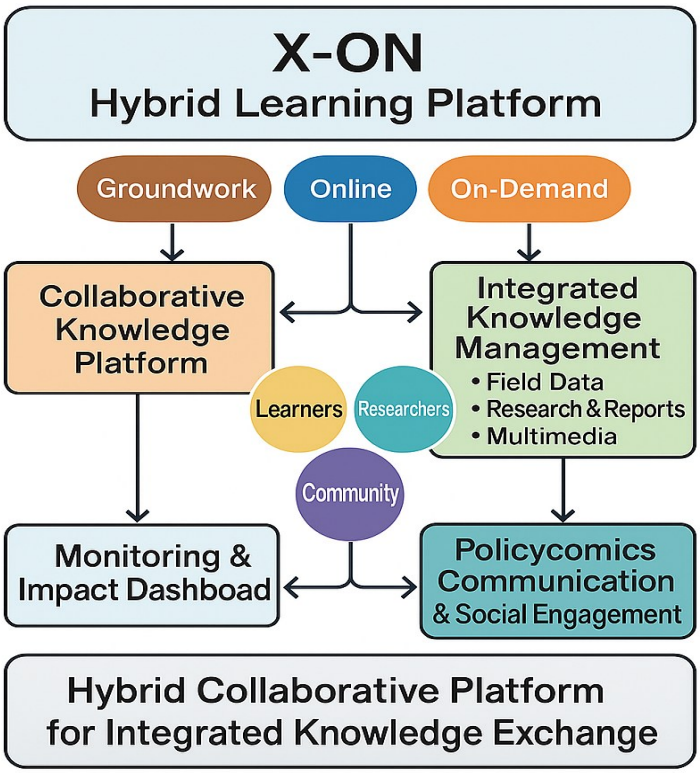

Figure 6: Conceptual Framework for Designing a Hybrid Collaborative Learning Platform
Note: The image was generated by AI (DALL·E, OpenAI) on April 11, 2025 to illustrate the conceptual framework for designing a Hybrid Collaborative Learning Platform, based on the content description provided by the research team.

The X-ON mechanism was piloted using readily accessible and interoperable digital tools, such as StreamYard Studio, which integrates with ZOOM, Facebook, LINE, and YouTube. The pilot testing was conducted in three provinces: Nong Khai, Maha Sarakham, and Rayong, over 8 sessions, with a total of more than 14,553 participants attending both in-person and online. Additionally, the platform has been applied in disaster situations (e.g., earthquakes), demonstrating its ability to communicate accurate information to the public within the first 2 hours, showcasing its potential for timely response to real-world scenarios.

The X-ON platform is not merely a learning system, but a central digital mechanism that connects the four core missions of higher education institutions: education management, research and innovation, academic services to society, and the promotion of arts and culture. It also serves as a central structure that facilitates collaborative work among university networks on systemic issues. Moving forward, the platform will be further developed and expanded in partnership with networks, such as the Chula Disaster Solution Network (Chula DSN), to enhance the capacity to respond to disasters, climate change, and address local, national, and global challenges in a flexible and timely manner.

2. Curriculum Integration of the Missions of Arsom Silp Institute of The Arts to Align with Learner Needs and Address National Challenges

The research project has designed and developed curriculums that integrate the four core missions of higher education institutions with the diverse contextual challenges faced by the country in three different areas: the saline soil problem in Maha Sarakham Province, the aging society issue in Rayong Province, and the urban water management challenge in Nong Khai Province. The overarching goal is to develop "prototype curriculums" that can

respond to the learning needs of diverse learner groups while addressing national and international social transformations.

In the initial phase of the project, the research team designed four prototype curriculums, divided into seven sub-modules, with the objective of using "community-based challenges" as the central learning focus. This approach aligns with the principles of Place-Based Learning, which emphasizes the connection between learners and the social, cultural, and environmental context of the local community, enabling meaningful learning that can be applied to address real-world problems (Sobel, 2004).

In the second phase, selected components of the curriculums, totaling five modules from six sub-curriculums, were piloted in the actual field locations. The learning process was structured as "community classrooms," providing opportunities for local residents, youth, students, and community experts to collectively participate in learning and knowledge creation. This led to the development of adaptive learning management approaches that can be tailored to the specific needs and challenges at both the individual and community levels.

Table 5: Development of the Curriculum

Phase	Description
Phase 1	Design of prototypes for 4 curricula comprising 7 modules.
Phase 2	Pilot implementation of 5 modules across 6 curricula in targeted areas.
Phase 3	Development into a new curriculum: "Community-Based Social Entrepreneurship Curriculum (Thai-International)."

Based on the outcomes from the project, the research team synthesized and elevated the acquired knowledge from pilot programs to develop a new curriculum at both national and international levels, titled "Community-Based Social Entrepreneurship Curriculum (Thai-International)." This curriculum encompasses six main content groups, divided into nine modules, integrating social enterprise concepts with community challenges, cultural practices, and contemporary social contexts. Additionally, it links field-based learning experiences in Thailand with collaborative learning with international youths in Vietnam. Both countries have co-designed and piloted activities in real-world settings.

This new curriculum is distinguished by its flexibility and incorporation of problem-based learning, accommodating learners of varying ages, including university students, community leaders, traditional knowledge bearers, and youth from neighboring countries. It can also be integrated with a credit bank, non-degree short courses, and hybrid learning platforms of higher education institutions to extend its impact nationally and internationally.

Currently, the curriculum has been implemented in pilot areas and is in the process of developing a complete version, which includes module details, learning processes, evaluation plans, and systemic recommendations to advance lifelong learning and the production of "social innovators" aligned with national research and development plans and workforce strategies.

Furthermore, the research team has developed six additional short courses to prepare for various aspects such as community mobility ethics, process facilitation development, basic AI, and socio-ecological design.

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3. Learning Outcomes from Experimental Problem-Solving on National Challenges through Multi-Stakeholder Participation in Three Contexts, Three National Challenges

The research project conducted field-based experiments to address key national issues using a participatory, action research approach, emphasizing collaborative learning and multi-stakeholder partnerships within "community classrooms" driven by real-world challenges specific to each area. The primary aim of these processes was to enhance systemic problem-solving capacity through engagement of all relevant sectors, including local communities, academic institutions, local government agencies, and civil society organizations. The challenges were defined according to the specific contexts of three provinces: Maha Sarakham, Rayong, and Nong Khai.

In Maha Sarakham Province, efforts focused on addressing soil salinity, which contributes to poverty and food insecurity in the Khulu Rung community. Under the "community classroom" mechanism and the "Salty Soil Team" initiative, community groups exchanged knowledge and experimented with localized innovations. Notably, the establishment of the "Suksala Market" and the development of "Boon-Tarn Market" provided platforms for community economic development based on the Principles of Sufficiency Economy and local wisdom. These initiatives fostered collective management of shared resources and created social value through the exchange of food, products, and traditional health services.

In Rayong Province, the process centered on responding to an aging society. Utilizing community identity as a foundation, the approach involved "community-based arts and ethics processes" and establishing "Four-Generations Classrooms," where senior residents acted as teachers, transmitting knowledge, wisdom, and cultural values to younger generations. This process not only elevated the social status of elders but also fostered intergenerational bonds through participatory learning and aimed to develop community-driven self-care models.

For Nong Khai Province, the project focused on implementing household-level water management mechanisms followed by scaling to the municipal level. "Community Leader Teams" were developed, capable of understanding and analyzing local water conditions and co-designing innovative, sustainable water management solutions. Additionally, a "Social Enterprise Model" (SE Model), named "Toh Laow," was designed and tested as a platform for stakeholder learning and exchange concerning urban water management. This initiative also cultivated community-level water management networks capable of aligning with local government policies.

The results across all three contexts demonstrate the evolution of stakeholder engagement mechanisms that promote experiential, action-oriented learning ("learning by doing") and generate context-specific social innovations that are sustainable and scalable. These outcomes relate to community self-management, spatial learning for participants, and the redefined roles of higher education institutions as "Institutions Co-Developing Society."

4.Discussion of Research Findings and Limitations

4.1 Systematic Analysis of Results

The findings reflect an evolving role of higher education institutions in the 21st century, shifting from "knowledge providers" to "co-developers of society" through collaborative learning, participatory research, and social innovation. Notably, in the

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context of addressing national challenges at the local level, the design and implementation of three core tools-namely, the "Community Arts and Ethics Process," the "Community Classroom Mechanism," and the "DYNAMO Six-Stage Dynamic Learning Cycle"-have concretized the integration of the fourfold missions of higher education institutions with community systems and local network collaborations. This demonstrates a tangible operationalization of institutional roles within broader societal engagement.

4.2 Innovations Achieved

The development of the "Community Arts and Ethics Process" facilitated spaces for spiritual and cultural learning, elevating local wisdom and knowledge transmission through art, which plays a vital role in empowering learners and communities. Such processes foster internal change by enabling participants to become "co-producers of knowledge" rather than mere recipients, aligning with lifelong learning and grassroots leadership development paradigms.

Similarly, the "Community Classroom Mechanism," designed to manage learning around real-world issues, showed potential for integrating university missions with local contexts through the tripartite team structure (community team, field implementation team, and support team). The six-step learning process-including Problem-Based Learning and Experiential Learning-enabled targeted learning outcomes, fostering social innovators and adaptable models suitable to specific locality needs.

The third tool, the "DYNAMO Six-Stage Dynamic Learning Cycle," was employed as a mechanism for monitoring, analysis, and strategic adjustment within participatory processes. By utilizing the six milestones aligned with the adaptive cycle, it served as a metric for learner and stakeholder development, emphasizing the process of mutual learning that reflects ongoing change and continuous development rather than solely final results.

The integrated application of these three tools established a new systemic mechanism connecting university missions with real community problems, owned by local stakeholders and supported by academic institutions. This fostered co-learning, cross-level collaboration, and the generation of sustainable, scalable social innovations. Furthermore, the research demonstrated the potential for developing an "Information Technology Framework" for collaborative learning, capable of connecting data across diverse areas via a hybrid digital platform-X-ON-aimed at institutional knowledge management and future policy integration.

4.3 Limitations of the Study

Although the project successfully developed mechanisms and tools that concretely link higher education with local challenges, certain limitations must be acknowledged. The research was confined to three specific provinces; despite their geographical and social diversity, the findings do not comprehensively reflect all regional contexts across the country. Additionally, the participatory action research (PAR) framework employed offers advantages in harnessing community energy but presents challenges in attaining entirely objective assessments. Participants may display behaviors aligned with researcher expectations or hold positive biases toward their involvement.

Moreover, while the "DYNAMO Six-Stage Cycle" provides clear milestones, its evaluation relies heavily on qualitative observations by coaches and researchers, which may vary according to relational dynamics within the field. These limitations were mitigated through triangulation strategies and joint validation with internal and external stakeholders, enhancing the reliability of the findings.

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Conclusions

The research findings confirm that the mechanisms, tools, and curricula developed within this project can generate systemic outcomes across multiple levels-individual, community, and higher education institutions. Furthermore, these outcomes can be distilled into scalable models suitable for policy replication, particularly in addressing complex social challenges through an integrated approach that combines indigenous wisdom, cultural capital, and information technology in the digital era.

These results manifest at various levels: at the individual level, learners have enhanced their skills and attitudes toward becoming "Social Innovators"; at the community level, initiatives such as the "Araya Kaset District Mobilization" and the joint development of sub-district plans with local municipalities exemplify practical application; at the policy and systemic levels, innovations such as the saline soil solution were presented at the FAO World Soil Conference in Rome, reaffirming the role of small higher education institutions as catalysts for social change-acting as structural change agents on a global scale.

In summary, reforming the internal structures and support systems of institutions is a critical prerequisite for genuinely transforming higher education into an institution co-developing society. Such transformation requires not merely renaming existing programs but fundamentally redefining "mindsets, operational methods, and institutional roles" in a profound and sustainable manner.

Collectively, these outcomes demonstrated that higher education institutions can shift from the traditional role of producing disciplinary knowledge toward becoming "Institutions Co-Developing Society," with social innovation serving as the core mechanism and participatory engagement as a fundamental condition for creating lasting systemic impacts.

Policy Recommendations and Development

1. It is recommended to support the application of participatory process tools and learning mechanisms in other areas to broaden the impact and dissemination of social innovator development.
2. Government agencies should advocate for flexible policy frameworks that facilitate long-term collaborative learning between higher education institutions and communities.
3. Investment should be directed toward developing and deploying comprehensive information platform infrastructures capable of integrating diverse local learning data and establishing relational databases to support systemic decision-making processes for relevant agencies.

In summary, sustainable social change requires both high-quality participatory learning processes and systemic support mechanisms that respond effectively to the complexity of local contexts.

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