MSU MAHASARAKHAM UNIVERSITY THAILAND

MSU SUSTAINABLE DEVELOPMENT GOALS

MAHASARAKHAM UNIVERSITY

Sustainability Report 2024-2025

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Message from the President

Students, Colleagues, and Partners,
Mahasarakham University has a long and proud tradition of commitment to social responsibility
and progress. This commitment is reflected in our embrace of the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015.
The SDGs are a comprehensive framework for addressing the world's most pressing challenges, including poverty, hunger, inequality, climate change, and environmental degradation.
They represent a global call to action for all countries, including Thailand, to work together to create a more just, sustainable, and prosperous future for all.

At Mahasarakham University, we are integrating the SDGs into all aspects of our university life. This includes:

- **Education**: We are integrating sustainability principles into our existing curriculum, developing new courses and programs that address the SDGs, fostering critical thinking about global challenges, and preparing future generations to be responsible stewards of the planet.
- **Research**: We are supporting research that contributes to the achievement of the SDGs, such as research on renewable energy, sustainable agriculture, poverty, food security, and climate change adaptation. Moreover, we are providing grants and support to faculty and students who are conducting research on critical sustainability issues.
- **Operations**: We are working to reduce our university's environmental footprint, promoting resource conservation, and promoting sustainable practices throughout our campus.
- **Community Engagement**: We are partnering with local and global communities, businesses, and government agencies to advance sustainable development initiatives in the region.

The Road Ahead
We are committed to continuously improving our SDG efforts.

- We will strive to deepen our integration of SDGs into all aspects of university life.
- Expand our partnerships and collaborations to achieve greater impact.
- Become a leading voice for sustainability in the region and beyond.

We believe that universities have a unique responsibility to play a leadership role in advancing the SDGs. Through our education, research, and community engagement activities, we can help to create a better future for all.
I encourage all members of the Mahasarakham University community to learn more about the SDGs and to get involved in our efforts to achieve them. Together, we can make a difference.

Sincerely,
Associate Professor Prayook Srivilai, Ph.D.
President of Mahasarakham University

About SDGs

Sustainable Development: The Journey from Sustainable Development (SD) to Millennium Development Goals (MDGs) and Progression toward SDG 2030

The concept of sustainable development emerged around the 19th century. Following World War II, there was an accelerated push to restore the global economy and expand agricultural and industrial production.
This rush to exploit resources led to numerous issues, such as population growth, which increased pressure on resource use and created societal burdens to meet the demand for goods and standards of living. Additionally, environmental degradation became a significant concern, resulting in social inequality and widespread poverty, particularly in developing countries.

Clear evidence of humanity's growing concern over environmental changes emerged in 1962 when ecologist Rachel Carson published her book, Silent Spring. This work highlighted the environmental and human impacts of the chemical DDT, sparking widespread interest and opposition to the use of pesticides that harm the environment. Carson's book ignited public awareness and led to movements against environmentally damaging chemicals.

Following Silent Spring, other influential publications emerged. For example, in 1970, the Club of Rome published Limits to Growth, a book that projected potential limitations on growth for the coming century due to the depletion of resources. This work underscored the finite nature of resources, foreseeing potential challenges humanity might face as resources become exhausted.

Around 1970, as environmental problems became increasingly evident, nations began to come together to seek solutions. In 1972, the United Nations (UN) hosted the first United Nations Conference on the Human Environment (UNCHE) in Stockholm, Sweden. This landmark conference called for global awareness of limited resources and led to the establishment of the United Nations Environment Program (UNEP).

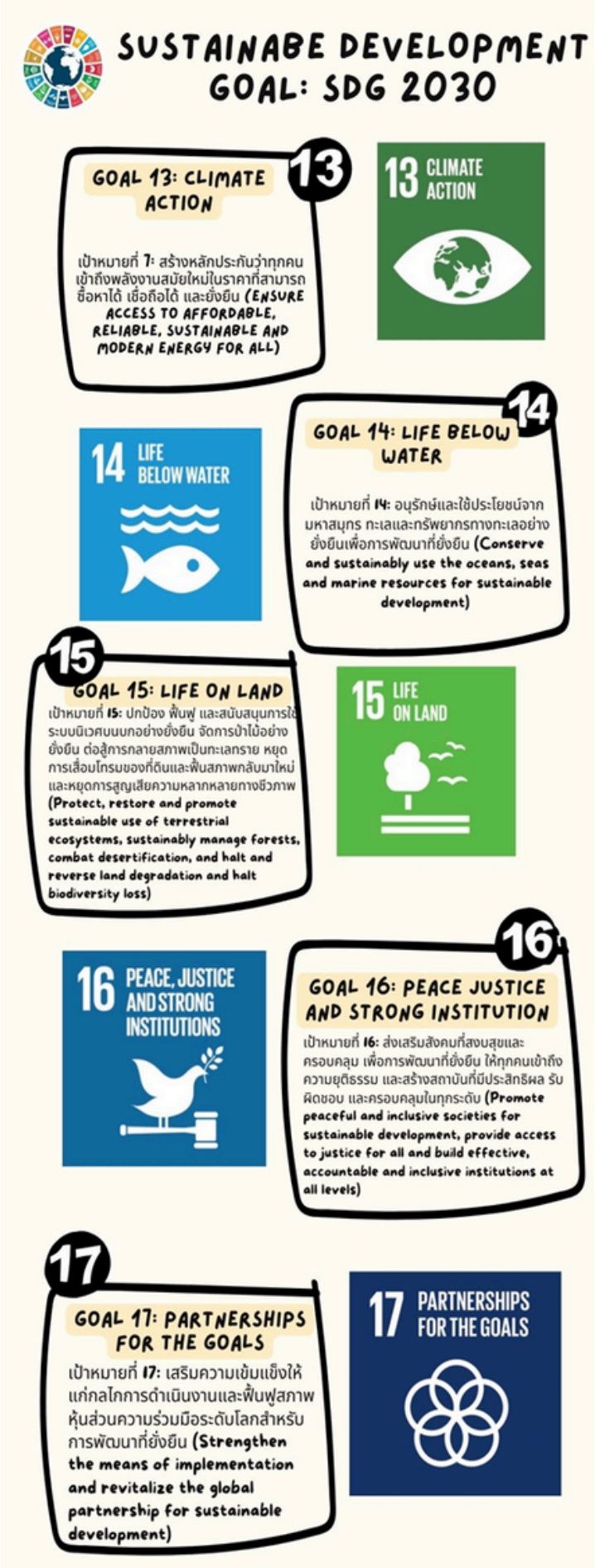
In 1986, the Our Common Future report urged humanity to transition from a wasteful lifestyle to one that is secure and aligned with nature. This report laid the foundation for defining "sustainable development" as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987).

This concept of sustainable development emphasizes a balanced integration of three key dimensions: environmental, social, and economic. Its guiding principles include (1) prioritizing environmental value, (2) focusing on long-term sustainability, and (3) ensuring equity both between current and future generations (intergenerational equity) and within the current generation (intragenerational equity).

Following the definition and principles of sustainable development, several major global conferences were convened to advance these ideas. Notably, the Earth Summit in 1992, formally known as the United Nations Conference on Environment and Development (UNCED), was held in Rio de Janeiro, Brazil. Subsequent meetings included the Rio+5 conference in 1997. In 2000, the Millennium Development Goals (MDGs) were established, setting out eight development targets to be achieved over a 15-year timeframe from 2000 to 2015.

These goals aimed to drive comprehensive progress in areas such as poverty reduction, education, health, environmental sustainability, and global partnership.

After the MDGs concluded in 2015, it was observed that while some progress had been made in addressing global challenges, the goals were not fully achieved. Climate change remained a pressing issue with increasing severity, posing potential impacts on human life, agriculture, and livestock.



This situation led to the development of a new set of targets known as the Sustainable Development Goals (SDGs), aimed at guiding global progress from 2016 to 2030 over a 15-year period. The SDGs are built on an integrated perspective that connects economic, social, and environmental dimensions. These 17 goals align with the pillars of Economy, Society, and Environment, and operate under five guiding principles, known as the 5 Ps: People, Planet, Prosperity, Peace, and Partnership.

In 2023, a mid-term review of the SDGs was conducted, and the United Nations (UN) published the Global Sustainable Development Report (GSDR), which reported that we remain far from achieving the targets. This shortfall is largely due to challenges arising from the COVID-19 pandemic, conflicts and wars, inflation, and climate volatility, all of which present ongoing challenges that require adaptive strategies and continued drive for progress. The report highlighted that six specific SDGs are particularly critical and face significant challenges if they are to be achieved by 2030. These goals are considered to be in a critical or highly challenging state, emphasizing the need for intensified efforts to meet these targets within the remaining timeframe.

Achieving the SDGs by 2030 requires the participation of all sectors and coordinated efforts across all levels, from local to national and international. Higher education institutions play a crucial role in this mission, acting as key drivers in advancing education to foster global citizenship, encouraging learning, and mobilizing collective action toward a sustainable society. Mahasarakham University (MSU) has embraced this vision as a core mission, setting a clear goal: "MSU builds a sustainable society." This initiative emphasizes MSU's commitment to integrating sustainability principles into education and community engagement, aiming to make meaningful contributions to global sustainability efforts.

Miss Kanokporn Rattanasuteerakul

About MSU

Mahasarakham University (MSU) is a leading comprehensive university in Thailand, dedicated to providing exceptional educational opportunities and fostering sustainable development. With a strong emphasis on internationalization and a commitment to "internationalization at home," MSU offers a dynamic and inclusive learning environment for students from around the world.

MSU originated from the Mahasarakham College of Education, which was established in 1968. The university has since grown and expanded from the Prasanmitr College of Education, an institution focused on teacher training. Its establishment aimed to address the shortage of qualified teachers, accommodate societal growth, and promote the advancement of educational studies, as well as expand higher education opportunities to provincial areas.

In 1974, it was elevated to the status of Srinakharinwirot University, Maha Sarakham Campus. The university began offering four-year undergraduate programs in various disciplines such as biology, physics, chemistry, mathematics, Thai language, English, social studies, geography, history, and elementary education. Additionally, new faculties and units were established to fulfill the university's mission.

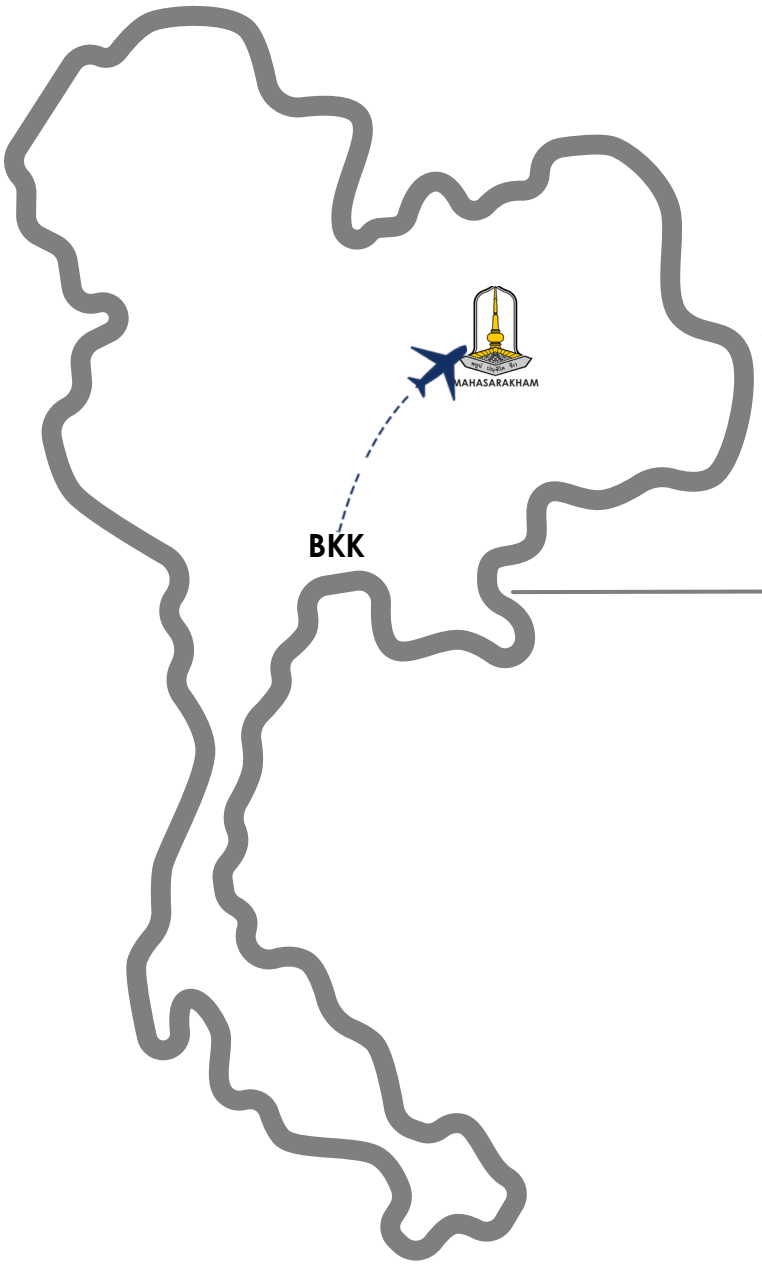
In 1994, the university gained independent status, becoming Thailand's 22nd public university. Rapid expansion led MSU to offer undergraduate and postgraduate degree programs in three academic areas: social sciences, pure and applied sciences, and health sciences. In 1998, the university established the Khamriang Campus, located approximately 7 kilometers from the original campus. Both campuses are situated in Maha Sarakham Province, about 470 kilometers from Bangkok.

Student enrolment now stands at over 49,000 with more than 1,000 international students across 203 undergraduate and postgraduate programmes including 96 bachelor's, 61 master's and 46 PhD programmes.
There are 20 faculties including College of Music, College of Politics and Governance, Faculty of Education, Faculty of Fine-Applied Arts and Cultural Science,
Faculty of Humanities and Social Sciences, Faculty of Law, Faculty of Tourism and Hotel Management, Mahasarakham Business School, Faculty of Medicine,
Faculty of Nursing, Faculty of Pharmacy, Faculty of Public Health, Faculty of veterinary, Faculty of architecture, Urban Design, and Creative Arts, Faculty of Engineering,
Faculty of Environment and Resource Studies, Faculty of Informatics, Faculty of Science, Faculty of Technology, and Walai Rukhavej Botanical Research Institute. There are also a number of research centres including the first natural medicinal mushroom museum and learning centre in Asia.

Student facilities and activities available include venues for sports such as swimming, basketball, takraw, badminton, tennis, and football, a performance center, two book centers, a computer center, banks, a post office, a medical center, and MSU Plaza, which offers shops including a pharmacy, a convenience store, and a stationery shop. Additionally, MSU offers a large canteen with affordable food for students.

Mahasarakham University (MSU) is a thriving institution offering a diverse range of undergraduate and graduate programs. Committed to fostering a sustainable and inclusive learning environment, MSU equips students with the knowledge, skills, and critical thinking abilities needed to thrive in today's interconnected world. Our curriculum aligns with the Sustainable Development Goals, ensuring that our graduates are not only academically prepared but also socially responsible and equipped to address global challenges.

MAHASARAKHAM UNIVERSITY — AT A GLANCE



QUICK STATS

46,000+
Total Students Enrolled

Founded **1968**

20
Faculties

205
Programs

2 campuses **(~615 acres)**
≈470 km from Bangkok

Academic Clusters

Comprehensive public university in NE Thailand

Focus on social sciences, health, and technology

MSU GLOBAL RANKINGS (2025)

MSU emphasizes on (1) high-quality education and graduate outcomes (including entrepreneurship); (2) excellence in research and innovation; (3) academic services that strengthen communities and enable self-sufficiency; and (4) conservation and promotion of Isan arts, culture, and traditions.

"Public Devotion is a Virtue of the Learned"
Our vision to become a leading university in Asia

QS	THE WUR	THE IMPACT
1401+	1501+	601–800
Global band	Global band	Overall
Rankings	Rankings	Position
2026	2026	2025

14 LIFE BELOW WATER

71

SDG 14: Life Below Water

15 LIFE ON LAND

101-200

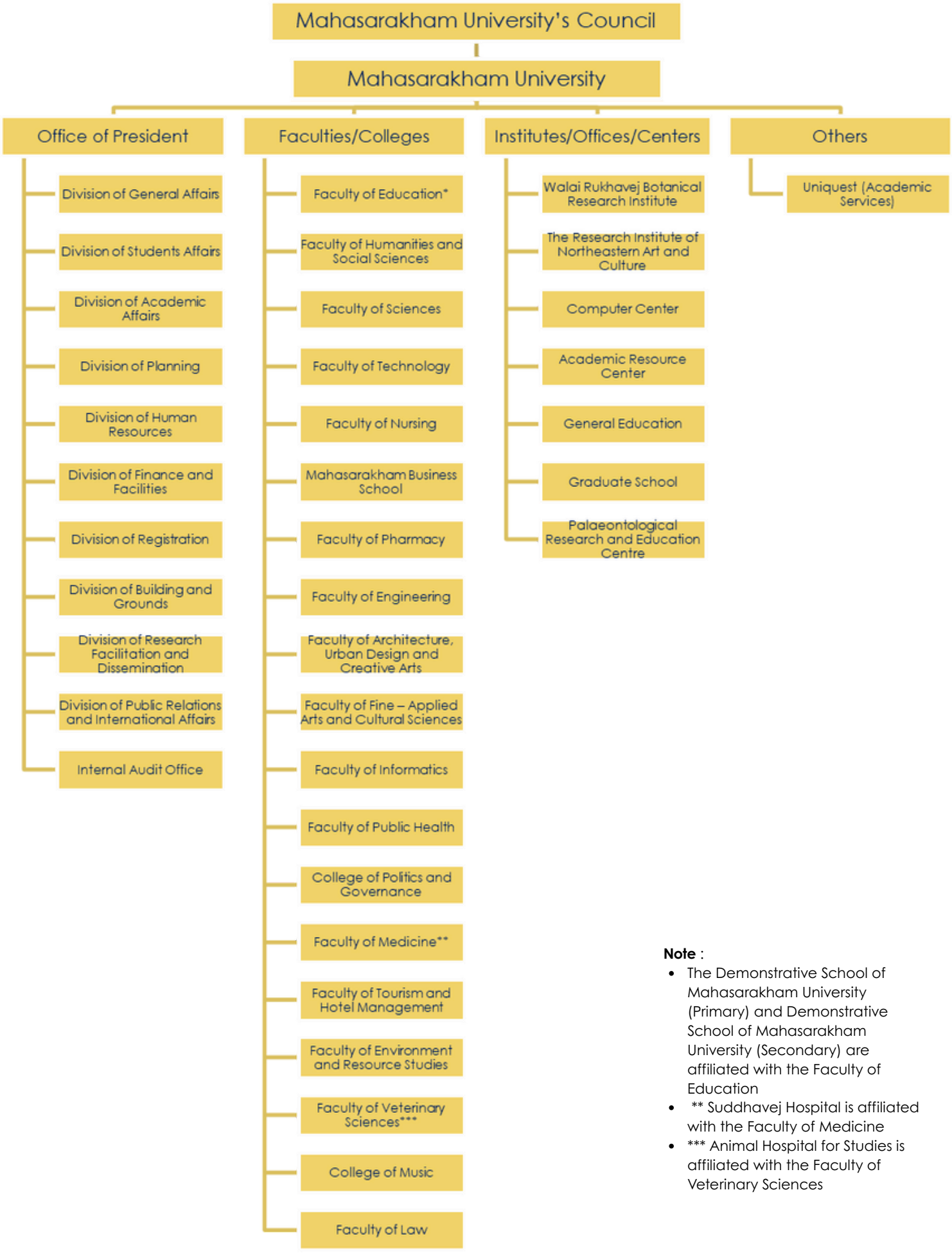
SDG 15: Life on Land

4 QUALITY EDUCATION

201-300

SDG 4: Quality Education

MSU Organization Structure



Note :

- The Demonstrative School of Mahasarakham University (Primary) and Demonstrative School of Mahasarakham University (Secondary) are affiliated with the Faculty of Education
- ** Suddhavej Hospital is affiliated with the Faculty of Medicine
- *** Animal Hospital for Studies is affiliated with the Faculty of Veterinary Sciences

MSU Sustainability Policies

Teaching

The sustainable teaching policy of Mahasarakham University focuses on promoting the quality of teaching and developing students' knowledge, skills, and attributes relevant to their professions. This is achieved by emphasizing the following:

1. Promote the quality of teaching by focusing on the development of curricula that meet the needs of current and future societal and industrial demands.
2. Create a conducive learning environment that supports the participation of students, examination committees, faculty, and staff in the teaching and learning process.
3. Utilize contemporary technology and information sources to support diverse and high-quality student learning, with an emphasis on developing analytical and creative thinking skills.
4. Foster student involvement and leadership in community activities and extracurricular learning experiences.
5. Continuously improve and develop teaching policies to align with the needs and changes of society and industry in both present and future contexts.
6. Establishing a system of learning outcome assessment that is equitable and fair to all students by providing equal opportunities for learning and self-development.
7. Establishing collaboration between the university and other supporting organizations and groups to support sustainable and highly effective teaching policy and guidelines.

MSU is committed to driving sustainable development policy through teaching, focusing on curriculum development, faculty development, and promoting activities through efficient mechanisms to encourage students to learn, acquire skills, and be ready to create change for sustainable society.

Research

The sustainable research policy of Mahasarakham University encompasses several key principles and objectives aimed at fostering a culture of research excellence and sustainability:

1. Promoting Interdisciplinary Research: Encouraging collaboration across disciplines to address complex societal challenges and promote innovation.
2. Ensuring Ethical Conduct: Upholding the highest standards of research integrity, ethics, and professionalism in all research activities.
3. Supporting Capacity Building: Providing resources, training, and opportunities for researchers to enhance their skills and capabilities.

4. Fostering Knowledge Exchange: Facilitating the dissemination of research findings through publications, conferences, seminars, and community engagement activities.

5. Encouraging Sustainable Practices: Promoting research that contributes to sustainable development goals and addresses environmental, social, and economic sustainability issues.

6. Emphasizing Impact: Prioritizing research that generates tangible benefits and positive impact for society, industry, and the environment.

7. Ensuring Open Access: Supporting open access to research outputs, including publications, data, and other scholarly materials, to maximize their accessibility and impact.

8. Promoting Innovation and Entrepreneurship: Encouraging the translation of research outcomes into practical applications, products, and services that contribute to economic growth and societal advancement.

9. Strengthening Collaboration: Establishing partnerships with government agencies, industry, civil society organizations, and international institutions to leverage resources, expertise, and networks for research collaboration and knowledge exchange.

10. Continuous Improvement: Regularly reviewing and evaluating research policies, processes, and outcomes to ensure alignment with institutional goals and responsiveness to evolving research needs and priorities.

By adhering to these principles and objectives, MSU aims to foster a vibrant research ecosystem that contributes to sustainable development and enhances the university's reputation as a leading research institution.

Stewardship

MSU is committed to stewardship for sustainable development goals through various initiatives and practices:

1. Curriculum Integration: Integrating sustainable development principles into the university's curriculum across disciplines to ensure that students are equipped with the knowledge and skills needed to address sustainability challenges.

2. Research Focus: Encouraging research that contributes to sustainable development goals, such as studies on environmental conservation, renewable energy, social equity, and economic development.

3. Community Engagement: Engaging with local communities to understand their needs and priorities regarding sustainable development and collaborating on projects that address these issues.

4. Resource Management: Implementing sustainable practices in resource management, including energy efficiency, waste reduction, and water conservation, to minimize the university's environmental footprint.

5. Partnerships and Collaboration: Collaborating with government agencies, NGOs, businesses, and other stakeholders to leverage resources and expertise for sustainable development projects and initiatives.

6. Capacity Building: Providing training and capacity-building programs for students, faculty, and staff to enhance their understanding of sustainable development concepts and practices.

7. Promotion of Sustainable Lifestyles: Promoting awareness and adoption of sustainable lifestyles among the university community through education, campaigns, and initiatives.

8. Monitoring and Evaluation: Regularly monitoring and evaluating the university's progress towards sustainable development goals, identifying areas for improvement, and implementing corrective measures as needed.

9. Policy Advocacy: Advocating for policies and initiatives at the local, national, and international levels that support sustainable development and align with the university's values and goals.

10. Reporting and Transparency: Maintaining transparency and accountability by reporting on the university's sustainability efforts, including progress, challenges, and achievements, to stakeholders and the public.

These stewardship practices align with MSU's commitment to contributing to the achievement of sustainable development goals and fostering a culture of sustainability within the university and beyond.

Outreach

The sustainability policy of Mahasarakham University regarding community engagement at local, regional, and global levels emphasizes the following:

1. Local Engagement: Mahasarakham University is dedicated to actively participating in and contributing to the development of the local community. This includes collaborating with local authorities, organizations, and communities to address social, economic, and environmental challenges.

2. Regional Engagement: The University seeks to establish partnerships and networks with institutions and stakeholders in the regional context to promote regional development, exchange knowledge and expertise, and address common challenges faced by the region.

3. Global Engagement: Mahasarakham University aims to engage globally by fostering international collaborations, partnerships, and initiatives. This involves participating in global academic networks, research collaborations, and initiatives aimed at addressing global challenges, promoting cultural exchange, and enhancing the university's international reputation.

Overall, Mahasarakham University's sustainability policy underscores its commitment to being an active and responsible contributor to society at the local, regional, and global levels.

Partnerships

Across 2022–2024 MSU's partnerships cluster around:

- Quality education & skills (SDG4), innovation/industry (SDG9), clean energy & mobility (SDG7), healthy lives (SDG3), sustainable tourism & cities (SDG11), and Partnerships for the Goals (SDG17).
- Collaboration spans government agencies, industry, communities, hospitals, and global HEIs.

2024 highlights

- High-speed rail engineering MoU with Chor. Thawee PCL, RMUTI, and Thailand's Institute of Railways; builds rail-skills pipeline (SDGs 4,7,9,17).
- Hospitality internships MoU with Accor (APPC Thailand) to place students across TH/CLM markets and co-develop curriculum (SDGs 4,8,17).

Partnerships

2023 highlights

- Dementia-risk care network—MSU with Mahasarakham Municipality, Srisawat Medical Center, Suddhavej Hospital, and VHVs (community health workers). Outcomes include >90% VHV skill gain and screening of 333 elderly across three communities (SDG3, SDG17).
- Community-based tourism (CBT) standard upgrading—multi-partner effort (provincial tourism network, chambers, 5 communities) to meet CBT Thailand standards (SDGs 1,8,11,17).
- "Jampa Sri" herbal supply-chain partnership—MSU Pharmacy + community enterprises + firms; GMP/quality upgrades and prototype products (SDGs 3,8,9,12,17).

2022–2023 bridge projects

- Learning City / LMS platform (32 courses)—MSU Business School with local authorities & communities across five provinces; >1,000 beneficiaries; fosters lifelong learning and inter-agency cooperation (SDGs 4,10,11,17). (Aug 15, 2022–Aug 14, 2023).

Mechanisms that enable SDG17

- The SDG portal catalogs partnership projects by year/goal and showcases policy areas & MoUs, indicating institutional structures for collaboration.
- Example of media & outreach network building MSU–local press collaboration to strengthen public communication (SDGs 16,17).

SDG 1: No Poverty

LOCAL LAB – Returning Migrant Workers in Isaan: A Pathway to Poverty Reduction and Sustainable Development

College of Politics and Governance

Returning Migrant Workers:
A Key to Poverty Reduction

The increasing return of migrant workers to their hometowns presents both challenges and opportunities in poverty reduction at the local level. Many of these workers struggle with limited economic opportunities, lack of social protection, and restricted access to essential resources.

The LOCAL LAB forum focused on addressing these issues in alignment with SDG 1, particularly through:

- Access to Social Protection Systems The forum emphasized the need to enhance social security measures for informal workers, such as expanding access to labor welfare funds and social benefits. These initiatives would help ensure long-term financial stability for returning workers and reduce their vulnerability to poverty.
- Equal Access to Economic Resources and Basic Services One of the major challenges for returning workers is limited access to land, financial resources, and economic infrastructure.

Transforming these policy recommendations into actionable solutions will ensure that **SDG 1: No Poverty** becomes a reality—not just at the policy level but in the daily lives of people in the community.

The LOCAL LAB forum proposed initiatives such as community entrepreneur development funds, low-interest loans, and local market support for agricultural and handicraft products. These measures would enable returning workers to establish sustainable livelihoods within their communities.

LOCAL LAB: A Turning Point for Returning Workers Towards a Sustainable Future

The discussions at LOCAL LAB demonstrated that returning migrant workers are not merely victims of urban economic downturns but a driving force in revitalizing local economies. With appropriate policy support, these workers can secure stable livelihoods, contribute to poverty reduction, and foster long-term community development.

MSU Students Design "Poo thul Kramom Crab Pants" to Promote Local Soft Power and Support Scholarships

Faculty of Informatics

Students from the Creative Media Department, Faculty of Informatics, Mahasarakham University (MSU) have designed the "Poothul Kramom Crab Pants," a product inspired by the distinctive cultural identity of Mahasarakham Province, including the Poothul Kramom crab — a freshwater crab named by Her Royal Highness Princess Chulabhorn Walailak — the Plumeria flower (the provincial flower), and traditional "Sroi Dok Mak" textile patterns. The pants are designed as semi-casual wear suitable for both men and women.

Kamonwich Lawan, the student designer, explained that the pants come in four unique patterns:

- Solid orange with large crab motifs
- Black-to-orange gradient with large crab motifs
- Black-to-orange gradient with small crab motifs
- Solid black with small crab motifs

The pre-order price is 179 THB per pair, with 10 THB from each sale donated to the Faculty of Informatics Student Scholarship Fund, supporting students' education and reducing inequality, thereby contributing to SDG 1: No Poverty.

The design is a protected intellectual property under Thai copyright law. Any infringement will result in legal consequences. For inquiries, contact Kamonwich Lawan at 098-5856931 or 063-2652556, Facebook: Kmonvish Lawan.

the "Poothul Kramom Crab Pants" project links creativity with social responsibility—reducing inequality, supporting education, and promoting sustainable livelihoods—all core targets of **SDG 1: No Poverty.**

SDG 1: No Poverty

MSU Researchers Launch "Non-Alcoholic Sparkling Yam Bean Wine" — Adding Value to Local Produce, Empowering Farmers, and Driving Community-Based Innovation

Faculty of Technology

Researchers from the Department of Food Technology, Faculty of Technology, Mahasarakham University (MSU), have introduced innovative beverage products — "Rabue Non-Alcoholic Sparkling Wine" and "Jicasa Non-Alcoholic Sparkling Wine" — developed from yam beans grown in Borabue District, Mahasarakham Province. These products transform the region's well-known yam bean, a local Geographical Indication (GI) crop, into high-value beverages aimed at boosting farmers' income and creating sustainable economic opportunities for local communities.

Transforming these policy recommendations into actionable solutions will ensure that **SDG 1: No Poverty** becomes a reality—not just at the policy level but in the daily lives of people in the community.

The project is a collaboration under the Social Innovation Driving Unit for Upper Northeastern Thailand (SID-ESAN), led by Asst. Prof. Dr. Maneerat Wongsim, with Asst. Prof. Siriporn Lawan as the innovation developer. The research focuses on turning yam bean syrup into a non-alcoholic sparkling wine using low-heat processing to preserve nutrients and beneficial phytoestrogens that support immunity, skin health, and overall wellness.

According to Asst. Prof. Dr. Maneerat Wongsim, social innovation plays a crucial role in improving quality of life across health, education, and economic dimensions. Through SID-ESAN, MSU continues to empower communities to develop innovations that directly respond to local challenges, thereby addressing poverty and inequality in a sustainable way.

The "Rabue" and "Jicasa" sparkling wines are now fully developed and available for commercialization. The project welcomes collaboration from investors and entrepreneurs to expand production and establish the products as provincial specialties of Mahasarakham.

"Cincau Hijau" – A New Economic Crop from MSU Boosting Food Security and Community Income

Supachai Suttichareon, Faculty of Technology

Supachai Suttichareon, Researchers at Mahasarakham University (MSU) are advancing the cultivation and processing of Cincau Hijau (Mesona chinensis), or green grass jelly plant, as a promising new economic crop for Northeastern Thailand. Rich in antioxidants, chlorophyll, and saponins, this herbal plant offers both nutritional and medicinal benefits, including fever-reducing and anti-inflammatory effects. The research, led by the Faculty of Technology, aims to create sustainable food resources that enhance food and health resilience for local communities while generating alternative income for smallholder farmers.

This initiative supports SDG 2: Zero Hunger by promoting sustainable food production and improving nutrition through locally sourced, nutrient-rich crops. It helps farmers earn additional income and reduces their vulnerability to economic and environmental challenges.

A demonstration farm at the Na Si Nuan site has been established to study optimal cultivation conditions, including soil type, water use, and harvesting techniques, with the goal of developing scalable models for nationwide application. Cincau Hijau grows easily under local climatic conditions, requiring minimal inputs and adapting well to existing agricultural systems. Its low environmental impact and high adaptability make it a potential cornerstone crop for sustainable agriculture and rural development in Thailand's Northeastern region.

The processing of Cincau Hijau is simple and eco-friendly. When the leaves are crushed and soaked in warm water, they naturally form a soft green jelly without the need for synthetic gelling agents. This natural jelly can be used in health beverages, desserts, and functional foods, offering wide opportunities for value-added products. By integrating local agricultural knowledge with modern food technology, MSU researchers are helping communities to develop innovative, market-ready food products, strengthening local food systems and supporting the growth of community-based enterprises.

MSU Fisheries Researcher Builds Model Community for Environmentally Friendly Nile Tilapia Farming Using Biofloc Technology

Faculty of Technology

A team of researchers from the Fisheries Program, Faculty of Technology, Mahasarakham University (MSU) has launched a community outreach initiative titled "Environmentally Friendly Biofloc Nile Tilapia Farming Project" as part of its academic service to promote innovation and create model communities for sustainable development.

The project delivers hands-on training and knowledge transfer to local tilapia farmers, aiming to develop a self-reliant community that can serve as both producers and consumers—generating income and enhancing household food security.

Asst. Prof. Wipavee Thaimuangphol,PhD, project leader and lecturer in the Fisheries Program, explained that the initiative stems from applied research comparing the effectiveness of commercially available microbial products versus naturally occurring microorganisms in the biofloc system.

The research found that the biofloc method yielded a 100% survival rate and significantly boosted the immunity of the fish. The process is simple and practical, making it well-suited for community adoption.

This Project is Funded by the Research and Academic Services Promotion Division and supported by collaboration with Mahasarakham Business School, the project is part of MSU's 2024 academic service initiatives under the theme of sustainable development.

The selected project sites—Santisuk Village and Damrong Pattana Village in Na Chueak Subdistrict, Na Chueak District, Maha Sarakham Province—were chosen due to the presence of existing community fishery enterprises and involvement in the Department of Fisheries' aquatic animal production bank.

Despite the villagers' ability to breed tilapia fingerlings, the lack of water in the dry season limited farming opportunities. Traditionally, fish are released into a shared village pond and harvested only once every two years. The project aims to resolve this issue by introducing an alternative system suitable for drought-prone areas.

This initiative supports SDG 2: Zero Hunger by promoting sustainable food production and improving nutrition through locally sourced, nutrient-rich crops.

SDG 2: Zero Hunger

MSU Researchers Transfer Herbal Powder Production Technology to Elevate Product Standards and Strengthen Community Capacity

Walai Rukhavej Botanical Research Institute, Faculty of Science, Faculty of Tourism and Hotel Management

On November 6, 2024, the Walai Rukhavej Research Institute, in collaboration with the Faculty of Tourism and Hotel Management and the Department of Biology, Faculty of Science, Mahasarakham University (MSU), organized a special seminar under the topics "Consumer Acceptance and Packaging Design Strategies for Insect-Based Foods in a Western Context" and "Creating New Menus from Insects: Food Innovations for a Sustainable Future." The event took place at the Faculty of Tourism and Hotel Management, aiming to share knowledge, inspire creativity, and promote innovation in insect-based food development as part of the global movement toward sustainable food systems.

This initiative aligns with SDG2: Zero Hunger, emphasizing the importance of sustainable and alternative protein sources to ensure global food security and reduce pressure on traditional agriculture.

The seminar reflects MSU's commitment to fostering academic collaboration and creative innovation that bridges science, sustainability, and gastronomy—empowering students and researchers to drive meaningful change toward a sustainable and hunger-free future.

The seminar featured two distinguished international speakers: Dr. Sara-Maria Coppi, researcher and lecturer from the Faculty of Architecture and Design, NTNU University, Norway, and Chef Topi Kairenius, Creative Director and culinary expert from Fat Lizard Beer, Finland. Chef Kairenius demonstrated the preparation of innovative insect-based dishes, engaging students from the Faculty of Tourism and Hotel Management in a hands-on culinary workshop where they learned creative techniques for transforming insects into nutritious and appealing food ingredients.

SDG 3: Good Health and Well-being

Mahasarakham University Organizes "MSU Happy & Healthy: United as One" to Strengthen Well-Being and Team Spirit Among Staff

On December 27, 2024, Mahasarakham University (MSU) organized a special event titled "MSU Happy & Healthy: United as One" at the Sports and Recreation Center, located within the university's Kham Riang Campus. The event aimed to promote holistic well-being—both physical and mental—while fostering unity, collaboration, and positive relationships among university administrators, faculty members, and supporting staff across all faculties and offices.

The "MSU Happy & Healthy: United as One" event aligns with SDG 3 – Good Health and Well-being by encouraging university staff to take care of both their physical and mental health through wellness activities, exercise, and joyful collaboration.

Ultimately, "MSU Happy & Healthy: United as One" represented more than just a recreational event—it symbolized Mahasarakham University's commitment to enhancing workplace well-being, fostering a sense of belonging, and building a supportive university community.

The opening ceremony was presided over by Associate Professor Prayook Srivilai, Ph.D., Acting President of Mahasarakham University, who delivered an encouraging address emphasizing the importance of health promotion and teamwork in driving the university toward sustainable development. He highlighted MSU's ongoing commitment to creating a healthy and supportive workplace culture aligned with the vision of being a "Health Promoting University."

Throughout the day, the participants joined a wide variety of recreational and competitive activities designed to encourage movement and teamwork. Highlights included:

- "MSU Happy & Healthy" Aerobics: A fun and energetic group workout session that set a lively tone for the day.
- "Shoot Your Heart to Her" Game: A creative team challenge requiring coordination, accuracy, and strategy.
- "I've Seen the Wonders" Game: A memory and observation game promoting mental agility.
- "Big Ball for You" Game: A high-energy activity emphasizing teamwork and physical coordination.
- Word Guessing Board Games: Friendly competitions designed to strengthen communication and problem-solving skills.

SDG 3: Good Health and Well-being

MSU Organizes Food Sanitation Training for Entrepreneurs in Alignment

Division of Finance and Supplies

On March 25, 2024, the Revenue and Benefits Division, Division of Finance and Supplies, Mahasarakham University (MSU), organized a training program for food business operators under the Ministry of Public Health's standards for the fiscal year 2024. The training, titled "Food Sanitation for Food Handlers," was held at the Maenam Khong Meeting Room, Faculty of Humanities and Social Sciences, and was presided over by Asst. Prof. Dr. Kanokporn Rattanasuteerakul, Vice President for Finance and Supplies. The session featured guest lecturers Ms. Sukanya Saruethikham and Ms. Parichat Pakirana, Public Health Technical Officers from the Mahasarakham Provincial Public Health Office.

This effort reflects MSU's commitment to sustainable health promotion and aligns with Sustainable Development Goal 3 (SDG 3): Ensure healthy lives and promote well-being for all at all ages, by reducing foodborne health risks and ensuring a safe, health-conscious university community.

The program aimed to enhance food sanitation knowledge among food vendors and beverage operators within the university to ensure compliance with public health standards. It also sought to promote food safety awareness and foster collaboration in developing a "safe food network" on campus. By doing so, the initiative contributes to a healthier environment for students, staff, and visitors, strengthening consumer confidence in university-based food services.

This initiative supports SDG 3: Good Health and Well-being by promoting safe and hygienic food practices that prevent foodborne diseases and protect consumer health.

More than 247 participants attended the training, gaining insights into hygienic food handling, contamination prevention, and nutrition basics that support well-being.

SDG 3: Good Health and Well-being

Faculty of Veterinary Medicine, MSU Provides Rabies Vaccination Services to Promote Community Health

Faculty of Veterinary Science

On July 4, 2024, the Faculty of Veterinary Science, Mahasarakham University (MSU) participated in the "Livestock Collaboration to Eliminate Rabies" campaign under the national initiative "Rabies-Free Animals, Safe People", inspired by the royal aspiration of Her Royal Highness Princess Chulabhorn Krom Phra Srisavangavadhana.

The event, held at Ban Khwa Subdistrict Administrative Organization, Mueang District, Maha Sarakham Province, was presided over by Mr. Wiboon Waowbandit, Governor of Maha Sarakham Province, with Mr. Worakorn Inthaphat, Provincial Livestock Officer, delivering the opening remarks in honor of the Princess's birthday.

This initiative aligns with SDG 3: Good Health and Well-being, as it helps prevent zoonotic diseases, promotes community health awareness, and supports sustainable health systems that protect both humans and animals from preventable diseases.

Led by Assoc. Prof. Dr. Sukanya Leethongdee, Dean of the Faculty of Veterinary Science, together with faculty administrators, veterinarians from the MSU Animal Hospital, and veterinary students, the team provided free rabies vaccination and sterilization services for pets.

The activity aimed to raise public awareness about rabies prevention, enhance community understanding of animal health management, and safeguard people from rabies infection.

The project represented a collaborative effort between the Provincial Livestock Office, Faculty of Veterinary Medicine, MSU, Provincial Public Health Office, Local Administrative Organizations, and other provincial agencies.

Through these joint efforts, the campaign successfully promoted rabies prevention, encouraged responsible pet ownership, and advanced public health protection within the community.

SDG 4: Quality Education

Educational Board Games in Thailand: From Classroom Innovation to National Research — Advancing Quality Education

Assoc. Prof. Dr. Ratchaneewan Tangpakdee, Faculty of Education

In a rapidly changing technological world, the seemingly simple "board game" has emerged as a powerful educational innovation that makes learning more engaging, participatory, and effective. This idea is at the heart of the research project "Developing a Model for Educational Board Game Creation in Thailand" by Assoc. Prof. Dr. Ratchaneewan Tangpakdee from the Faculty of Education, Mahasarakham University (MSU).

Her goal is to elevate board games from recreational tools into innovative learning media that align with SDG 4: Quality Education, which emphasizes inclusive, equitable, and quality learning opportunities for all.

From Classroom Practice to Educational Research for National Development

The project originated from classroom observations showing that board games can effectively engage learners, promote analytical thinking, and enhance essential skills. From this, Dr. Ratchaneewan developed a systematic model for creating educational board games, integrating content, teaching strategies, and learner development—physical, emotional, and cognitive—into the design process. The model was refined through consultations with experts from various fields, including board game designers, innovation specialists, university lecturers, and school teachers, ensuring that it is both comprehensive and practical for application at all education levels.

Board Games: Accessible and Sustainable Learning Tools

Applying this model in the course "Instructional System Design" inspired students to create educational board games incorporating Isan cultural knowledge, resulting in award-winning innovations such as "Phai Son Phi: Your Ghost is My Ghost" and "Isan Ghost Journey." These successes demonstrate that learning becomes most powerful when learners create, think critically, and connect lessons to real life. Beyond classrooms, board games foster learning in communities, support elderly groups, special education learners, and even social bonding activities

Education for All through Grassroots Innovation

A unique aspect of this research is the creation of a "Cookbook" or practical guide that enables teachers and enthusiasts to design their own educational board games without needing large budgets or complex tools. This empowers educators to become learning designers who can adapt to the diverse needs of their students.

SDG 4: Quality Education

MSU Expands Co-Working Space and Happy Station to Promote Lifelong Learning and Student Well-being

Division of Student Affairs

On November 15, 2024, Mahasarakham University (MSU) officially opened the newly renovated Co-Working Space and Happy Station on the 1st and 3rd floors of the Student Development Building. This initiative aims to foster continuous learning and mental health support for students, in line with the university's commitment to enhancing the quality of student life in all aspects.

Asst.Prof.Monrodee Chaowarat, Ph.D., Vice President for University Council Affairs, emphasized that the establishment of these spaces aligns with MSU's goal of becoming a leading university in Asia. A key focus is developing students holistically, enhancing both hard skills and soft skills to prepare them for lifelong learning and sustainable growth. The Student Affairs Division has worked to ensure that these new spaces meet the needs of students for both academic and personal development.

MSU continues to demonstrate its commitment to SDG 4: Quality Education by offering students modern facilities for learning, collaboration, and personal growth.

- **Co-Working Space for Collaborative Learning –** Designed to encourage teamwork, knowledge exchange, and creativity, the space provides modern facilities where students can meet for group projects, study, and relax in a stress-free environment. This helps develop crucial skills for future careers and lifelong learning.

- **Happy Station for Mental Health Support –** The Happy Station serves as a mental health hub, offering counseling services and activities that promote emotional well-being. Students can access professional support from psychologists and participate in relaxation workshops to reduce stress and enhance mental health.

- **Encouraging Community Engagement –** Both spaces aim to create a collaborative learning atmosphere where students and staff can connect and support one another. The Co-Working Space also fosters innovation and networking, allowing students to exchange ideas and create new solutions.

SDG 4: Quality Education

MSU Awards Student Welfare Scholarships – Honoring Athletes Who Bring Prestige to the University – Supporting Education and Sports for Sustainability

Division of Student Affairs

On February 25, 2025, Mahasarakham University (MSU) held a scholarship awarding ceremony from the Student Welfare Fund for students who brought recognition to the university through their achievements in national sports competitions. The ceremony was led by Assoc. Prof. Prayook Srivilai, President of MSU, during the MSU Executive Committee meeting No. 4/2025.
The scholarships were awarded to students who participated and won medals at the 50th University Games "THAMMASAT GAMES 2025" and the 49th National Games "Chan Games", which are key platforms for students to develop their athletic skills alongside their academic pursuits.

This scholarship initiative reflects Sustainable Development Goal (SDG) 4: Quality Education, which focuses on promoting inclusive and equitable education and lifelong learning opportunities.

SDG 4: Quality Education – Promoting Educational Opportunities and Student Potential through Sports

This scholarship initiative reflects Sustainable Development Goal (SDG) 4: Quality Education, which focuses on promoting inclusive and equitable education and lifelong learning opportunities. MSU's support for students excelling in sports showcases its commitment to enhancing student potential both academically and athletically.

✓ Supporting Learning through Sports Activities – Mahasarakham University encourages students to engage in national sports competitions, fostering leadership, teamwork, and resilience, all of which are essential to personal development and academic success.
✓ Promoting Equal Educational Opportunities – The Student Welfare Fund plays a key role in supporting the financial needs of student-athletes, reducing educational disparities, and enabling them to fully pursue their academic goals.
✓ Inspiring Role Models and Motivation – Students who win national sports awards serve as role models of dedication and perseverance, inspiring future generations of students to develop both academically and athletically.

SDG 5: Gender Equality

MSU Drives SDG 5 Through First-Ever "MSU Champion Cup," Creating a Platform for Gender Equality in Sports

Division of Student Affairs

Mahasarakham University (MSU) has set a new milestone on campus with the inaugural "MSU Champion Cup" Volleyball Tournament, held from 5–13 September 2024 at the Sports and Recreation Center. The competition brought together 13 teams under the theme "Sports for All," opening the court to all students regardless of gender.

In the end, the Faculty of Education team emerged as champions, while the Most Valuable Player (MVP) award went to a male student from the same team. However, beyond the scores and awards, the most meaningful achievement was the shared learning experience of mutual respect—both on and off the court.

The success of the event was driven by MSU's inclusive policies, which prioritize diversity and equal participation. These measures included establishing fair competition rules, training staff and referees to be aware of gender bias, and creating accessible channels for consultation or complaints in case of gender-based discrimination during the games. This commitment transformed the tournament into a safe space where students of all genders felt confident expressing themselves through the sport they love.

The "MSU Champion Cup" stands as more than just a sports competition; it is a significant measure in MSU's ongoing efforts to advance SDG 5 in the daily lives of students and staff. By fostering a culture that values differences, respects diversity, and actively promotes inclusion, MSU is moving toward becoming a "Model University for Equality and Sustainability."

This initiative reflects the university's strong commitment to promoting gender equality, a core goal of SDG 5 Gender Equality.

SDG 5: Gender Equality

MSU Launches "MSU Happy" Project to Promote Mental Well-Being, Equality, and Empowerment among Students

Division of Student Affairs

On July 24, 2024, Mahasarakham University (MSU), through its Division of Student Affairs, organized the "MSU Happy" Project 2024 at the green activity lawn beside the Sports and Recreation Center. The event was presided over by Asst. Prof. Dr. Monrudee Chaowarat, Vice President for Student Development and Council Affairs, along with Asst. Prof. Angkana Promraksa, Assistant to the President for Student Development, and Dr. Anongpanuch Panathangthirawit, Director of the Division of Student Affairs.

They visited seven creative learning bases, including:

- Psychology Student Booth – providing mental health advice and consultations;
- Student Council & Organizations – fostering leadership and gender equality;
- MSU Together – building teamwork and social connection;
- Sharing Table – promoting empathy and gender understanding through dialogue;
- New MSU Clinic – offering guidance for freshmen on adjustment and well-being;
- Social Medicine Unit, Suddhavej Hospital – offering basic mental and physical health screening.

This initiative supports SDG 5: Gender Equality by creating inclusive spaces where students of all genders can equally participate, express themselves, and access mental health services without discrimination.

The event also featured a relaxing folk music performance by MSU students, creating a friendly and inclusive atmosphere.

The MSU Happy Project aims to cultivate self-confidence, mutual respect, and gender inclusivity among students, while promoting essential life skills and emotional well-being.

It ensures equal access to mental health services and safe spaces for all genders and backgrounds, aligning with SDG 5: Gender Equality, which emphasizes empowerment and equality for all.

The program received strong participation from students and will continue on August 14, 2024, reaffirming MSU's commitment to building a happy, inclusive, and supportive learning environment for everyone.

MSU Suddhavej Hospital Promotes Cervical Cancer Prevention with HPV Vaccination Program

Faculty of Medicine

Mahasarakham University (MSU), through Suddhavej Hospital and its Social Medicine Unit, continues to play a proactive role in promoting preventive healthcare and gender equality by launching the HPV Vaccination Program for young female students. On January 17, 2025, the unit administered 9-valent Human Papillomavirus (HPV) vaccines to 47 Grade 5 female students at the Demonstration School of Mahasarakham University (Primary Section). The activity was designed to build early immunity and protect girls from cervical cancer — one of the most common cancers affecting women globally. By introducing this vaccination at the primary school level, MSU contributes to long-term disease prevention and the promotion of good health among future generations.

This initiative is in strong alignment with the Ministry of Public Health's national policy on disease prevention and early immunization. HPV vaccination is internationally recognized as a vital tool in the prevention of cervical cancer, particularly effective when given before exposure to the virus.

Administering the vaccine at a young age allows the body's immune system to develop robust and long-lasting protection, helping to reduce both health risks and future medical burdens. Beyond its medical benefits, this program also plays an important social role by ensuring that all young girls, regardless of background, can access essential healthcare services equally and safely.

Overall, this activity represents a significant milestone in preventive medicine and public health education in the region. It highlights Mahasarakham University's dedication to promoting a healthy, equitable, and sustainable society, where young people—especially girls—are empowered through accessible healthcare, scientific innovation, and community partnerships that protect and enhance quality of life for future generations.

Furthermore, the HPV vaccination program at MSU supports multiple Sustainable Development Goals (SDGs). It advances SDG 3 (Good Health and Well-being) by promoting preventive health and reducing disease incidence. It contributes to SDG 5 (Gender Equality) by ensuring equal access to healthcare and empowering girls to take control of their health from an early age.

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SDG 6: Clean Water and Sanitation

MSU Enhances Community Water Management Capacity to Support SDG 6 – Clean Water and Sanitation

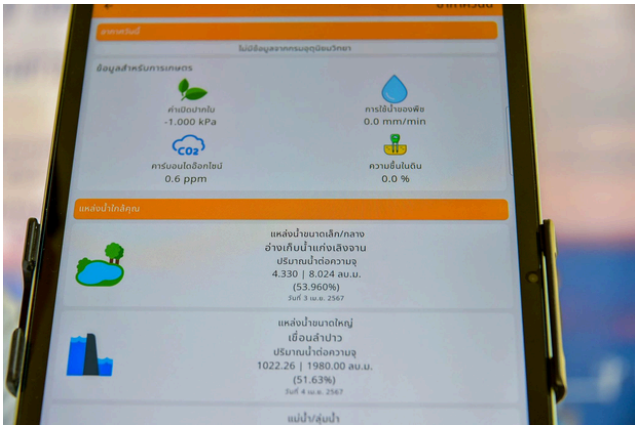
Mahasarakham University (MSU), in collaboration with the Office of the National Water Resources (ONWR) and the National Nanotechnology Center (NANOTEC), NSTDA, organized the 2nd Workshop on "Water Management and Water Quality for Community Consumption" under the project Capacity Building for Basin-level Water Resource Management in Accordance with the Water Resources Act B.E. 2561 (2018), fiscal year 2024.

This initiative reflects MSU's commitment to advancing Sustainable Development Goal 6 (SDG 6): Clean Water and Sanitation, by integrating academic knowledge, science, and innovation to strengthen community capacity in managing safe and sustainable water resources.

The workshop was held during 4–5 April 2024 at the Faculty of Science, Mahasarakham University. Mr. Kanok Sriwichainant, Deputy Governor of Maha Sarakham Province, presided over the opening ceremony, while Professor Dr. Anongrit Kaengrang, Vice President for Infrastructure Development, Research and Innovation, delivered the welcome remarks.

The training focused on enhancing the efficiency of local water supply systems, developing water filtration materials from locally available resources, planning and integrating water management projects, and exchanging knowledge and experiences to promote sustainable water resource governance.

More than 150 participants from 70 local administrative organizations across Maha Sarakham Province attended the workshop, including officers responsible for community water systems, project planners, and local leaders overseeing village water supply operations.



SDG 6: Clean Water and Sanitation

IoT Innovation Enhances Organic Herbal Farm Water Management in Line with SDG 6

Assoc. Prof. Kiattisin Kanjanawanishkul

In response to the growing demand for organic agriculture, Mahasarakham University, led by Assoc. Prof. Kiattisin Kanjanawanishkul, has launched the "Technology Transfer for IoT-Based Water Management in Organic Herbal Farms" project. The initiative addresses SDG 6: Clean Water and Sanitation by integrating modern IoT solutions with local wisdom.

The project originated from the real challenges faced by the Mee Boon Community Enterprise in Yang Talat District, Kalasin Province, where members had to travel over 5 km daily to manually open and close water systems. This process consumed significant time and labor while requiring strict scheduling to avoid overlap in irrigation. Some herbs also needed precise temperature and humidity levels to ensure optimal growth.

This project aligns with SDG 6: Clean Water and Sanitation by promoting efficient, technology-driven water management systems that ensure sustainable use of water resources in organic farming.

Through the project, the community learned to:

- Set irrigation schedules tailored to the needs of each plant species.
- Operate or adjust the system remotely via mobile phone.
- Monitor weather data such as temperature and humidity, with automated alerts and misting to reduce heat.
- Integrate the system with existing solar and groundwater pump setups to reduce energy costs and environmental impact.

The shift from manual labor to automated, precise water management improved crop quality and yield while giving community members more time for other economic or personal activities. The project also provided hands-on IoT training, enabling locals to understand system components, apply solar power, and adapt the model for future needs.

Despite initial challenges, such as insufficient sunlight for solar power, the system's manual override and mobile notifications ensured uninterrupted irrigation. This sustainable approach offers a replicable model for other communities, reinforcing the importance of efficient water resource management aligned with SDG 6.

SDG 6: Clean Water and Sanitation

Faculty of Veterinary Medicine, MSU Provides Rabies Vaccination Services to Promote Community Health

Division of Building and Ground

On July 3, 2024, the Wastewater Management Unit of Mahasarakham University carried out maintenance work to replace the drainage pipes of the outdoor restrooms near the Physical Education Building at the Kham Riang Campus. This area is frequently used by students, staff, and the public, especially during university sports and recreational activities.

A prior inspection revealed that the old drainage pipes had become clogged and deteriorated over time, causing wastewater to drain slowly and overflow onto restroom floors and surrounding areas. This not only created unpleasant odors but also posed hygiene concerns for users. To address the issue, the Wastewater Management Unit promptly implemented a repair plan, which included removing the damaged pipes, inspecting the entire drainage system, and installing new pipes of appropriate size. The pipe layout was also adjusted to improve the slope and ensure efficient wastewater flow.

Additionally, the team inspected nearby inspection chambers and wastewater treatment systems to ensure that all discharged water would flow correctly into the treatment system according to environmental standards. New inspection points were also installed to facilitate future maintenance and prevent recurring blockages, extending the system's lifespan and improving its overall efficiency.

This activity aligns with SDG 6: Clean Water and Sanitation by promoting proper wastewater management and ensuring that drainage systems operate efficiently and hygienically. It helps prevent contamination and protects both the environment and public health within the university community.

This operation not only resolved immediate wastewater issues but also contributed to the university's long-term sustainability efforts under SDG 6: Clean Water and Sanitation, which emphasizes equitable access to clean water and safe sanitation. The project reflects Mahasarakham University's commitment to environmental stewardship and the well-being of its community—creating a cleaner, safer, and more sustainable environment for learning, working, and living.

SDG 7: Affordable and Clean Energy

Svarna Pravah: Thai Students' Clean Energy Innovation Driving the Future of Sustainable Transportation in Line with SDG 7

Faculty of Engineering

Amid the global movement toward environmental responsibility and clean energy, Team X-Thailand from the Faculty of Engineering, Mahasarakham University proudly represented Thailand on the international stage at the Creation New Mobility 2030 Competition in Tokyo, Japan. Their project, Svarna Pravah, envisions a model city powered by clean energy—perfectly aligned with SDG 7: Affordable and Clean Energy, which promotes access to sustainable and modern energy for all.

Svarna Pravah exemplifies the innovation and ingenuity of Thai students, positioning clean energy as the core driver of urban and transportation development. It embodies the spirit of SDG 7, reflecting the power of youth to lead meaningful change toward a cleaner, smarter, and more sustainable future for all.

Svarna Pravah: A Model City for Clean Energy Living

The name "Svarna Pravah" derives from Sanskrit, meaning "Golden Flow." It symbolizes the flow of something precious—clean energy, prosperity, and cultural exchange. The project envisions a smart eco-city centered around Eco River Trips and Eco Mobility, powered primarily by renewable energy sources. This approach not only reduces greenhouse gas emissions but also embodies the principles of sustainable urban development.

Clean Energy for the Future of Water Transportation

Team X-Thailand identified the potential of transforming transportation along the Mekong River through the use of electric boats, e-bicycles, and clean mobility technologies. Their vision aims to create eco-friendly travel and tourism systems that reduce fossil fuel dependence, minimize pollution, and protect the environment. The Mekong River—an invaluable cultural heritage and a vital route connecting six countries—was chosen as the pilot site for the project. It serves as the foundation for developing clean-energy infrastructure that links regional economies, tourism, and cultural exchange.

Challenges and Collaboration

Over the course of six months, Team X-Thailand collaborated closely with two teams from India to design and develop electric boats and bicycles, along with comprehensive business models and service frameworks based on clean energy. Their creativity and technical expertise earned them a place among the top six teams, receiving a Special Award from the Ministry of Tourism, Japan, out of 39 international teams.

SDG 7: Affordable and Clean Energy

MSU Signs MOU on High-Speed Rail Engineering to Advance Sustainable Energy in Line with SDG 7

Faculty of Engineering

On March 18, 2024, the Faculty of Engineering, Mahasarakham University (MSU), hosted a signing ceremony for an academic Memorandum of Understanding (MOU) on High-Speed Rail Engineering between Mahasarakham University, Cho Thavee Public Company Limited, Rajamangala University of Technology Isan (RMUTI), and Wapipathum Technical College. This collaboration aims to enhance education, research, and innovation in railway system development, particularly in high-speed rail technology, which contributes to clean energy use and carbon emission reduction.

The ceremony, held at the Faculty of Engineering, was presided over by Assoc. Prof. Dr. Prayook Srivilai, Acting President of MSU, along with Dr. Suradech Taweesaengsakulthai, CEO of Cho Thavee Public Company Limited; Assoc. Prof. Dr. Khosit Sriphuthorn, President of RMUTI; and Dr. Suphee Wiangchaiphum, Director of Wapipathum Technical College. Assoc. Prof. Dr. Chakkamas Laohavanich, Dean of the Faculty of Engineering, also attended as a witness.

The partnership focuses on knowledge exchange, research collaboration, and human resource development in the field of rail engineering, emphasizing energy-efficient and environmentally friendly technologies. It includes joint education programs, student and faculty exchanges, academic visits, and research projects in civil, mechanical, electrical, and railway engineering, contributing to a more sustainable transportation infrastructure.

This MOU supports SDG 7: Affordable and Clean Energy by promoting the development of high-speed rail systems that rely on energy-efficient and low-emission technologies.

The collaboration encourages research and innovation in sustainable transportation, reducing dependence on fossil fuels, and lowering environmental impact.

By advancing clean energy applications in rail infrastructure, the project contributes to long-term sustainable energy use and greener mobility solutions.

This initiative aligns with SDG 7: Affordable and Clean Energy, as high-speed rail technology promotes cleaner transportation, reduces fossil fuel dependency, and supports the transition toward efficient and sustainable energy systems—paving the way for a greener and more resilient future.

SDG 7: Affordable and Clean Energy

Iores Collaboration with EGAT and Chinese Partners to Advance Clean Energy Solar Car Project

MSU Graduate School

On November 7, 2024, Assoc. Prof. Dr. Chonlatee Photong, Deputy Dean of the Graduate School (Administration) at Mahasarakham University (MSU), along with faculty members from the Faculty of Technology, held a high-level meeting on academic collaboration and joint research with the Electricity Generating Authority of Thailand (EGAT), Baoding Jakai Power Equipment Co., Ltd., and the Lanzhi Education Foundation at EGAT headquarters. The discussions centered on strengthening partnerships to foster innovation in renewable energy technologies and sustainable transportation solutions.

The initiative is closely aligned with SDG 7: Affordable and Clean Energy, as it promotes the adoption of renewable solar energy, reduces dependency on fossil fuels, and encourages sustainable engineering practices.

In addition to practical training, the collaboration promotes research, innovation, and knowledge exchange among universities, industry partners, and international organizations. MSU students and faculty will gain opportunities to experiment with solar energy applications, energy-efficient systems, and sustainable vehicle engineering. This partnership also aims to create prototypes and models that could be scaled or adapted for commercial use, further contributing to the advancement of renewable energy technologies in Thailand.

The meeting primarily focused on the development of clean energy initiatives, with a special emphasis on a commercial solar-powered car project. The collaborative effort is designed to prepare MSU teams to participate in the World Solar Car Challenge in Australia, where over 25 university teams from around the world will compete. The project encourages students to engage in hands-on learning, from designing and building solar-powered vehicles to testing their performance under real-world conditions.

SDG 8: Decent Work and Economic Growth

MSU Hosts "Hackathon: Isan Culture Re-creation" — Empowering Creative Youth for Sustainable Cultural Economy under SDG 8

Faculty of architecture, Urban Design, and Creative Arts

Mahasarakham University (MSU), through the Faculty of Architecture, Urban Design and Creative Arts, organized the "Hackathon: Isan Culture Re-creation" under the Research Project on the Development of a Digital Cultural Platform, funded by the Program Management Unit for Area-Based Development (PMU-A) and the Science, Research and Innovation Promotion Fund (TSRI). The event took place during 3–4 February 2024 at the Faculty of Architecture, Urban Design and Creative Arts, MSU.

This aimed to provide a platform for young innovators from various institutions to showcase their creativity and transform Isan cultural capital into new products, services, or media that can contribute to the creative economy and sustainable livelihoods — in line with SDG 8

The opening ceremony was presided over by Asst. Prof. Jarunee Nimittsiriwat, Dean of the Faculty, while Asst. Prof. Dr. Pondej Chaowarat, Vice President for Public Relations and Global Engagement and Project Leader, delivered the welcome remarks and introduced 15 expert mentors.

Participants attended a series of inspiring lectures on topics such as Story Doing, Viability, Desirability, Feasibility, and Pitching Techniques, followed by brainstorming and creative sessions where they developed innovative ideas integrating Isan cultural heritage with modern design and technology.

Out of 89 teams that applied, 30 teams were selected for the Boot Camp stage. The winning teams were:

🏆 First Prize: Team Sadzone — E-san Specter (Mahasarakham University)

🥈 1st Runner-up: Team Nokbin — Wat Nokok (Rajamangala University of Technology Isan)

🥉 2nd Runner-up: Team Gaming Role — E-san Traveler (Mahasarakham University)

🏅 Best Pitching: Team Cuedtatie Dyc — Khao Questa Mud-dyed Fabric (Nakhon Ratchasima Rajabhat University)

💡 Best Marketing: Team Noah Fish — NOAH FISH Cracker: Jasmine Brown Rice Protein Cracker with Pla-ra Peptide Extract (Mahasarakham University)

💬 Popular Vote: Team Pooti Thaiban — Regional Dialect Translation App (4 Regions) (Ratchawinit Bangkaew School)

Through this initiative, MSU fosters creativity and innovation among young people, promotes local wisdom, and strengthens the creative cultural economy of the Isan region, demonstrating its ongoing commitment to sustainable development through education, innovation, and cultural revitalization.

SDG 8: Decent Work and Economic Growth

MSU Researchers Advance Bungkan Province Economy and Quality of Life through Tourism-Linkage Project (Aligned with SDG 8)

On June 25, 2024, a research team from Mahasarakham University, in collaboration with the Area-Based Development Fund Management Unit (ABDFMU), visited Bungkan Province to implement a project aimed at enhancing the local economy and quality of life through goods, services, and cross-border tourism networks in the Mekong subregion: Bueng-Nakhon-Mukda-Savannakhet corridor. The event was officiated by Mr. Jumpot Wannachatsiri, Governor of Bungkan Province.

This project aligns with SDG 8: Decent Work and Economic Growth by promoting sustainable tourism, generating local employment, and supporting community-based businesses. It enhances economic resilience through innovation and collaboration. The initiative empowers local communities to achieve inclusive and sustainable economic development.

Following the discussion, Assoc. Prof. Dr. Rattanachot Thienmongkol, Director of the Academic Service Center, presented the model of an "International Tourism Trade Platform for Thailand" to drive sustainable economic growth, create valuable jobs, and strengthen local businesses while connecting communities with international tourism opportunities in line with SDG 8.

This initiative demonstrates Mahasarakham University's commitment to leveraging research and innovation to support local economic development, promote sustainable livelihoods, create meaningful employment, and connect creative tourism initiatives with broader regional economic benefits.

SDG 8: Decent Work and Economic Growth

Integrated Academic Service Project for Innovation and Model Community Development "Transferring Knowledge on Quality Yam Bean Seed Production"

Asst. Prof. Muntana Nakornriab,Ph.D, Faculty of Technology

The Department of Agriculture, Faculty of Technology, Mahasarakham University, brought knowledge to the local community through a training event on "How to Produce Quality Yam Bean Seeds." The event took place on October 30, 2024, at the university farm in Na Si Nuan Sub district, Kantharawichai District, Mahasarakham Province.

This activity was part of a community outreach project aimed at creating innovation and model farming communities. The main goal was to improve the quality of yam bean seed production, create sample farming areas, and help add value through product development.

The training was led by Asst. Prof. Muntana Nakornriab,Ph.D , along with university teachers, students, and local people. A special guest from a yam bean and radish growers' community enterprise in Bo ra bue District shared real-life experiences. They showed how to prepare the soil, plant, take care of the crops, and harvest yam beans properly to get high-quality seeds. The training also helped build a local network for producing and selling seeds.

After the workshop, students from the Department of Chemistry (Faculty of Science), villagers from Na Si Nuan, and staff from the university farm planted yam beans in a demonstration plot. This allowed participants to apply what they learned and work together in real conditions, using the university farm as a learning model.

Later, a discussion forum was held where people shared their experiences and ideas for developing processed yam bean products. Speakers included university staff, local agricultural experts, and farmers. They talked about how to turn yam beans into valuable products and new innovations.

The project also encouraged research and product development, leading to creative new items such as yam bean rice crackers in flavors like green tea, Thai tea, and original, as well as yam bean scrub soap. These products are not only new and interesting in the market but also help increase the value of local crops in a sustainable way.

SDG 9: Industry, Innovation, and Infrastructure

SMART Caregiver: GIS-Based Innovation Transforming Community Health Infrastructure in Line with SDG 9

Assoc. Prof. Niruwan Turnbull,PhD, Faculty of Public Health

In an age where digital innovation drives sustainable development, the "SMART Caregiver" application—developed by a research team from the Faculty of Public Health, Mahasarakham University—is revolutionizing community health infrastructure in Mahasarakham Province. By applying Geographic Information System (GIS) technology and a digital health database, the project enhances care for the elderly and dependent populations in rural areas.

From Local Challenges to Digital Infrastructure Solutions

In Mahasarakham, nearly 19% of the population is elderly, a rate higher than the national average. Yet, the province faces a shortage of healthcare personnel and lacks an integrated system for monitoring elderly health data. To address this, the project developed a mobile application that records and analyzes health information, home locations, and caregiving data in one platform—designed for ease of use, even for caregivers with limited technological experience.

Through GIS technology, caregivers can plan home visits efficiently, reducing travel time and improving accuracy. Meanwhile, public health authorities can view real-time, location-based health data, providing a comprehensive overview of community health issues and establishing a digital health infrastructure for future scalability.

Innovation for Sustainable Community Development

More than just an app, SMART Caregiver is a community health innovation system that connects data among village health volunteers (VHV), home caregivers, sub-district health promoting hospitals (HPH), local governments, and public health agencies—a total of 36 organizations across 32 sub-districts, covering over 2,400 dependent individuals.

The system has been shown to reduce caregiver workload, increase data accuracy, and standardize health information across the province. Results from pilot use revealed "very high" user satisfaction, confirming that the system effectively reduces work time and improves data tracking and health service efficiency.

SMART Caregiver is not merely a data collection tool—it is a transformative innovation that harnesses technology to improve the quality of life for the elderly, enhance health information infrastructure, and build stronger, more sustainable communities, in true alignment with the goals of SDG 9.

SDG 9: Industry, Innovation, and Infrastructure

Assistant Robot Innovation Enhancing Safety and Efficiency at Nam Phong Power Plant in Line with SDG 9

Khanes Thung-ood,PhD, Faculty of Engineering

In an era where digital technology is transforming industrial operations, the integration of robotics and automation into high-risk and precision-demanding tasks has become essential for advancing industrial processes toward greater safety, efficiency, and sustainability. This aligns with SDG 9: Industry, Innovation, and Infrastructure, which promotes resilient infrastructure, inclusive and sustainable industrialization, and innovation.

Innovation for Industrial Transformation

Operating continuously for over 30 years, the Nam Phong Power Plant relies on staff to manually inspect numerous points across a vast area — monitoring gauges, vibration levels, pipe or steam leaks, and recording data into the system.
This labor-intensive process not only consumes time and manpower but also exposes workers to risks such as heat, noise pollution, and difficult-to-access areas.

To address these challenges, a research team from Mahasarakham University, led by Dr. Khanes Thung-ood, from the Mechatronics Engineering Program, developed an assistant robot for power plant operators. The robot autonomously navigates designated routes, records and analyzes operational data, and immediately alerts operators if irregularities are detected — such as abnormal pressure, temperature, or steam and gas leaks.

This project exemplifies how innovation can strengthen Thailand's industrial sector—making it more advanced, safer, and less dependent on human exposure to hazardous environments. It fully embodies the vision of SDG 9, which emphasizes sustainable industrialization and resilient infrastructure powered by technology and innovation.

Key Features and Outcomes

- Fully designed and built by the university team — encompassing mechanical design, electrical systems, and control software.
- Capable of autonomous inspection on scheduled routes, reducing repetitive manual tasks.
- Enhances workplace safety, minimizes accident risks, and ensures accurate and continuous data collection.
- Early testing results indicate significant potential for reducing operator workload, shortening downtime, and improving plant efficiency overall.

SDG 9: Industry, Innovation, and Infrastructure

MSU Leaders Follows Up on Infrastructure Upgrades to Promote Well-being and Sustainability

On May 2, 2025, Assoc. Prof. Prayook Srivilai,PhD, President of Mahasarakham University, visited several key construction and improvement projects on campus to monitor progress. The visit aimed to ensure that infrastructure development aligns with the university's commitment to enhancing quality of life for students and staff and supporting sustainable growth in the long term.

This initiative supports SDG 9: Industry, Innovation, and Infrastructure by enhancing sustainable infrastructure that fosters innovation, accessibility, and resilience. It promotes modern, inclusive facilities that improve quality of life and environmental sustainability. The development reflects MSU's dedication to building a smarter and more sustainable campus.

The President inspected the following major projects:

- Inpatient Building at Suddhavej Hospital, Faculty of Medicine – to expand medical services and serve as a clinical training center for medical students
- Landscape improvement around the Academic Resources Center (Building A) – to promote a more supportive learning environment
- Construction of a modern, environmentally friendly canteen – designed with sustainability in mind, addressing energy use, water conservation, waste management, and eco-friendly building materials, contributing to the university's green campus goals
- Upgrading pedestrian walkways in front of the Rajanagarindra Building – to enhance safety and promote walkability
- Construction of an external elevator for the Rajanagarindra Building – to improve accessibility for all building users

Mahasarakham University is committed to expediting project completion within the set timeline to ensure maximum benefit for students, staff, and the surrounding community.

SDG 10: Reduced Inequalities

MSU Hosts "MSU INDIE Camp 2024" Empowering Youth towards Equality and Sustainable Coexistence (SDG 10)

Office of General Education

On February 19, 2024, the Language Center, Office of General Education, Mahasarakham University (MSU), organized the MSU International Youth Camp "MSU INDIE Camp 2024", held from February 18–28, 2024, at Mahasarakham University and Phuket Province. The program aims to create a learning space where young people from various countries can exchange knowledge, embrace cultural diversity, and foster equality and peaceful coexistence in line with Sustainable Development Goal 10: Reduced Inequalities.

Her goal is to elevate board games from recreational tools into innovative learning media that align with SDG 4: Quality Education, which emphasizes inclusive, equitable, and quality learning opportunities for all.

The opening ceremony was presided over by Assoc. Prof. Prayook Srivilai,PhD, President of Mahasarakham University, together with Ms. Sarintree Udchachon,PhD Assistant to the President for Public Relations and Global Image, and Asst. Prof. Dr. Anyarat Natteerapong, Deputy Director for Internationalization and Institutional Image Development, General Education Office, and founder of MSU Homeroom. Participants included youth and students from 13 countries: Bangladesh, Cambodia, China, England, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, the Philippines, Uganda, Vietnam, and Thailand.

Throughout the camp, participants engaged in a variety of creative and intercultural activities such as language and culture workshops, art performances, sports competitions, and team-based learning sessions that promoted communication, empathy, and collaboration across cultures.

The MSU INDIE Camp 2024 serves as a platform for promoting international friendship, reducing inequalities, and empowering youth to become global citizens who understand, respect, and celebrate diversity — a vital step toward building a more inclusive and sustainable world.

SDG 10: Reduced Inequalities

MSU Advances Educational Opportunities, Bridging Inequality on the Global Stage

Office of General Education

On May 28, 2025, Mahasarakham University, led by Associate Professor Dr. Prayook Srivilai, President of the University, along with executives from the Office of General Education, visited the Singapore University of Social Sciences (SUSS) to exchange knowledge and expand academic collaboration with a leading international institution.

This collaboration reflects MSU's strong commitment to reducing educational inequality by developing curricula and initiatives that ensure inclusive access to quality education. These efforts include promoting social equity, environmental conservation, and community-focused innovation under the concept of "Unleashing Potential for Good," which emphasizes sustainable education and lifelong learning.

This step forward in international cooperation not only marks a significant milestone for Mahasarakham University but also represents meaningful progress toward achieving SDG 10: Reduced Inequalities, fostering a society where everyone could grow and thrive equally.

Beyond providing opportunities for local students, international academic partnerships also help bridge the gap between regional institutions and global knowledge hubs, enabling students to gain equal access to resources, knowledge, and international experiences.

SDG 10: Reduced Inequalities

MSU Opens "Suddhavej Children's Garden" — Model Early Learning Center for Holistic Child Development

Faculty of Medicine

On May 30, 2025, the Faculty of Medicine, Mahasarakham University, held an opening ceremony for the "Seedling Building, Suddhavej Children's Garden" at Suddhavej Hospital. The event was presided over by Professor Anongrit Khangrang,PhD, Vice President for Policy and Planning.

This project aligns with SDG 10: Reduced Inequalities by providing accessible, high-quality early childhood education and care for all children, regardless of background. It promotes equal opportunities for development through inclusive learning approaches. The initiative helps bridge social gaps and supports a more equitable start in life.

The "Suddhavej Children's Garden" was established as an early childhood development center and learning center for children aged 3 months to 3 years. It focuses on combining care with quality learning to equip children with essential skills for life in the 21st century.

The project began in 2019 and has received continuous support for seven years from Krungthai Electric Co., Ltd. This year, the center expanded its capacity through the construction of the "Seedling Building," increasing its ability to serve from 50 to 100 children, divided into three age groups:

- Sprout Room (3 months – 1 year)
- Sapling Room (1 – 2 years)
- Young Tree Room (2 – 3 years)

The center's learning approach incorporates internationally recognized methods such as Montessori, Brain-Based Learning (BBL), Executive Functions (EF), as well as local wisdom. It also promotes breastfeeding, proper nutrition, and creative play, all delivered with attentive care in collaboration with families and the community.

Krungthai Electric Co., Ltd. has supported the construction of the Seedling Building and fully equipped it with modern learning materials, with an investment exceeding 20 million baht, driven by the belief that early childhood development is the fundamental cornerstone of the nation's future.

After the opening ceremony, honored guests toured the center's various activities, especially the "Care and Learn Together" program, which integrates health, nutrition, and safety.

The "Suddhavej Children's Garden" is therefore more than an ordinary childcare center, it is a model for quality early childhood development, with the vision to expand its impact nationally in the future.

SDG 11: Sustainable Cities and Communities

MSU Launches "Happy Maha Sarakham" Tourism Route to Promote Sustainable Communities (SDG 11)

The Research Institute of Northeastern Arts and Culture

Mahasarakham University (MSU), in collaboration with the Maha Sarakham Chamber of Commerce Youth Entrepreneur Council (YEC) and the Maha Sarakham Tourism Business Association, organized a trial tourism route "Happy Maha Sarakham – BCG Happy Model Tourism" in Kosum Phisai District on 4 March 2024. The event was attended by Ms. Pranee Wongbutr, Deputy Governor of Maha Sarakham, Ajarn Tom Ketwongsa, Director of The Research Institute of Northeastern Arts and Culture, and Asst. Prof. Dr. Chupak Sutthisa, Project Head, alongside government agencies, tour operators, and media representatives.

The route begins with Phra Buddha Kantharawichai at MSU, followed by Phra Ming Muang in Kosum Phisai, feeding the golden-shanked macaques, and admiring the scenic Kaeng Tat rock formations.

Visitors experience health and cultural tourism at Saendee New Theory Farm, including herbal welcome drinks, traditional Isan dance, herbal foot baths, shoulder massages with local herbal compresses, and tasting organic local foods such as Khao Poon, puffed rice, and Dong Daeng noodles.

The tour also includes Sudu Isan Memorial, local fishing practices at Bung Kui, and Wat Phutthawanaram (Wat Pa Wang Nam Yen), featuring the largest Takian-wood ordination hall in the world, the "Three Seasons Castle," and Srimahasarakham Chedi.

The "Happy Maha Sarakham" tourism route integrates five key concepts:

1. BCG Economic Model supporting community businesses and creative economy
2. Happy Model promoting wellness, nutrition, exercise, and sharing
3. Community-Based Tourism (CBT Thailand Standard)
4. Carbon Neutral Tourism
5. Enhancing quality of products and services, including accommodation, dining, and local crafts

This initiative helps develop sustainable, inclusive, and livable communities, preserves natural and cultural resources, and elevates Maha Sarakham as a sustainable destination for health and cultural tourism, aligned with SDG 11: Sustainable Cities and Communities.

SDG 11: Sustainable Cities and Communities

"Social Capital Mapping": A Community-Based Flood Management Innovation for Sustainable Cities in Line with SDG 11

Faculty of Environment and Resource Studies

On June 13, 2025, the Faculty of Environment and Resource Studies, Mahasarakham University, through the Climate Change Mitigation and Adaptation Research Unit (CMARE), received the Best Award for its collaborative research with Naresuan University at the 3rd Thai Network for Disaster Resilience (TNDR) International and National Conference. The event, held at Chulalongkorn University, Bangkok, centered on the theme "The Future of Resilience: Transforming Disaster Management through Technology and Collaborative Networks."

The initiative aligns directly with SDG 11, which calls for making cities inclusive, safe, resilient, and sustainable. It promotes urban disaster resilience in accordance with the Making Cities Resilient 2030 (MCR2030) framework by the United Nations Office for Disaster Risk Reduction (UNDRR).

The award-winning research, titled "Mapping Community Flood Risk Management through Spatial Analysis and Local Knowledge: A Case Study of Maha Sarakham Municipality," integrates spatial analysis (GIS) with local wisdom to create a "Social Capital Map"—a community-level innovation for flood risk management. The pilot was implemented in Maha Sarakham Municipality under the Healthy City for Sustainable Well-being Project, supported by the Thai Health Promotion Foundation (ThaiHealth).

From Local Knowledge to Spatial Innovation

The project's strength lies in its collaborative, participatory approach, bringing together researchers from Mahasarakham University and Naresuan University, municipal officials, and local residents. By merging scientific knowledge with community-based data and lived experiences, the project ensures that risk management strategies are contextually appropriate, locally driven, and responsive to community needs.

Public Engagement and Knowledge Dissemination

The project gained further public attention through media coverage, notably in the television program "Transforming Thailand", episode "Social Capital Mapping: Community-Based Disaster Innovation," broadcast on NBT11 Isan TV on December 12, 2024. This helped amplify the project's impact, inspiring other communities to develop their own sustainable disaster management systems.

SDG 11: Sustainable Cities and Communities

Global Leadership Forum on Disaster Resilience: Advancing Resilient Cities for Sustainable Development

Thayukorn Prabamroong,PhD Faculty of Environment and Resource Studies

Mahasarakham University took a proactive role internationally by participating in the International Disaster Resilience Leaders Forum Incheon 2024, held from October 28–30, 2024, at Songdo Convensia Center, Incheon, Republic of Korea. The forum aimed to promote collaboration in disaster risk reduction and the development of resilient cities capable of withstanding various changes.

Participation in this forum is part of Mahasarakham University's commitment to advancing its mission in research and academic services, responding to the (SDGs)—particularly: Goal 11: Sustainable Cities and Communities

On this occasion, Dr. Thayukorn Prabamroong, Director of the Research Unit on Climate Change, Mitigation, and Adaptation (CMARE), Faculty of Environment and Resource Studies, together with researchers from the Thai Network for Disaster Resilience (TNDR) at Mahasarakham University, presented under the topic: "Mahasarakham University (MSU)'s efforts to support local governments' capacity building in Thailand as part of MCR2030" in Session 4: Promoting Disaster Risk Reduction Policy Research.

This presentation reflected the university's role in supporting local capacity building by integrating academic knowledge to drive the Making Cities Resilient 2030 (MCR2030) initiative.

Additionally, Associate Professor Piyapat Bussababodin,Ph.D, Director of the Center of Excellence in Digital Innovation for Integrated Watershed Disaster Management, Faculty of Science, Mahasarakham University, participated in the workshop titled:
"Tools for Disaster Risk Reduction and Local Resilience", to exchange knowledge and new technologies that can be applied to develop tools for effective disaster risk analysis and management at the local level.

The forum was organized in collaboration with Incheon Metropolitan City, Incheon Institute, and the UNDRR Office for Northeast Asia and Global Education and Training Institute, with support from the Ministry of Interior and Safety and the Trilateral Cooperation Secretariat. It served as a key platform for forging partnerships to develop sustainable disaster management systems in Northeast Asia and globally.

SDG 12: Responsible Consumption and Production

“Kham Riang Model Phase II”: A Prototype for Creating Value from Agricultural Waste Towards a Community-Based Circular Economy

Faculty of Environment and Resource Studies

On June 4, 2025, at the Ban Khiap Community Rice Center, Kham Riang Subdistrict, Kantharawichai District, Maha Sarakham Province, the Faculty of Environment and Resource Studies, Mahasarakham University, through the CMARE Research Unit, in collaboration with the Postharvest Technology Innovation Center, Khon Kaen University, Kham Riang Khiap Non Saebong Don Man School, and local community enterprises, organized a workshop titled “Kham Riang Model Phase II: Developing a Molding Machine and Empowering Youth and Communities Toward a Circular Economy.”

The workshop featured practical training sessions covering the entire production process—from product design and cost analysis to Social Return on Investment (SROI) assessment. More than 54 participants, including youth leaders from local schools and members of community enterprises, joined the program. Through these activities, participants learned to recognize the value of resources and the potential of agricultural waste as a tool for sustainable development.

The project aims to add value to agricultural waste by developing a prototype molding machine to produce eco-friendly containers and plant pots. This innovation not only helps reduce pollution and minimize waste but also promotes the efficient use of resources in line with SDG 12: Responsible Consumption and Production.

The project’s tangible outcome lies in the transformation of community perspectives—from viewing agricultural residues as “waste” to seeing them as “opportunities” for innovation, income generation, and environmental stewardship. This initiative also lays the groundwork for empowering youth as key drivers of local economic development and sustainable community growth, built upon environmental conservation and local wisdom.

SDG 12: Responsible Consumption and Production

Academic Service Project to Foster Innovation and Model Communities for Sustainable Development

Faculty of Technology and Faculty of Public Health

A research team from the Department of Agricultural Technology, Faculty of Technology, and the Faculty of Public Health, Mahasarakham University, visited Kud Rang Subdistrict, Kud Rang District, Maha Sarakham Province, to conduct a hands-on training workshop under the academic service project aimed at creating innovation and model communities for sustainable development. The workshop focused on transferring knowledge about "Cultivation and Development of Commercial-Quality and Environmentally Friendly Wolffia (Duckweed) Products" to a group of local farmers and village natural resource and environmental protection volunteers. The goal was to enhance their knowledge and skills to develop Wolffia cultivation into a sustainable organic agricultural career.

Decoding "Wolffia" – The Miracle Aquatic Plant and Health Food of the Future

"Wolffia," or Wolffia globosa, is a tiny aquatic plant rich in nutrients. It contains high levels of protein, vitamin C, fiber, and essential amino acids while being low in calories. As a result, it has gained attention as a future food and is a native species commonly found in natural water sources across Thailand. However, harvesting Wolffia from natural sources poses risks of contamination by chemicals and parasites, highlighting the need for promoting safe and standardized closed-system cultivation.

Mahasarakham University conducted hands-on training on sustainable Wolffia cultivation and processing, teaching farmers and volunteers to produce safe, high-quality, and environmentally friendly products.

Enhancing Knowledge in Health and Processing

To deepen understanding, the project also received collaboration from researchers from the Faculty of Public Health. Associate Professor Dr. Jindawan Wiboon-utai provided insights into evaluating contamination throughout the Wolffia production chain, while Dr. Saowaluk Sutticharoen shared techniques on how to develop processed Wolffia products to add value.

One innovative product that drew interest was homemade Wolffia ice cream, made by blending dried Wolffia with matcha green tea ice cream. The ingredients are mostly natural, including fresh milk, condensed milk, and whipping cream.

SDG 12: Responsible Consumption and Production

MSU Researchers Transfer Herbal Powder Production Technology to Elevate Product Standards and Strengthen Community Capacity

Assoc. Prof. Dr. Ratchaneewan Tangpakdee, the Faculty of Education

Mahasarakham University researchers have successfully transferred advanced herbal powder production technology to the Ban Na Kha large-scale herbal community enterprise in Wapi Pathum District, Maha Sarakham Province, aiming to enhance product quality, safety, and community economic capacity. Herbal plants have long been part of Thai traditional knowledge, offering medicinal benefits and potential as sustainable agricultural products. Recognizing this, the MSU research team, led by Asst. Prof. Dr. Chadaporn Senakun, Asst. Prof. Dr. Sombat Upamara, Assoc. Prof. Dr. Chakramas Laohavanich, and Assoc. Prof. Dr. Somsak Nuankaew, developed a 3-year project to improve cultivation, processing, and marketing.

In the first year (2024), the project focused on capacity building in cultivation and initial processing. Community members were trained in selecting appropriate plant varieties, proper cultivation, post-harvest handling, and processing techniques to meet GAP standards. Two herbal powder products, namely Phet Sangkat and Wan Nang Kham, were produced and processed under standardized methods.

Beyond production, the MSU team supported the community in product development and value addition, including eco-friendly packaging design, labeling that communicates product benefits and stories, and marketing strategies for target audiences.

To enhance production efficiency, the team introduced a Universal Crusher capable of grinding dry herbs to 20–100 mesh within 5 minutes per kilogram, a drastic improvement from the previous method that required over 2 hours per kilogram. The stainless-steel crusher is easy to assemble, clean, and operate, and can be powered by household electricity, making it suitable for community-based operations. Detailed guidance was provided on pre-processing steps, including cleaning, chopping, and drying herbs to reduce moisture content and prevent clumping during grinding.

This project demonstrates an integrated approach to responsible production and consumption, promoting standardized, high-quality herbal products, reducing post-harvest losses, minimizing waste, and enhancing the sustainable use of local resources. By combining science, technology, and innovation with traditional knowledge, MSU empowers communities to create sustainable livelihoods while maintaining environmental stewardship.

MSU Launches Greenhouse Gas Research and Operation Center Innovative Research for Climate Change Adaptation

Faculty of Science

Mahasarakham University (MSU), through its Faculty of Science, in collaboration with Wave BCG Co., Ltd., officially launched the Greenhouse Gas Research and Operation Center on January 18, 2024, at the Biological Science Building. The center aims to serve as a research hub and knowledge integration platform to strengthen climate resilience and support the achievement of Sustainable Development Goal 13 (SDG 13): Climate Action.

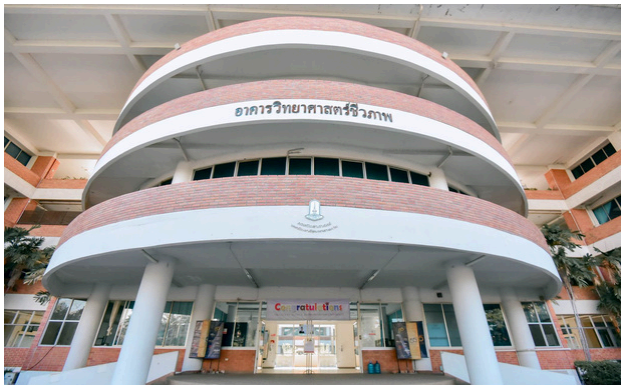
It reinforces the university's mission to reduce greenhouse gas emissions, enhance community resilience, and transform SDG 13: Climate Action into tangible, measurable outcomes.

Foundation and Past Achievements

MSU is among the first universities in Thailand to initiate carbon credit research, beginning in 2008 through partnerships with Michigan State University and leading academic institutions both domestically and internationally. Its pioneering research in tree biomass measurement led to Thailand's first commercial carbon credit trade, generating over 900,000 Baht in income for local communities. This success laid the foundation for an economic model linking environmental conservation with social development, demonstrating how academic research can directly benefit both people and the planet.

Regional Collaboration

The center also collaborates with partners in Lao PDR and Vietnam, including research institutes and forestry and agricultural agencies, to develop regional greenhouse gas management mechanisms within ASEAN. This regional cooperation highlights MSU's leadership role in advancing scientific knowledge and innovations that drive climate action and sustainability in Southeast Asia.



Towards a Sustainable Future

The establishment of the Greenhouse Gas Research and Operation Center marks a significant milestone in Mahasarakham University's commitment to applying science and innovation to address climate change. It reinforces the university's mission to reduce greenhouse gas emissions, enhance community resilience, and transform SDG 13: Climate Action into tangible, measurable outcomes.

Through continued collaboration, innovation, and community engagement, MSU is paving the way toward a low-carbon, climate-resilient future—where research excellence contributes directly to a sustainable world.

SDG 13: Climate Action

MSU Launches Upgraded Electric Tram Service to Promote Climate Action on Campus

Mahasarakham University (MSU) has unveiled its newly upgraded electric tram system, designed to provide safe, convenient, and energy-efficient transportation for students and staff. The brightly colored, electric-powered trams operate free of charge, circulating across the campus every 10–15 minutes with three vehicles covering 22 key stops, including academic buildings, dormitories, and central service areas. This initiative reduces the need for personal vehicles such as motorcycles and cars, helping lower greenhouse gas emissions and minimize the campus's carbon footprint.

The tram service is part of MSU's broader commitment to becoming a Green University, in line with the UI Green Metric global ranking framework. By prioritizing electric, low-emission transportation, the university addresses critical environmental challenges, including air pollution, traffic congestion, and energy consumption, while also fostering sustainable mobility for the campus community. The system allows students and staff to move efficiently and safely between key points on campus, demonstrating that sustainable transport can enhance daily life while protecting the environment.

MSU's electric tram initiative serves as a model for integrating clean, sustainable transportation into campus life, directly advancing SDG 13: Climate Action through practical, everyday solutions.

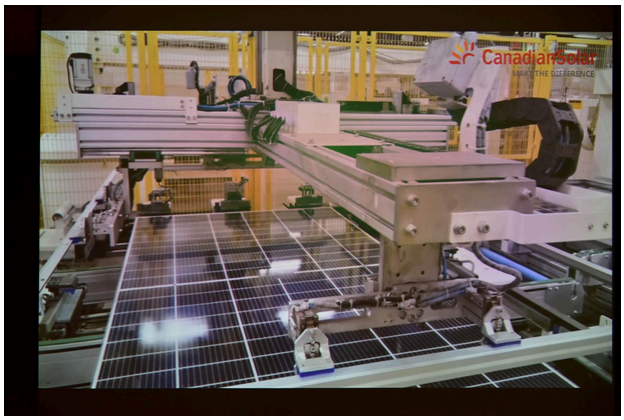
The upgraded electric trams operate weekdays from 07:00–20:00, with departures every 10–15 minutes depending on the time of day. On weekends, public holidays, and during university breaks, the trams run from 08:00–17:00 at 15-minute intervals. The tram route begins at Kudrang Dormitory and loops through major campus locations, including the Plaza, Chuenchom Dormitory, Faculty of Accountancy and Management, Student Service Center, Faculty of Science, Faculty of Architecture, Faculty of Fine and Applied Arts, Faculty of Pharmacy, Faculty of Environment and Resource Studies, Faculty of Nursing, Faculty of Informatics, Faculty of Engineering, Faculty of Public Health, and other essential areas before returning to the starting point.

Students and staff have welcomed the upgraded service, noting that it not only improves safety and convenience but also provides a tangible way to participate in climate action. By reducing reliance on fuel-based vehicles, the project helps cut carbon emissions and supports the university's long-term environmental sustainability goals.

MSU Students Learn from Global Solar Cell Leaders to Promote Sustainable Energy and Climate Action

Faculty of Science

On March 15, 2024, the Faculty of Science at Mahasarakham University (MSU) organized the project "Bridging the Gap: Students and Entrepreneurs Connect with Canadian Solar", a specialized program designed to provide students with in-depth knowledge of one of the world's leading solar cell manufacturing companies. The opening ceremony was presided over by Assoc. Prof. Isra Thani, Deputy Dean for Administration and Human Resource Development, and Assoc. Prof. Dr. Urit Charoen-in, Deputy Dean for Student Affairs and Digital Development, guided students throughout the event. The initiative aimed to bridge the gap between academic learning and industry practice, preparing students to meet the evolving needs of the renewable energy sector.



This initiative contributes directly to SDG 13: Climate Action by cultivating knowledge and expertise in renewable energy, particularly solar power, which is a critical technology for reducing greenhouse gas emissions and mitigating climate change.

MSU has recognized the importance of aligning higher education with industrial and societal needs. Through a collaborative program with Canadian Solar Manufacturing (Thailand) Co., Ltd., one of the top ten solar cell manufacturers worldwide, the university has developed industry-integrated curriculum and practical training programs. These programs equip graduates with the knowledge, technical skills, and problem-solving capabilities required in modern energy industries, enabling students to contribute effectively to sustainable development and innovation in renewable energy.

During the Campus at Mahasarakham University event, Canadian Solar representatives provided a series of informative lectures and demonstrations. Students learned about the company's global operations, advanced solar cell manufacturing processes, quality control, and efficiency optimization techniques. The program also highlighted the essential skills and competencies sought by employers in the renewable energy sector, along with potential career pathways and internship opportunities. Approximately 100 students from the Faculties of Science, Humanities and Social Sciences, and Engineering participated actively, engaging in discussions, asking questions, and observing practical demonstrations that reinforced their understanding of solar technology and sustainability principles.

MSU Holds World Wetlands Day 2024: "Wetlands and Human Wellbeing" Promoting Aquatic Conservation and Sustainable Water Resources

Walai Rukhavej Botanical Research Institute

The Walai Rukhavej Botanical Research Institute of Mahasarakham University (MSU) organized the 2024 World Wetlands Day under the theme "Wetlands and Human Wellbeing." The event aimed to raise awareness about the importance of wetlands as vital ecosystems that sustain water resources, biodiversity, and human livelihoods.

Professor Dr. Anongrit Kaengraeng, Vice President for Infrastructure Development, Research, and Innovation, presided over the opening ceremony and presented certificates of recognition to participating schools and community networks. The event featured performances by local students to promote appreciation of nature and sustainable use of water resources.

Assistant Professor Dr. Sudarat Thanonkaew, Director of the Walai Rukhavej Research Institute, explained that World Wetlands Day, observed annually on February 2, commemorates the signing of the Ramsar Convention on Wetlands in 1971. The event emphasizes the ecological and cultural significance of wetlands—particularly the Chi River, known as the "lifeline" of local communities in the Chi River Basin.

These initiatives contribute directly to Sustainable Development Goal 14: Life Below Water, by promoting the conservation and sustainable use of aquatic ecosystems.

This year's celebration also featured the "Volunteer Community and Tourism Development Camp" (Phase 2) in collaboration with the Faculty of Tourism and Hotel Management. The camp encouraged students to engage in community-based learning, eco-friendly tourism, and volunteerism.

Activities included kayaking lessons in the Kud Daeng wetland area, vermicomposting and waste management workshops, biodiversity studies, organic farming demonstrations, fish conservation initiatives, and sustainable aquatic tourism development.

Mahasarakham University Unveils “Moon Island” – A Lifelong Learning and Eco-Tourism Destination

Walai Rukhavej Botanical Research Institute

On December 26, 2024, Mahasarakham University, through the Walai Rukhavej Botanical Research Institute in collaboration with the Faculty of Tourism and Hotel Management, Faculty of Medicine, and various internal university departments, organized the “Moon Island Soft Opening: Flow with Nature’s Rhythm” at the Ban Koeng Field Station, Koeng Subdistrict, Mueang District, Maha Sarakham Province.

The Research Institute has a development plan (2023–2026) to transform the site into a lifelong learning center and ecotourism destination that aligns with SDG Goal 14 on the conservation of aquatic resources.

The opening ceremony was graciously presided over by Assoc. Prof. Prayook Srivilai,PhD, Acting President of Mahasarakham University, with Asst. Prof. Sudarat Thanonkeo,PhD, Director of the Walai Rukhavej Botanical Research Institute, delivering the event’s objectives. Mr. Sarawut Kulabchod, Mayor of Koeng Subdistrict Administrative Organization, also gave a welcoming speech. The event saw active participation from university executives, faculty members, students, schoolchildren, and the public.

Ban Koeng, located along the Chi River, features a distinctive oxbow-shaped water bend known as "Kud Daeng." It is a natural area ideal for learning about aquatic ecology, biodiversity, and organic agriculture.

Event activities included kayaking, nature explorations, forest trekking to study the ecosystem, eco-printing fabric bag workshops, a Kayak Photography Contest, scenic photo spots, a local food market, a sunset dinner concert, stargazing activities with astronomy talks, and classical-folk acoustic performances by local artists.

The event emphasized creating a relaxing, nature-connected experience and promoting Ban Koeng as a leisure and learning destination for the community as well as for domestic and international tourists.

MSU Engineering Researchers Develop Community Ponds to Strengthen Aquatic Ecosystem Conservation and Sustainable Water Use

Division of Research Facilitation and Dissemination

On June 23, 2024, the Division of Research Promotion and Academic Services, Mahasarakham University (MSU), led by Dr. Ritthikrai Chaingam, Assistant to the President for Academic Services and Sustainable Development, together with university staff, visited the project site for "Improving Agricultural Ponds for Effective Water Retention" at the Community Life Model (CLM) Village, Ban Lao E-Man, Nong Mek Subdistrict, Na Chueak District, Maha Sarakham Province. The project was part of the "Academic Service Project for Innovation and Model Communities toward Sustainable Development FY2024."

This initiative aligns with SDG 14 : Life Below Water, highlighting MSU's commitment to conserving and sustainably utilizing aquatic resources through appropriate technologies, community capacity-building, and ecological restoration to ensure water security and environmental resilience for future generations.

Asst. Prof. Dr. Nobpanom Kaewhanam, project leader from the Faculty of Engineering, and his team conducted knowledge transfer and training sessions on soil–cement lining techniques, an innovative yet practical approach suitable for small agricultural ponds with low clay content. This method minimizes water seepage, improves storage capacity, and helps maintain water quality for agricultural and aquaculture use.

Beyond improving water storage, the initiative also contributes to aquatic ecosystem restoration and conservation. The enhanced ponds serve as habitats for aquatic species, preserve local biodiversity, and reduce water contamination and evaporation. These efforts foster a more sustainable relationship between communities and their local water ecosystems.

The project also promotes experiential learning for students and community members, enabling shared knowledge creation between the university and the community for sustainable water and ecosystem management.

SDG 15: Life on Land

MSU Discovers a New Giant Freshwater Mussel Species — A Landmark for Biodiversity Conservation in the Chi River Basin

Faculty of Science

A research team from Mahasarakham University (MSU), led by Assoc. Prof. Dr. Bang-orn Kong-im from the Department of Biology, Faculty of Science, in collaboration with researchers from Mahidol University and Chulalongkorn University, has made a groundbreaking discovery — a new giant freshwater mussel species found in the Chi River Basin, Maha Sarakham Province.

This discovery not only highlights the scientific excellence of Mahasarakham University but also reinforces Thailand's commitment to the UN SDG 15: Life on Land, which seeks to protect, restore, and promote sustainable use of terrestrial and freshwater ecosystems.

The newly discovered mussel, found in Ban Tha Khon Yang and Ban Tha Song Khon, measures up to 21 centimeters in length, making it the largest freshwater mussel ever recorded in the Mekong Basin. After more than a decade of extensive field surveys, only two living specimens were found, indicating their high vulnerability to extinction.

The research, titled "Discovery of a New Endangered Freshwater Mussel Species in the Genus Chamberlainia Simpson, 1900 (Bivalvia: Unionidae) from Mekong Basin," was published in 2023 and has garnered international attention for its contribution to biodiversity science in Southeast Asia.

Assoc. Prof. Dr. Bang-orn explained that freshwater mussels play an essential ecological role as natural water filters, removing sediment and improving water clarity. Their decomposing shells also return vital minerals to the ecosystem, maintaining the natural nutrient cycle. These mussels serve as bio-indicators, reflecting the health and stability of freshwater ecosystems.

However, the study also warns of the declining mussel population caused by environmental degradation, dam construction, agricultural runoff, and habitat encroachment, all of which threaten freshwater biodiversity.

To address this, the MSU research team emphasizes the need for habitat protection, species conservation programs, and community engagement to raise awareness of freshwater ecosystem importance. The project aims to restore and sustain ecological balance in the Chi River Basin.

SDG 15: Life on Land

"Discovery of 'Kaempferia nepawanthorn' — A New World Plant Species from Thailand Highlights Biodiversity Urgency"

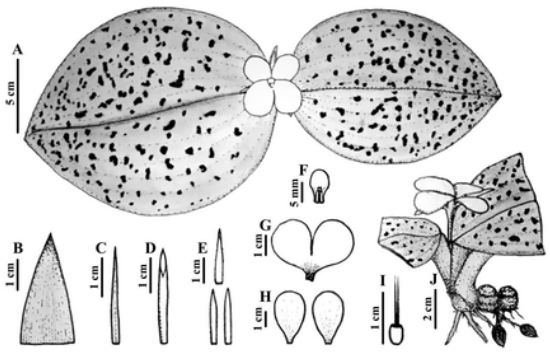
A research team from Mahasarakham University (MSU), led by Assoc. Prof. Dr. Surapon Saensouk, Mr. Thawatphong Boonma, and Assoc. Prof. Dr. Piyaporn Saensouk, has discovered a previously unknown species in the ginger family (Zingiberaceae) — Kaempferia nepawanthorn ("Prao Naphawan") — endemic to a sandy-loam forest in central Thailand. This new species has been classified as both endemic and rare in Thailand.

This discovery positions Thailand as a country of high biodiversity and aligns directly with SDG 15: Life on Land, which champions the protection, restoration, and sustainable use of terrestrial and freshwater ecosystems.

Notable features of K. nepawanthorn include its flat, spotted leaves with hairs on both sides, a flower spike emerging between leaf sheaths, and white petals with a yellow-apex labellum. The discovery underscores that even familiar landscapes may still harbour undiscovered biodiversity.

The researchers emphasize that this finding acts as a "wake-up call": that Thailand's unique species are under threat from habitat loss, human pressure, and resource-use patterns. Accordingly, they recommend:

- Protecting and restoring the natural habitat of this species
- Using tissue-culture approaches to propagate it for conservation
- Raising local awareness of the importance of endemic species and biodiversity



MSU Holds "Tree Pruning Workshop (Basic Arboriculture)" Batch 2 — Enhancing Urban Tree Care Skills

Division of Buildings and Grounds

On May 29, 2024, the Division of Buildings and Grounds, in collaboration with the Academic Service Office of Mahasarakham University (MSU), the Thai Arboriculture Association, the Big Trees Foundation, and Progression Trees Co., Ltd., organized the "Basic Arboriculture and Tree Pruning Workshop, Batch 2" from May 29 to 31, 2024, at MSU.

This initiative aligns with SDG 15: Life on Land, reflecting Mahasarakham University's commitment to conserving and restoring terrestrial ecosystems through scientific arboriculture, green space management, and environmental awareness.

The opening ceremony was presided over by Professor Dr. Anongrit Kaengraeng, Vice President for Infrastructure Development, Research, and Innovation, with Asst. Prof. Sattawat Tuangchon, Assistant to the President for Environmental Development and Public Utilities, delivering the opening report.

Distinguished experts in arboriculture and forest ecology — Mr. Nopporn Nontapa, founder of the Forest Planting School in Khon Kaen; Assoc. Prof. Dr. Porntep Mueanpong from the Faculty of Forestry, Kasetsart University; and Dr. Warong Wonglanka from the Faculty of Architecture, Chiang Mai University — conducted lectures and live demonstrations on essential tree care techniques such as pruning, fertilization, pest and disease diagnosis, and tree health assessment.

The workshop aimed to enhance participants' knowledge and skills in large tree maintenance, promote proper arboricultural practices, and develop personnel capable of assessing and restoring urban trees safely and effectively. Participants also exchanged insights and experiences to improve their professional practices and contribute to the long-term green development of MSU and its surrounding communities.

The program included sessions on tree ecology, species selection for urban areas, tree health assessment, pest analysis, root restoration techniques using air spades, and safe use of pruning tools. Over 60 participants from MSU and external organizations joined the workshop, gaining practical and theoretical expertise in sustainable tree management.

SDG 16: Peace, Justice and Strong Institutions

MSU's College of Politics and Governance Empowers Youth for Justice through "Khao Wong Law Camp"

College of Politics and Governance

The College of Politics and Governance, Mahasarakham University (MSU), in collaboration with the Free People for a Just Society Group, organized the project "Free Citizens for a Just Society: Khao Wong Law Camp" under the theme "Injustice anywhere is a threat to justice everywhere." The camp was held during 2–4 February 2024 at Nong Hua Chang Wittaya School, Phon Charoen District, Bueng Kan Province.

Through this initiative, the College of Politics and Governance demonstrates its commitment to Sustainable Development Goal 16 (SDG 16): Peace, Justice, and Strong Institutions, by empowering young citizens to engage in democratic discourse, promote justice, and foster a fair and inclusive society.

The project was led by Mr. Thawatchai Pongsri, lecturer in Political Science, together with 12 students and 5 alumni from the College of Politics and Governance. They worked with 54 secondary school students to explore the meaning of justice, law, and civic responsibility through interactive and reflective learning activities.

Key learning stations encouraged participants to critically question and discuss the nature of law and justice, including:

1. "What is Law?" — Understanding the origins and purposes of law.
2. "Whose Law Is It?" — Examining law through feminist and realist legal perspectives.
3. "Law is Politics" — Analyzing the interconnection between law and political power.
4. "When Injustice Becomes Law, Resistance Becomes Duty" — Inspiring critical awareness and civic courage.

The camp aimed to promote critical legal literacy, strengthen analytical thinking, and prepare MSU students to act as facilitators of public knowledge and social justice advocates.

SDG 16: Peace, Justice and Strong Institutions

MSU Promotes Ethical Governance and No Gift Policy for Transparent and Integrity-Based Leadership

On January 12, 2023, Mahasarakham University (MSU) took a significant step toward fostering ethical leadership by announcing its commitment to a No Gift Policy and ensuring transparent governance. The university, led by Acting Rector Assoc. Prof. Dr. Prayukrit Sriwilai, joined by faculty, staff, and students, reaffirmed its dedication to the principles of good governance, transparency, and integrity.

This initiative aligns closely with Sustainable Development Goal (SDG) 16: Peace, Justice, and Strong Institutions, aiming to promote accountability, reduce corruption, and strengthen the institutional framework for fair governance.

Commitment to Good Governance and Ethics

MSU has pledged to uphold strict adherence to laws and regulations, promoting transparency in all aspects of governance and administrative operations.

The university's policy emphasizes:

- Accountability and Integrity: All actions are to be conducted with transparency and responsibility.
- Anti-Corruption Measures: A zero-tolerance approach to corruption will be enforced through stringent investigations and penalties.
- Promoting Ethical Values: MSU encourages staff and students to uphold high moral standards and avoid any form of corruption or misconduct.

Key Collaborating Units:

- Mahasarakham University – Leading the initiative to promote transparency and integrity in academic and administrative practices.
- Office of the Prime Minister – Provides the regulatory framework guiding the acceptance of gifts by public servants.
- National Anti-Corruption Commission – Supports the enforcement of anti-corruption policies and encourages a corruption-free environment.

By implementing these measures, MSU is actively contributing to SDG 16, ensuring that its operations remain transparent and its leadership is accountable, setting an example for other institutions to follow.

No Gift Policy and Transparency

In alignment with ethical governance, MSU's No Gift Policy prohibits faculty, staff, and personnel from accepting gifts or benefits related to their official duties. This policy aims to prevent conflicts of interest and maintain a high standard of integrity in all university affairs.

SDG 16: Peace, Justice and Strong Institutions

Organizes "MSU INDIE Camp 2024" — Fostering Global Youth Networks for Peace and Cross-Cultural Understanding

Office of General Education

On February 19, 2024, the Language Center, under the Office of General Education, Mahasarakham University (MSU), organized the MSU INDIE Camp 2024 during February 18–28, 2024, at Mahasarakham University and in Phuket Province. The camp aimed to create a learning and exchange platform among international youth, promoting mutual understanding, friendship, respect for diversity, and peaceful coexistence in multicultural societies.

The opening ceremony was presided over by Associate Professor Dr. Prayook Srivilai, President of Mahasarakham University, together with Assistant Professor Dr. Sarintree Udchachone, Assistant to the President for Public Relations and Global Image, and Assistant Professor Dr. Anyarat Natthiraphong, Deputy Director for Internationalization and Organizational Image, Office of General Education, and Founder of MSU Homeroom. The event welcomed participants from 13 countries, including Bangladesh, Cambodia, China, England, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, the Philippines, Uganda, Vietnam, and Thailand.

Throughout the camp, participants engaged in a variety of creative and interactive activities such as discussions, teamwork exercises, cultural exchanges, art and sports events, and language-learning sessions. These experiences encouraged participants to embrace diversity, develop skills in peaceful communication and conflict resolution, and cultivate empathy and cooperation across cultural boundaries.

This aligning with Sustainable Development Goal 16: Peace, Justice and Strong Institutions, which aims to promote peaceful and inclusive societies, provide access to justice for all, and build effective, accountable, and transparent institutions at all levels.

The MSU INDIE Camp 2024 reflects Mahasarakham University's commitment to being a "University for Peaceful Society," promoting global citizenship education and social responsibility. The initiative supports the building of inclusive, peaceful, and resilient communities through youth empowerment and international collaboration
— aligning with Sustainable Development Goal 16: Peace, Justice and Strong Institutions, which aims to promote peaceful and inclusive societies, provide access to justice for all, and build effective, accountable, and transparent institutions at all levels.

Educational Board Games in Thailand: From Classroom Innovation to National Research — Advancing Quality Education

Faculty of Science, Faculty of Informatics, and Faculty of Technology

On February 3, 2025, Mahasarakham University (MSU) signed a Memorandum of Understanding (MoU) with the Office of Agricultural Economics (OAE) to foster academic collaboration and exchange agricultural economic data.
The agreement was signed by Assoc. Prof. Prayook Srivilai, President of Mahasarakham University, and Mr. Chantanon Wannakejohn, Secretary-General of the Office of Agricultural Economics, with executives and staff from both institutions serving as witnesses.

Her goal is to elevate board games from recreational tools into innovative learning media that align with SDG 4: Quality Education, which emphasizes inclusive, equitable, and quality learning opportunities for all.

Strengthening Agricultural Economic Research Through Innovation

This collaboration aims to enhance data sharing and develop innovations in agricultural economics, with a strong focus on leveraging modern technologies such as Artificial Intelligence (AI) for agricultural research and management. The partnership will span five years, covering research, data exchange, and academic seminars to strengthen Thailand's agricultural sector.

A Model for SDG 17: Partnerships for the Goals

This initiative serves as a key example of achieving Sustainable Development Goal (SDG) 17: Partnerships for the Goals, emphasizing collaboration between academic institutions and government agencies to advance knowledge, technology, and actionable data. The partnership between MSU and OAE is expected to enhance both institutions' capabilities in agricultural economic research, data analysis, and policy development, helping to elevate Thailand's agricultural sector to compete on the global stage.

Furthermore, collaboration will foster academic networking, knowledge transfer, and human resource development, all of which are fundamental to sustainable development. Beyond improving education in agricultural economics, this initiative will promote technological and innovative advancements with real-world applications, supporting the long-term goals of sustainable agricultural development.

SDG 17: Partnership for the Goals

MSU and U.S. Embassy Strengthen Educational and Cultural Ties – Advancing Global Partnerships

Faculty of Humanities and Social Sciences

Mahasarakham University (MSU) welcomed a delegation from the U.S. Embassy in Thailand on February 21, 2025, at Boromarajakumari Building. The visit was led by Ms. Marissa Whitten, Public Engagement and Education Coordinator, and Mr. Kulakit Chaiamnuay, Public Engagement Assistant, and was received by Assoc. Prof. Prayook Srivilai, Acting President of MSU, along with faculty members from the Faculty of Humanities and Social Sciences.

The collaboration between Mahasarakham University and the U.S. Embassy exemplifies SDG 17: Partnerships for the Goals by fostering strong international cooperation in education, research, and cultural exchange through shared knowledge, academic engagement.

SDG 17: Partnerships for the Goals – Strengthening Global Cooperation

This visit aligns with Sustainable Development Goal (SDG) 17: Partnerships for the Goals, which highlights the importance of international collaboration in education, research, and cultural exchange. Key outcomes of the visit include:

✓ Academic and Cultural Collaboration – The delegation delivered a special lecture, "Bridging Cultures: The Pathway to the Embassy," engaging students in discussions about diplomacy, international cooperation, and cultural understanding.

✓ Enhanced Learning Opportunities – The U.S. Embassy expressed its commitment to supporting English language education, academic exchanges, and study programs to expand global opportunities for MSU students.

✓ Resource and Knowledge Sharing – The delegation visited the American Information and Culture Center, a hub for students interested in U.S. education, language learning, and international cultural exchange.

This collaboration between MSU and the U.S. Embassy demonstrates the university's commitment to global education and international partnerships, reinforcing SDG 17's vision of fostering cross-border cooperation for sustainable development. Through these efforts, MSU continues to enhance its academic network and provide students with valuable global learning experiences.

SDG 17: Partnership for the Goals

MSU Fosters Strategic Media Partnerships to Advance Sustainable Development

Division of Public Relation and International Affairs

On December 26, 2024, Mahasarakham University organized the project "Mahasarakham University Media Network" at the Confucius Institute Meeting Room, Mueang District, Mahasarakham Province, to foster collaboration in public relations between the university and local media.

Assoc. Prof. Prayook Srivilai, PhD, Acting President of Mahasarakham University, along with Asst. Prof. Pondej Chaowarat,PhD, Vice President for Public Relations and Global Engagement, led the university's management team in welcoming and engaging in discussions with media representatives. The aim was to enhance the university's communication efforts to be more comprehensive, accessible, and responsive to target audiences. They also expressed gratitude to the media for their continuous support in promoting the university's image.

The project aims to: Coordinate communication channels between the university and media, build a strong public relations network, Promote the university's image and role to the public

This initiative reflects SDG 17: Partnerships for the Goals by strengthening collaboration between Mahasarakham University and local media to promote effective communication and shared responsibility in advancing education and sustainability. Through media partnerships, MSU enhances transparency, outreach, and community engagement. The project fosters collective efforts toward sustainable development and knowledge sharing at both local and global levels.

Mahasarakham University
Sustainability Report 2024-2025

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