BANSOMDEJCHAOPRAYA RAJABHAT UNIVERSITY

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Sustainability Report 💥 2021 - 2022

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RAJABHAT NNIVERSITY



# Sustainability Report 🐇 2021 - 2022

# RAJABHAT UNIVERSITY





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# **Message from the President**



At Bansomdejchaopraya Rajabhat University, we envision ourselves as a research and learning institution, tasked with the crucial mission of improving the quality of life for the Thai people as well as global communities. In 2021-2022, BSRU has strived to confront the challenges and opportunities of this emerging postpandemic era, which has also provided us with valuable opportunities to grow and take on a greater role in addressing both global and local environmental problems from multiple disciplines. These efforts and action plans are crucial components in the development of a sustainable society through the training of new generations. Our university recognizes the rapid global changes that greatly affect the learning process and educational institutions. Its vision for 2021-2022 is "To become one of Thailand's Word Class Universities in creating knowledge and innovations that will build and support a sustainable society" not only by arming a new generation of researchers with the skills for interdisciplinary research focusing on sustainable development, but also through infrastructure enhancement, adherence to environmentally friendly practices, and integration of courses focusing on the environment and sustainability.

Here at Bansomdejchaopraya Rajabhat University, we believe that shifting towards Green Thinking is not only a necessity, but the only viable solution that ensures sustainable development, and this is a mission of the highest importance for our institution. BSRU has a proud history of striving towards sustainable development, working closely with local communities, government administrative teams, and institutions. Today, our university's mission is exemplified by each member of staff, working with dedication to carry on BSRU's proud legacy.

I am proud of the year's progress and the momentum we have built and honored to present our university's first Sustainability Report. I hope you will be inspired by our projects and actions toward a sustainable future.

> Assistant Professor Dr. Linda Gainma President, Bansomdejchaopraya Rajabhat University

# About Bansomdejchaopraya Rajabhat University

Bansomdejchaopraya Rajabhat University (BSRU) categorizes departments into two main categories: teaching and learning units, and teaching support units. The teaching and learning unit consists of five faculties and two colleges comprising the Faculty of Education; Humanities and Social Sciences; Management Science; Science and Technology; Engineering and Industrial Technology; College of Music; Graduate school; and Demonstration School. The teaching support unit consists of nine units: Research and Development Institute; Office of Academic Promotion and Registration; Office of Academic Resources and Information Technology; Office of Student Affairs; Office of Arts and Culture; Office of Computing; Office of Public Relations and Information; Office of International Affairs; and Office of the President. The total of BSRU's personnel is 864, categorized as 526 teaching personnel and 338 support personnel. The estimated number of students is approximately 10,830 including 9,957 undergraduate students and 873 graduate students.

The university offers a total of more than 80 courses covering all major disciplines, classified into more than 70 bachelor's degree programs and more than 10 graduate programs, providing wide educational opportunities for learners to choose a field of study according to their aptitude and interest for both Thai and foreign students. The university has continued to work towards quality under four key strategies, namely 1) locality development, 2) teacher and educational personnel development production, 3) upgrading the quality of education, and 4) management system development. According to the Ministerial Regulations of the Ministry of Higher Education, Science, Research and Innovation (MHESI), universities have a self-assessment via the Thai University Strategic Classification and Self-Assessment System (UCLAS) to group universities. BSRU was classified in Group 3, Universities for Area-based and Community Engagement. Therefore, the university is determined to continue to strengthen its position as a university for sustainable local development until it can be better placed in the Impact rankings.

#### The Emblem of Bansomdejchaopraya Rajabhat University

The Emblem of Bansomdejchaopraya Rajabhat University consists of an oval shape inside a larger oval. The inner oval contains the royal emblem of His Majesty King Bhumibol Adulyadej (Rama IX), which was graciously given in 1992. The Thai and English names for the university are displayed on the border between the two oval shapes, with the specific Thai name in the upper half and the English name in the lower half. There are five colors in the seal as follows: Blue Symbolizes the Royal Institute, which was the founder, and bestowed the name "Rajabhat University"; Green represents the location of the university, which is situated in a natural and attractive environment; Gold depicts the intellectual advancement; Orange signifies the proliferation of local art, culture and folk knowledge; and White symbolizes the pure thoughts of His Majesty the King's Wise Men.

#### The Symbolic Colours of the University

White and purple

#### The Symbolic Tree of the University

Chong-Ko (Bauhinia purpurea Linn.)

#### Vision

Bansomdejchaopraya Rajabhat University envisions being a qualified international standard university.

#### Intention

Bansomdejchaopraya Rajabhat University aims at providing high-quality education, developing knowledge and innovative skills beneficial for maintaining local arts and culture to produce intelligent, knowledgeable graduates packed with good sanitation, high-level skills of academics, language, and technology as well as the responsibility to community and country in preparation for ASEAN Community and Global Community.

#### Mission

- 1. To produce high-quality graduates for the country.
- 2. To conduct research, establish bodies of knowledge, create innovations, and develop creativity.
- 3. To provide academic services to the development of a learning society.
- 4. To preserve and promote Thai arts and cultural heritage to the international community.
- 5. To organize the university management based on the principles of Good Governance.

#### **Graduates' Identity**

Graduates equipped with public consciousness, communicative skills, and thainess.

# Sustainability at Bansomdejchaopraya Rajabhat University

With the developments of climate change, the aftermath of the global COVID-19 pandemic, and the offsets of war, the interconnectivity of the world is becoming clearer and clearer. We believe that the fruit of our good labor can inspire the world. Since 2021, when the issue of sustainability as put forward by the United Nations has become widespread around Bansomdejchaophraya Rajabhat University (BSRU), we have worked continuously to do our part to improve this world. This is as we saw that many of these values were already embedded in our programs, shared by our many students and staff with care for the wellbeing of the world and the lives of others, but often not as identified as such. Therefore, by launching sustainability and awareness programs, BSRU commits to its lifelong mission to provide high-quality education, develop innovative skills, and produce intelligent graduates responsible for the community and country.

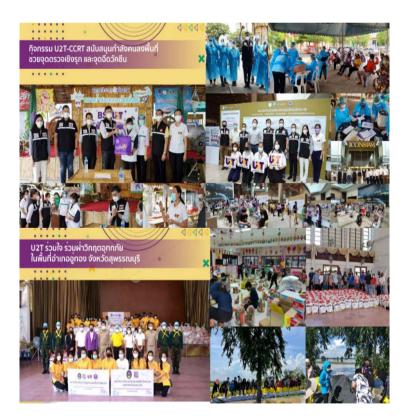
In 2021, president Assistant Professor Dr. Linda Gainma launched the campaign to prepare for recognition of the fantastic work our students and staff have fulfilled throughout the years on the issues of sustainability, which has allowed us to rethink our strengths. This program allowed us to receive international recognition for our efforts, among others, via the Higher Education Impact Ranking. This year, we will participate in this ranking again for the sake of the hard work that the people commit to our programs and initiatives. The many different initiatives testify to this: from the BSRU University to Tambon project to enhance the local community's economy, meal boxes for the Zero Hunger project, or the Improve Foundational Literacy and Numeracy to Local Primary Schools. We are excited to mention that many projects could be relaunched this year after many stopped due to the COVID-19 outbreak.

have over hundred initiatives In total. we а from all around Bansomdejchaophraya Rajabhat University. Categorized by Sustainable Developmental Goal, it shows the variety and creativity of the people committed to these programs. Many projects are inspired by current developments, such as the COVID-19 pandemic outbreak and the negative economic hardships it produced. Other projects focus specifically on the local environment in the suburbs of Bangkok, among other support for bedridden elderly or initiatives to lecture the local community on start-up initiatives. With high enthusiasm from participants, our university is committed to increasing the number of projects to make a lasting impact on our community. This work highlights some of the last year's case studies and initiatives through staff and students. However, we must note that this is only a selection, and many more projects can be found whose work is in no way less important. Therefore, we invite you to visit our website, which provides a more comprehensive overview of the various projects our excellent students and staff have committed to: https://sdg.bsru.ac.th/

# Bansomdejchaopraya Rajabhat University and the SDGs

#### **BSRU University to Tambon (BSRU2T)**

Bansomdejchaopraya Rajabhat University (BSRU) received the budget from the Ministry of Higher Education, Science, Research and Innovation (MHESI) to organize the "University to Tambon (U2T)" Project. The U2T project aimed to enhance the level of economy and society in the community, covering 40 sub-districts in three provinces, namely Bangkok, Samut Sakhon, and Suphan Buri. According to the agreement under the cooperation among 4 sectors (local communities, local government administrations, government agencies, and the university), 164 free training activities were offered to the local communities within a year, as shown in Table 1. There is a summary of local community issues-related activities, grouped into four streamlines: (1) Career Building, (2) Tourism Development through Creative Economy, (3) Community service learning, and (4) Environmental promotion (Refer to Table 1, Summary of local community issues-related activities to address poverty under the cooperation among 4 sectors: communities, local government administrations, government agencies, and the university).





The streamlines were gradually laid out with the establishment of various subprojects and activities Based on the Bio-Circular-Green Economy Model (BCG) following the assignment given to the university by the Ministry of Higher Education, Science, Research and Innovation (MHESI) to accelerate the implementation of BCG model. This project aims to rebrand Thailand, in alignment with the Sufficiency Economy Philosophy, addressing the UN's Sustainable Development Goals (SDGs), and building national strength from within by promoting the local economy and linking Thailand to the global community. The outputs and outcomes were monitored actively throughout the projects and we note that overall implementations could mitigate and eventually address communities' economic, social, and environmental problems. (See the following link for more details: <u>https://sdg.bsru.ac.th/2022/09/local-start-upassistance-year-2021/</u>).



**Table 1:** Summary of local community issues-related activities to address poverty under the cooperation among 4 sectors: communities, local government administrations, government agencies, and the university.

Issues Related Activities	Total number of sub- districts	Total number of activities
1. Career Building		
1.1 Product development and product quality		
upgrading	34	54
1.2 Distribution Channel Expansion	21	30
1.3 Development of Producer skills	10	13
1.4 Management system for community	8	9
<ul> <li>2. Tourism Development through Creative Economy</li> <li>2.1 Potential development for community-</li> </ul>		
based tourism 2.2 Marketing channels for community-based	10	11
tourism	4	5
<ul><li>2.3 Development of entrepreneurial skills</li><li>2.4 Integrated tourism with community</li></ul>	7	8
development	11	1
3. Community service learning		
3.1 Hygiene	10	13
3.2 Innovation and technology	7	10
3.3 Environment	1	1
3.4 Knowledgement management and network	5	5
4. Environmental promotion		
4.1 Overall environmental management	2	3
4.2 Waste management	1	1
Total	131	164

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#### Local Start-up Assistance

To help save the startup model amid the uncertain economic times of COVID-19, the university established a "Startup Innovation Development Center" to provide free services for the local communities.



The university self-positioned to cultivate entrepreneurial local people for their local startup ecosystems by setting up the center to form an entrepreneurship club to provide consulting services, short-course training, and funding, as well as to release and transfer research findings from universities to "feed" innovation and technology into local entrepreneurs and investors. This center allows local entrepreneurs to host events and use the center's spaces free of charge. The center is offering free courses by professors to anyone interested in attending. The university also arranges pitch competitions for local community members and invites local entrepreneurs and investors to judge the competitions, potentially contributing prize money to offer winners admission to local accelerators and incubators. Besides, for a long-term future perspective, this center will become a lab space for students to gain field experience through research, prototyping, and testing to evolve startups (Follow us on our Facebook page <u>https://link.bsru.ac.th/gaq</u>).

#### Box of Happiness: Box Care BSRU

The "Social Engineer" project has been integrated as one of the main missions of the Office of Student Affairs, particularly for providing our University students with the opportunity to serve the community. We promote the students' soft skills towards interdisciplinary active-learning, as well as social lab-based activities. During the COVID-19 pandemic in 2021, the project "Box of Happiness: Box Care BSRU" was organized to cope with the issue of poverty. The students were provided training by organizing themselves into local communities around the university. They packed bags containing food and medicine and distributed them to low-income families, underprivileged students, and unemployed members of the community. The registrations for receiving boxes were open in 3 rounds: the first Round in May, the second round in June, and the third round in October (See the link for the registration form https://link.bsru.ac.th/ga5). With such activities emphasizing real practice, it can be affirmed that the project has shown effectiveness in building students' global citizenship that aligns with the SDGs' principles.





#### **Grants for Low-Income Undergraduate Students**

The Office of Student Affairs has continuously offered grants during the year 2021 to well-behaved students with financial needs. Due to the spread of COVID-19 in 2021, the university announced a 50% discount on tuition fees for every student. It is found that among 12,024 students enrolled, 7,851 (65.29%) who have a family income lower than 150,000 baht per year, received financial support from our University. This group of students was categorized into the low-income group according to the national statistical report of average monthly income per household of the families whose income is lower than the level of middle income (Quintile 3).



# Bansomdejchaopraya Rajabhat University Sent Relief Aid with Care to Flood Victims in U-Thong District, Suphan Buri Province, Thailand

Bansomdejchaopraya Rajabhat University teamed up with government agencies in the area of U-Thong District, the Don-Kha subdistrict administrative team, and volunteer soldiers, and villagers handing 500 relief bags containing food and water to flood victims in U-Thong district, Suphan Buri province. In addition, the teams also provided the victims with the necessary equipment and materials, such as sandbags, to assist the residents with the construction of floodwalls to prevent the water from overflowing into the residences, fields, and agricultural lands. The aforementioned teams got together to talk about the community's plan after the water level receded to a normal level (See the link <u>https://link.bsru.ac.th/ic7</u>).





In the area, the university also established U-Thong Dvaravati Learning Center with a commitment to provide support to government agencies in Suphan Buri Province and its people. The center has been promoting cultural heritage management and local businesses for agriculture, farming, and commercial cultivation of medicinal plants. Consequently, the director of the learning center plans to continue the center's efforts to rebuild people's lives.



#### Meal Boxes for Fighters: Zero Hunger Project

Suriya Volunteer-Nurse Club of Bansomdejchaopraya Rajabhat University is one of the university's ongoing volunteer projects. It was established to help local communities with health issues and provide first-aid medical care, including both Thai citizens as well as foreigners.

During the COVID-19 pandemic, the club acted as a center to assist with the management and distribution of food and medical equipment for infected patients, health workers, and those in need, during critical situations. They delivered donated food such as rice, dried foods, fresh fruits, as well as essential equipment to field hospitals in Thonburi district, Bangkok (See the following link for more details: <u>https://link.bsru.ac.th/ic9</u>).





## Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG) Conducted by Bansomdejchaopraya Rajabhat University

Since 2016, the university has been receiving budget support and following the royal initiative with several activities that support the royal initiative under the RSPG. Assistant Professor Dr. Linda Gainma, the President of the University, and University deans have been advocating to drive the project to achieve its goals. These goals focus on personnel development as well as the conservation and development of plant genetic resources for the advantage of the Thai people.

The university promotes a better understanding and awareness regarding the importance of plant genetic conservation. Such a project creates links between various organizations, local communities and schools, government agencies, and private sectors with an emphasis on virtue ethics with the ultimate goal to build a plant genetics database system that is accessible around the country. The master plan has been implemented for over five years. The operation had three frameworks that focused on three resource bases: physical resources, biological resources, and cultural and wisdom resources. The university recognizes the importance and the advantage of these resources and helped conduct the project within the frame of the master plan, with emphasis on utilization framework as well as the establishment of good conscience.





#### **Agricultural Processing Unit and Laboratory**

Agricultural Processing Unit and Laboratory, a part of U-Thong Dvaravati Education Center has been evaluated and quality-tested by the health authorities of Suphanburi Province to ensure the safety of agricultural products that cover the areas of human nutrition, animal and plant health protection, and new crop technologies. The Agricultural Processing Unit and Laboratory later obtained the certification from the Food and Drug Administration (FDA). This was led by the director, deputy directors, and lecturers in Agricultural and Supply Chain Management Innovation on May 18 th, 2022. This unit will be integrating smart farming technologies to transform the agricultural sector for the future and help resolve the challenges of the declining average farm size, the increasing number of aging farmers, labor shortage, as well as the increased demand for food (See the link <a href="https://link.bsru.ac.th/ica">https://link.bsru.ac.th/ica</a>).







#### **BSRU Cares-Fight COVID-19**

Bansomdejchaopraya Rajabhat University was allocated over 40 million baht to help students and communities who were affected by the COVID-19 pandemic. This situation has impacted both the quality of life and the economy of many families in the local communities. Therefore, the university joined hands with the Office of the Permanent Secretary, Ministry of Higher Education, Science, Research and Innovation to organize a project of "BSRU Cares-Fight COVID-19" at the local level around the university and the operating areas. The community relations operation has classified the target groups of schools, government agencies, hospitals, field hospitals, waiting centers, temples, and residents into 3 groups: communities in Bangkok, Samut Sakhon, and Suphan Buri, across 40 sub-districts, to respond appropriately to help alleviate problems.





The university initiated sub-projects and activities during COVID-19 to support the targeted communities as follows: Distributed masks, sanitizing alcohol and sanitizing alcohol gel, boxes of medical masks, and bottles of alcohol gel for hand washing, to reduce the risk of infection; Provided sets of Andrographis paniculata extracts, food boxes, and drinking water.

Moreover, the university also offered help to students during the end of the Academic Year 2020 and in Academic Year 2021 by providing financial assistance for living expenses, and scholarships for students at all levels to waive or reduce tuition fees and educational expenses.



QueQ App for People with Suspected Covid-19 Symptoms

Bansomdejchaopraya Rajabhat University also offered help to identify those individuals who suspected they might have been infected with COVID-19. Such groups of people could make an online booking in advance via the application named QueQ. The registration period ran from July 26th through August 1st, 2021. The project could help over 700 patients with suspected or confirmed Covid-19 per day.



#### Suriya Volunteer-Nurse Club for First Aid

The "Suriya Volunteer-Nurse Club" of Bansomdejchaopraya Rajabhat University is one of the university's ongoing projects. It was established to help local communities with health issues and provide first-aid medical care, including both Thai citizens as well as foreigners. Student volunteers have been trained by professionals in the field to respond to any such emergency at Siriraj Hospital before they become qualified to join the first-aid unit. They are knowledgeable and skilled in providing First Aid to make home and community a safer environment. When a person is injured or falls ill, their prompt and knowledgeable actions can prevent injury or illness from worsening and save lives.







Furthermore, they are also required to participate in Cardio Pulmonary Resuscitation (CPR) training which is to help patients temporarily maintain sufficient circulation to preserve the functionalities of their brain, until medical equipment is available to restart the heart or medical help arrives (Follow the club on the FACEBOOK PAGE: https://link.bsru.ac.th/gbo).

#### **Mental Health Care Projects**

From the report of the university's strategic projects in 2021, there were both physical and mental health care projects contributing to students, and local communities not limited to Thai citizens, but also including refugees. One of the predominant projects comes from the Master's program in Counseling Psychology, where a Line official application account was launched with the name "I care U" to provide free-remote counseling and mental health service for students, staff, and the general public. This service is available every day from 1.00 to 9.00 pm. Some specific cases would be referred to and treated by specialist agencies under the Ministry of Public Health. From the self-assessment of the developer team, it was agreed that this counseling service platform could help people encountering a range of mental and emotional problems in an appropriate manner. The results have been satisfactory after having treated and solved the problems and this activity is equally beneficial to expanding the student counselors' potential.





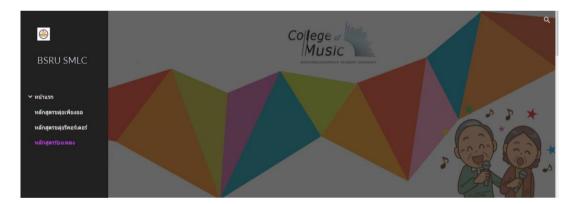
#### **Disability Support Services Center (DSS)**

Disability Support Services Center (CSS), the Division of Student Affairs is set up for helping and supporting students with disability to access university educational systems without distinction, reducing barriers, and providing essential personal support services to help students achieve their educational goals. Additionally, this can foster a community where students coexist and benefit from each other in a safe learning environment.

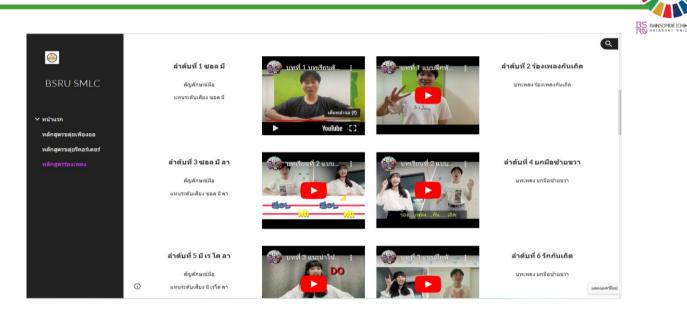


#### **Care for the Elderly People**

BSRU's College of Music initiated some innovative projects to care for the elderly people as follows: Music Therapy for the Elderly



Singing Senior Course – Designed for adults. This course provides learners with simple basic singing and piano playing for enjoyment. Learners, with or without musical background, will enjoy famous contemporary songs from the 70s (e.g., Rak gan tuh, Chang dtuua yai, and Jongrak) together with others of the same age.



Thai Flute for Senior – the most popular Thai flute, suitable for senior learning, is Phiang Aw. Learning to play the flute or listening to music with the flute in the elderly is associated with an improvement of cognitive function and increases the levels of dopamine after listening to music with the Balinese flute as the main instrument. This is a self-managed independent study course that consists of 20 hours of video-assisted learning. The learning objectives are to promote learning to read Thai music notes and to improve one's skills in Phiang Aw flute playing. Visit our website for more information (https://sites.google.com/view/bsru-smlc/).



#### Thonburi Knowledge Centre

Since our university is located in the Thonburi district, BSRU has established Thonburi Knowledge Centre with the main focus on historical-cultural and local wisdom preservation. We provide free lecture tours to both Thais and foreigners and such activities have been continuously organized since 2017. Interestingly, in response to the COVID-19 outbreak, the center adopted an innovative approach to simulate a virtual tour (VT) to keep their attractions firmly in the minds of potential visitors.



# Academic Resources and Information Technology

The Office of Academic Resources and Information Technology of the university offers free access to public services for library study space, computers, meeting rooms, books in both document and electronic formats, and online lessons to promote lifelong learning for all.





#### **Online Learning Courses via Moodle and MOOCs**

The university attaches great importance to skills development in the age of digital disruption. Therefore, we have developed a learning curriculum to develop digital skills competence with the "Moodle program", where university personnel and students can apply and study for free (Visit the platform: <u>https://lms.bsru.ac.th/</u>).

Available courses	- กลุ่มที่ 5 ศาสตร์แห่งการคิดและการสร้างสรรคันวัดกรรม
RE	∽ GEO5I0I รู้ดีดชีวิตก้าวหน้า ∽ มีการศึกษา 1/2865
60010262 การจัดการเรียนการสอนออนไลน์สำหรับผู้สอบด้วยโปรแกรม Moodle และการสร้างสื่อด้วย	
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The Office of Academic Affairs developed a total of 46 Massive Open Online Courses (MOOCs) for those who are interested in applying to join the course for free. Content-focused learning promotes human essential life skills: The King's Philosophy and the Ways of Society, Languages and Communication Technology, Quality of Life and Human Values, Arts Management and Entrepreneurship, and the Science of Thinking and Innovation (Visit the platform: <u>https://bsru.in.th/</u>)

#### Improve Foundational Literacy and Numeracy in Local Primary Schools (BSRU-Community Outreach Project Highlights)

Before the COVID-19 pandemic, one in four children in the East Asia and Pacific region was failing to master basic literacy and numeracy skills in primary school. The COVID-19 pandemic has worsened the situation of learning for millions of children whose education has been interrupted by school closures. This led the university to develop a project for promoting the quality of learning in reading and writing comprehension, and critical thinking among students at the primary education level through the cooperation between the Faculty of Education and the local schools.



There was a total of 10 courses that aimed to strengthen teachers' professional development in classroom management in the era of the new normal. There were approximately 1,500 participants consisting of school administrators and teachers from 51 schools under the Samut Sakhon Primary Educational Service Area Office, and 53 schools under Suphanburi Primary Educational Service Area Office. Some of the teachers applied their knowledge and skills to formulate innovations to then be conducted in their classrooms. With a high level of satisfaction from the project, they shared their positive experience and the skills they acquired on social media.

# Cannabis Expo Exhibition and Workshop by Science Center

The Science center of the university organized a cannabis exhibition on "Learn the whole things about cannabis". The free training workshops were offered to promote professional skills in "Safer use of cannabis, extraction of cannabis, and cooking with cannabis".



# **BSRU2T Floating Market for Local Product Distribution**

BSRU has been allocated the budget from the Bureau of Budget for organizing projects according to the university's strategic plan and monitored 19 projects for economic and social development in the local communities to drive its strategy regarding local development. We organized an exhibition "BSRU2T Floating Market" for local product distribution. Training activities were arranged by lecturers, staff, and students to promote professional skills in the local communities including herbal products making, Thai arts and crafts, clay sculpture, banana leaf artwork, as well as Thai dessert cooking.







#### Education for SDGs—the Results of Mapping SDGs into BSRU Courses

BSRU Courses are found to be in parallel with sustainable development within 17 targets across all faculties (See the link: <u>https://sdg.bsru.ac.th/teaching-and-learning/</u>). Learning Management is integrated into the curriculum of all faculties, which includes sustainable development targets following Rajabhat Universities' mission principles as indicated in the syllabus or Thailand Qualification Framework 2 (TQF2).



Recently, BSRU Graduate School developed and started a doctoral program in 2021. The Doctor of Philosophy in Educational Management for Sustainable Development program aims to produce educational managers and academic professionals. Potential candidates are expected to gain knowledge, expertise, and competencies in higher education management and sustainable research and development.



#### An Essential Work to Promote Gender Equality towards Learning and Research

A member of BSRU's faculty who has played a prominent role in promoting gender equality and human rights is Asst. Prof. Dr. Pavinee Bunnag of Social Development, Faculty of Humanities and Social Sciences. With her invaluable experience and expertise, the principles of equality between women and men, nonstereotyped gender roles, mutual respect, non-violent interpersonal conflict resolution, gender-based violence against women, and the right to personal integrity are being integrated into the formal curriculum related to sustainability principles and practice.

To help students appropriately understand how the three pillars of sustainability link with gender equality, several courses have been added to our university's curriculum. The courses "History of Women Gender and Sexualities" and "Management of Social Welfare" are being included under the social equity aspect, "Environment-Friendly Economic Development", "Community Studies for Development" under the economic viability aspect, and "Natural Resources and Environmental Management" as well as "Conflict Management in Natural Resources" under the community environmental protection aspect respectively.



Activity-based learning is also being conducted in her classroom, for example, in the session of "*Understanding LGBTQ+ in Thai Society*" by an invited speaker. This provides an opportunity for the students to discuss experiences and exchange ideas in a confidential, nurturing, safe, and supportive environment.





She also increased efforts in examining and conducting research into how to eliminate gender discrimination on the topic of "*Gender and Class of Nursing and Midwifery Professional in Siam*". The research aims to demonstrate the advancements and LGBTI initiatives of the private sector organizations in Thailand that support LGBTI people in the workplace for promoting Gender Equality from January to June 2021. Although the Thai government officially kicked off this issue in March 2020, it seems like only some transnational business organizations in Thailand are actively concerned with promoting LGBTI rights. They have acknowledged this concern as a core issue by genuinely declaring their commitment to LGBTI equality in their company codes of conduct.

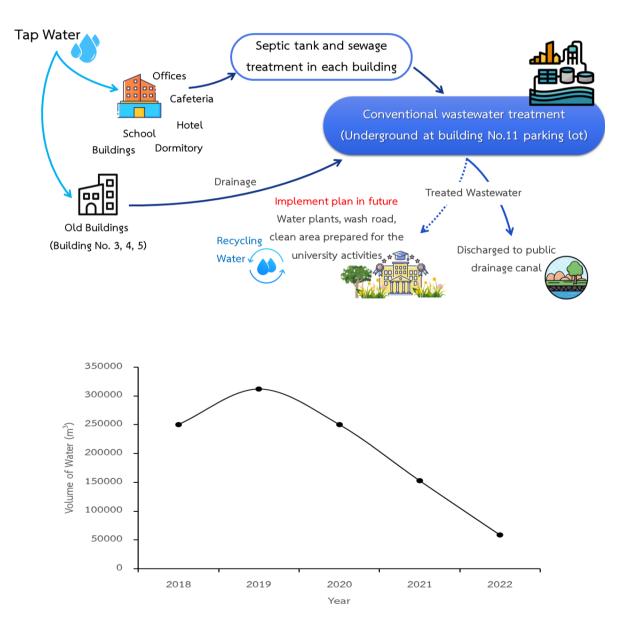
Organizations that promote LGBTI rights in the workplace mirror an initiative of best practice, a corporate brand image of goodwill, and business trustworthiness. However, empowering LGBTI people in the workplace is at an early stage, as seen in only big business companies. For example, Mercedez-Benz, IBM, Facebook, Axxa Insurance Thailand, and Shell Thailand. These initiatives would help to inspire other small and medium-sized enterprises to foster and implement this policy. The implication of this article argues that the significance of LGBTI inclusion in Thai national business organizations should be encouraged by more Thai national companies, which would help build up a friendly ecosystem following the global social movements for gender equality.

Eventually, from her substantial research this year, she was awarded the Best Research entitled "*Gender and Class of Nursing and Midwifery Professional in Siam,* 1896-1935" at the National Conference on "Eliminating Gender Discrimination," organized by the Department of Women's Affairs and Family Development, Ministry of Social Development and Human Security.

#### **BSRU-Water Conservation Program**

CLEAN WATER

The university's program on water conservation was initiated this year and is in the feasibility study stage. Even though the university covers very small, it is possible to conserve water by collecting rainwater and using water-efficient appliances. This year, the university has begun studying water utilization pathways and data collection systems on the amount of water utilization. All water usage in the university comes from tap water. Then, wastewater generated from each building is treated by a septic tank and sewage disposal treatment before it is transferred to conventional wastewater treatment through drainage around the university. The effluent from wastewater treatment is discharged to a public drainage canal. There is no usage of treated wastewater (See the diagram below).



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The recycling water program is planned to be implemented soon. The historical data collection on the volume of water usage from the university since the year 2018 shows that the amount of water usage started to decrease in 2020. This is because work-from-home and study online policies during the COVID-19 outbreak were in place. However, the university fully returned to work and study on-site in August 2022 (See the graph above). This situation may increase water utilization in the university. Finally, the above data will be analyzed to implement the water conservation program in the future.

#### **Clean Water for the Canal Community**

At a previous time, when the city had been expanding, a lot of people came to live around the university area and as a result of human activities, such as improper waste disposal on the main road near the canal drainage, this caused some serious issues that affect the people living around our university.

To improve water quality, and enhance the liveability of the canal community around the university, the Community Care Canal Somdet Chaophraya was launched as an initiative and the Change Waste to Worth Envi 3 Rs Season project was then followed in 2021 to continue the notion of such project in 2020. The volunteer student team formed a plan to clean up the canal. The cleaning days were held by students and teachers, and there was local people participation under the cooperation of the district administration.



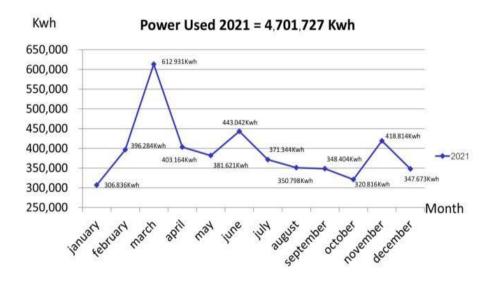
The volunteer team developed knowledge and innovation for environmentally friendly living. The activities included waste collection in the canal around the university, production of biological fertilizer from food waste, donation drop spots for recycled waste, transportation of recycled waste to the recycling organization in Thailand, and a workshop on waste separation. Eventually, water pollution was reduced and the canal became clearer. To live along the canal, people have learned to take care of it.



#### **BSRU Energy Security: Solar Energy**

Solar technologies convert sunlight into electrical energy either through photovoltaic (PV) panels or concentrating solar-thermal power (CSP). This energy can be used to generate electricity or be stored in batteries or thermal storage. In Thailand, renewable energy including solar energy has played a significant role in improving energy security and diversifying the energy mix by reducing reliance on fossil fuels. Therefore, BSRU also supports the shift to solar renewable energy to deliver electricity to the university.









BSRU-Solar energy is a power to produce electricity with 18 modules which were installed on the rooftop of Building 9, Faculty of Science and Technology. Such a solar panel system can produce around 9,612 kWh of electricity within a year. In 2022, the consumption of electricity reached 4,701,727 kWh. To reduce accidents and global warming and to move towards a philosophy of Smart & Green University, an electric shuttle bus service is being offered as an internal transportation system to serve students and university personnel. The bus service uses electricity from solar panels to keep them charged. This is an alternative solution that reduces the fuel consumption of cars and motorcycles.



The regulation appointed an Energy Management Steering Committee to carry out energy management operations and energy conservation operations. This includes behavior changes within students' and faculty members' daily lives to get involved with numerous ways of energy saving.



#### Ways to Reduce Energy Consumption

The university has a focus on making new energy-efficient buildings as well as improving the efficiency of existing buildings. As a result, the Office of Academic Resources and Information Technology Department introduced the light pull switch. Light pull switches are used by the students looking for a book on the bookshelf. If students want to find books nearby, they can use the light pull switch, an automated switch that turns off the lights after a specific amount of time to save energy.



Besides, some buildings installed light bulbs with 100% energy saving, and clear glass was installed that could use light from sunlight. This energy-saving policy on the management of electrical energy in buildings has been proven to be beneficial and efficient.



#### Partnership for Clean Energy

Bansomdejchaopraya Rajabhat University (BSRU) and Metropolitan Electricity Authority (MEA) are in the progress to sign a service agreement contract under the installation of the solar power system service project called "Mahanakorn Sod Sai and charging electricity with MEA".



BRSU is classified as a large general service that applies to a business, industrial, government institutions, state enterprise, foreign entities, and international organizations including its compound, with a maximum 15-minute integrated demand over 1,000 kilowatts, or the energy consumption for three average consecutive months through a single Watt-hour meter exceeds 250,000 kWh per month. Thus, MEA aims to develop BSRU to be a clean energy university by installing a 24 kV Solar Rooftop (connected to an electric meter with serial number: 39003358). It is estimated to save around 360,000 baht from an electricity bill per year and reduce carbon dioxide emission by about 321.11 tCO2/year.

Each of these initiatives is helping to improve each university's departments and units through efficiency and personnel engagement.



# Graduates and Jobless Getting Hired amid Coronavirus Economic with BSRU2T

The COVID-19 outbreak has dramatically added to the uncertainty of our university graduates to find a job, as unemployment soars and government solutions are just not enough. This has led the university to urge state-funded training and employment projects.



A big project of the year 2021 was BSRU University to Tambon (BSRU2T) which earned the budget from the Ministry of Higher Education, Science, Research and Innovation to enhance the economies and societies of the communities in Bangkok, Samut Sakhon, and Suphan Buri across 40 sub-districts by organizing training activities. With this project, the university could start expanding opportunities for new graduates to gain work experience that is sought after to develop skills during the Covid pandemic. It also could disseminate the concept of the Bio-Circular-Green Economy: BCG Model to the young generation. Out of 800 participants, there were 200 students, 400 fresh graduates, and 200 local people employed as workers to help drive the project over a year after the training. In addition, we note that this project did not specify only Thai citizens, but also refugees in the local areas.



### **BSRU Creative Tourism**

A shift from cultural to creative tourism is also highlighted by the Office of Arts and Culture of our university. We focused on the power of destination branding through storytelling by cultural routes concept to stimulate local economic growth.



We offered a magnificent ferry journey, one of the best excursions by Bang Lang canal where tourists can absorb the ancient Thai history which is still alive, experience the Chao Phraya riverside lifestyle of the local community, and take in charming scenery, and temples along the canal. Our BSRU university is a location where you can first take a ferry to Bang Lang or the former Chao Phraya River route (Click on the link to see more information: <u>https://link.bsru.ac.th/ih7</u>).



# Super Smash Machine– the Innovation and Technology to Raise the Standard of Shrimp Paste Production

The Faculty of Engineering and Industrial Technology, Bansomdejchaopraya Rajabhat University integrated advanced technology for innovation in the shrimp production standard. This project aimed at increasing productivity which can lead to increased revenue for the local business Bang Krachao sub-district, Mueang district, Samut Sakhon province under the Rajabhat University Strategic Project for local development in the fiscal year 2021. Previously, people made shrimp paste by mixing the mixture with dried shrimp and then smashing things with a large mortar and pestle. This caused people to spend long hours at work with a low production rate. Therefore, the university research team designed a novel machine that can automatically grind to accelerate the quantity of shrimp paste products.

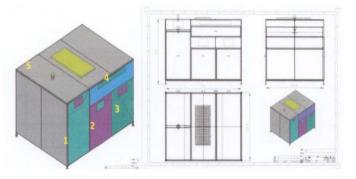


### **Smart Waste Bin**

The better waste is sorted, the better it is recycled. Smart Waste Bin—the techbased innovation developed by a research team of the Faculty of Engineering and Industrial Technology, takes human error out of the initial sorting process, making material processing faster and easier for recycling facilities.







No 1: Bottle compartment No 2: Plastic bag compartment No 3: Glass material compartment No 4: Paper material compartment No 5: Sensor

The process uses an algorithm to control a single machine that separates different materials and several different types of plastics to significantly improve both qualitative and quantitative waste sorting (The model of the smart bin shown in the above figure). This project was initially carried out to develop sustainable waste management in Taksin Sampan Community, Bang Yi Ruea Subdistrict, Thonburi District, Bangkok.

### HIRUN Food Application – Food Delivery App Available at BSRU University

Food delivery services in Bangkok have grown at an impressive rate over the last year. While more people appreciate the convenience of having food delivered, many also feel that going outside can be tricky and unsafe, especially at late night.



Whereas generally, riders claim that their cut by the food delivery company is insufficient, they used to be paid as low as 30 baht per delivery. This problem inspired a developer team, consisting of lecturers and students of the Faculty of Humanities and Social Sciences, to develop the "HIRUN FOOD APPLICATION." This application has the purpose to support local riders by offering support to small street food vendors in the vicinity of BSRU. The application has been in progress to offer everything from food delivery by an impressive list of street vendors and local restaurants gathered by the developer team, to pick-up.

### Kasetpattana Community Innovator Learning Center

Bansomdejchaopraya Rajabhat University, led by Assistant Professor Dr. Linda Gainma, President, and university administrators, opened the "Learning Center for Innovators in Community-Based Agricultural Development" under the University to Sub-District Project which is to allocate quality personnel to each Tambon (sub-district) for local growth and an increase of revenue through the collaboration between the university, Governor of Samut Sakhon Province, Mayor of Kasetpattana Subdistrict, and local communities of Kaset Phatthana Sub-district.



The center will be based around an educational farm that will train community members on sustainable agriculture practices and entrepreneurship. Additionally, the center will include an R&D facility that will research and showcase technological innovations by lecturers and researchers. In addition, CSG Products (Thailand), Pelear Co., Ltd., and Golden Eye View Co., Ltd. supported agricultural products processing equipment and tools.



### Local Community Products to the University as Marketplace

The Local Community Product Development Project: Local Community Products to the University as Marketplace was organized by the Faculty of Management Science. This project aims to push the OTOP products to the accreditation and certification process, enhance product values to be accepted among the public, promote local wisdom, empower the communities, generate jobs and income for the communities, and promote product development consistent with the local way of life and culture as well as produce products from local ingredients to make the community self-reliant. It was held from January 20th, 2022 to September 30th, 2022 in the Samutsakorn province area and the target group included Samutsakorn's local community enterprises.



#### Healthcare Project for Elderly in Sai-Yai-Som Sub-district Community

Thailand is one of the many countries facing aging society challenges. To develop the quality of life for the elderly, our university launched the integration project named "Healthcare Project for Elderly." This healthcare program focuses on medicinal support, including Thai medicine, applied science, and stress management. All groups of elderly, including bedridden patients, in the Sai-Yai-Som Subdistrict community, U-Thong District, Suphan Buri Province, were eligible.

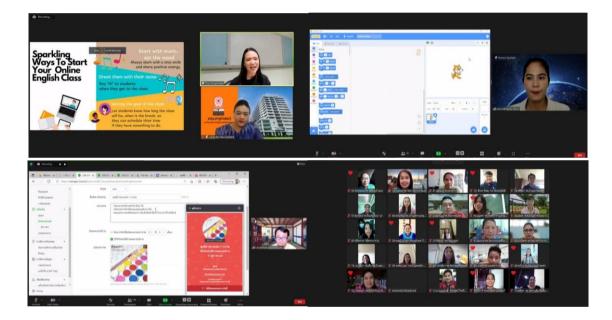


All Activities in this project covered four domains. (1) in the physical domain, we provided training for the elderly and their caregivers in the field of health care; (2) in the psychological domain, we encouraged the promotion of the values of the elderly and family-based care for the elderly; (3) in the social relationships domain, the community supported to establish a center for the elderly, to encourage and support them to participate in social activities; and (4) in the environmental domain, the establishment of volunteer caretakers for the elderly in the village was initiated, and a care surveillance unit to provide safety and convenience for elderly was set up. The outcome of this project offers some recommendations and that community-based care has the potential to develop the quality of life among the elderly in the psychological domain, which is a fundamentally better quality of life in other aspects of the elderly.



# The Learning Quality Improvement Project for Reading, Writing, and Critical Thinking Skills of Students at Basic Education Level

The Learning Quality Improvement Project for Reading, Writing, and Critical Thinking Skills of Students in Basic Education Level was organized by the Faculty of Education. This project aims to create an improvement plan, and review and monitor the Learning Quality Improvement Project for Reading, Writing, and Critical Thinking Skills of Students at the Basic Education Level. It develops a curriculum for educational innovators, improves learning quality in terms of reading, writing, and critical thinking skills of students at the basic education level, develops and educates educational innovators through coaching and mentoring approach, and produces lessons learned on developing educational innovators for further research and utilization. It was held from May to July 2022 and its target group included teachers and lecturers of the schools joining the network.





### U-Thong Dvaravati Education Center for Special Area Office 7 (DASTA 7) Sustainable Tourism

Since 2019 till present, the U-Thong Dvaravati Education Center of the university collaborated with the Special Area Development Administration for Sustainable Tourism (Public Organization), and Special Area Office 7 (DASTA 7). This collaboration founded the project "Developing knowledge and enhancing skills of network partners to become the role model for Sustainable Tourism in the Ancient U-Thong Special Area.

The center offered 5 courses which consist of Course 1: Principles of Participation, Course 2: Management, Course 3: Planning management in each community, Course 4: Creating a tourism program, and Course 5: Social Media Marketing.









These courses have as a goal to strengthen the committee and club members' knowledge and skill development as they are working on tourism network mechanism development in the area.

### Enhancing Kudeejeen Community-Based Creative Tourism through Its Identity

Bansomdejchaopraya Rajabhat University presented the research results on "Developing products based on Kudeejeen community identity for enhancing Creative Tourism" under the cooperation of NIDA-Thailand Research Fund (TRF), led by a research team, Asst. Prof. Dr. Sing Singkajon, Asst. Prof. Dr. Ekachai Phuhiran and Asst. Prof. Chulalak Charujutharat, with Prof. Dr. Panornueng Suthat Na Ayuthaya, Director of Research and Development Institute, who also participated in the National Research Expo 2021.



# **SDG 11: Sustainable Cities and Communities**



Our university is located in Thonburi District, which has a full history, and an important cultural heritage within the region, and is known for the peaceful coexistence of three religions: Buddhists, Muslims, and Christians. A prominent example is the Kudeejeen community. Portuguese settlers founded Kudeejeen about 250 years ago during the Thonburi period and have influenced the area via their cuisine. A signature treat is called "Kudeejeen Portuguese Cake". The university aimed to promote this area and enhance services to stimulate tourism. The university lecturers teamed up and dedicated to 'Value Creation' based on Kudeejeen identity, way of life, local folk wisdom, arts, culture, and history through the "Luk Kudeejeen" song. The composition of the song was created by the Luk Kudeejeen community choir and orchestra. Currently, it has developed into tourist merchandise to represent the Kudeejeen community.

By adding creativity to local communities, travelers can engage in new experiences through community-based activities and learn about the unique character of local people and their sense of place. This helps to strengthen communities and make local people more self-reliant, which are the keys to the creation of truly sustainable tourism.



### **BSRU2T for Floating Market Tourism**

BSRU organized an exhibition for local product distribution during November 6th-28th, 2021. This program helped to promote Song Khlong Floating Market tourism and local business in Taling Chan district, Bangkok.



Training activities were arranged by lecturers, staff, and students to promote professional skills in the local communities including herbal products making, Thai arts and crafts, clay sculpture, banana leaf artwork, as well as Thai dessert cooking.



#### Waste Management in BSRU

The total solid waste generated at Bansomdejchaopraya Rajabhat University was 25.21 tons per month. Solid wastes generated in the university were separated into wet and dry waste. Wet waste was food waste that was generated from the cafeteria. These wastes were collected and transferred to animal farms by the private sector. Dry waste was separated to recycle, general and hazardous waste. Recycle wastes were collected by housekeepers and sold to the recycling industry. General wastes were collected in garbage bags in waste storage and transferred to landfill by the municipal office. Hazardous wastes were collected in waste storage and transferred to landfill by the private sector. During this year, there were 2 projects about raising awareness on waste separation using the 3Rs principle. These projects efficiently encourage staff and students to recycle waste. Results from the project activities can bring solid waste to recycling processes of approximately 4.25 tons/month which can account for 16.87% of total waste. The evidence of each project's activities is presented in the following pictures.

#### **Change Waste to Worth**

The "Change Waste to Worth Envi 3 Rs Season 3" project was organized by the environmental conservation club (student's club). This club aims to develop knowledge and innovation for environmentally friendly living. The activities were waste collection in the canal around the university, production of biological fertilizer from food waste, donation drop spot for recycled waste, transportation of recycled waste to the recycling organization in Thailand, and a workshop on waste separation.



Waste collection along Bansomdejchaopraya canal under the campaign "Thailand Environment Day"





Distribution of biological waste products from food waste made by the club to the community around the university



Organize a workshop on waste separation for elementary students at Wat Chaoarm school, Bangkok, Thailand located near-by the university.

### **Reusable Bags**

This program was organized by the Office of President Bansomdejchaopraya Rajabhat University. The purpose of this program was to decrease the usage of plastic bags in the university. The usage of fabric bags instead of plastic bags was practiced by university staff and students.



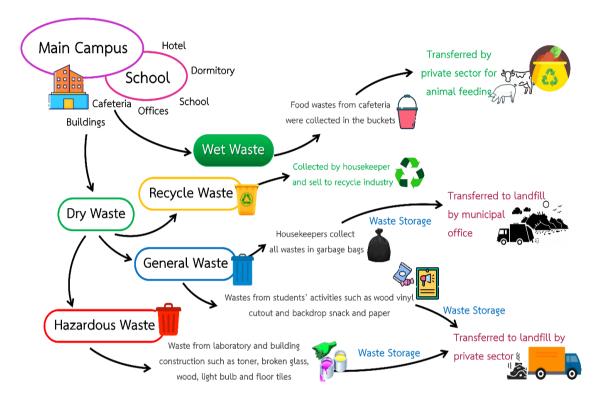
### Thumb up Tumbler

This program was organized by the Office of President Bansomdejchaopraya Rajabhat University. The purpose of this program was to decrease the usage of plastic glass in the university. As shown in the photos below, the usage of tumblers instead of plastic glass was utilized by university staff and students.



# Innovation on Environmental Management: Waste Reduction to Mitigate Global Warming Project

Innovation on Environmental Management: Waste Reduction to Mitigate Global Warming project was organized by the Environmental Science and Technology Program, Faculty of Science and Technology. The main objective was to reduce waste and encourage staff and students to recycle waste. The activities were workshops and a campaign on raising awareness of waste reduction, collection of recycled waste, and calculation mitigation of greenhouse gas emissions through waste separation.







Collecting recycled waste from staff and students under the campaign "Exchange Waste to Smile"

13 CLIMATE





Workshop on waste segregation for university staff



This project encouraged recycling waste and the calculation of carbon emission reduction by waste separation throughout the faculties and departments in the university. A report on this project was submitted to the Low Emission Support Scheme (LESS), which is organized by Thailand Greenhouse Gas Management Organization (TGO).



#### **Climate Change Mitigation Action with Low Emission Support Scheme (LESS)**

The Office of Academic Affairs and Registration and Office of Computing were encouraged by the above-mentioned project to minimize the global impacts through decreased consumption. In addition, they were stimulated to reduce their usage of resources and increase the recycling of used materials over a year. The offices have received a certificate under the Low Emission Support Scheme (LESS) from the Thailand Greenhouse Gas Management Organization (Public Organization) as they initiated waste segregation for recycling that helps to cut greenhouse gas emissions totaling 23.821 tons of carbon dioxide and 60 Kgs of carbon dioxide, respectively.

#### สำนักส่งเสริมวิชาการและงานทะเบียน ได้รับใบประกาศเกียรติคุณ ในกิจกรรมลดก๊าซเรือนกระจก

สำนักส่งเสริมวิชาการและงานทะเบียน มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ได้รับโปประกาศเกียรติคุณจากการเข้าร่วมกิจกรรมลดก๊าซเรือนกระจก ในรูปแบบการจัดการของเสีย จัดโดของค์การบริหารจัดการก๊าซเรือนกระจก (องค์การมหาชน) หรือ อบก. โดยการบันทึกข้อมูลปริมาณขยะและส่งผล การดำเนินการให้ทางอบก. พิจารณารับรองผลการประเมินการลดหรือภักเก็บ ก๊าซเรือนกระจกภายใต้โครงการสนับสนุนกิจกรรมสดก๊าซเรือนกระจก General Guideline for Low Emission Support Scheme (LESS) ซึ่งสำนัก ตระหนักถึงความสำคัญของสิ่งแวดล้อม จึงจัดโครงการการบริหารจัดการสำนักงาน สีเซียวและส่งเสริมความปลอดภัยในการทำงาน กิจกรรมจัดเก็บเอกสารเก่าและ คัดแยกเอกสาร เพื่อนำกลับไปรีโชเคิดและยังมีผ่วนช่วยให้ลดก๊าซเรือนกระจกไต้



สำนักส่งเสริมวิชาการและงานทะเบียน มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา





สำนักคอมพิวเตอร์ มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ได้รับใบประกาศเกียรติคุณ โครงการสนับสนุนกิจกรรมลดก๊าซ เรือนกระจก "การจัดการขยะเพื่อลดสภาวะโลกร้อน"

สำนักคอมพิวเตอร์ มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ได้รับใบประกาศเกียรติคุณ โครงการสมับสนุนกิจกรรมลดก้าซ เรือนกระจก "การจัดการขยะเพื่อลดสภาวะโลกร้อน" โดยสามารถ ลดก้าซเรือนกระจกได้ 60 กิโลกรัมคาร์บอนไดออกไซด์เทียบเท่า (19 มกราคม 2565 - 19 เมษายน 2565) จากกระทรวง วัฒนธรรมทรัพยากรธรรมชาติและสิ่งแวดล้อมโดยองค์การ บรีหารจัดการก้าซเรือนกระจก(องค์การมหาชน) นายเกียรติชาย โมตรีวงษ์ ผู้อำนวยการองค์การบริหารจัดการก้าซเรือนกระจก ให้ไว้ ณ วันที่ 23 สิงหาคม พ.ศ. 2565



### **Reduce Your Carbon Footprint in School**

Another university project was known as "Environmental Guardianship Teaching of School Children." We sponsored and helped What Chao Arm school, which is located in the vicinity of the university, to participate in the Low Emission Support Scheme (LESS) by the Thailand Greenhouse Gas Management Organization (Public Organization). The LESS is designed to decrease the carbon footprints of the school via reducing, reusing, and recycling activities. We built on the concept of the LESS scheme to incorporate broader aspects of climate change mitigation and environmentally sustainable practices such as upcycling, water conservation, low environmental impact lifestyles, etc to teachers and students. During 2021, the school succeeded in considerable reductions in carbon emissions, as certified by LESS.





#### Marine Education Field Trip for Sustainable Development

The value of field study is vast. Field experiences create not only better science, but also better scientists, citizens, and people, thereby substantially affecting the human-nature relationships that form the basis for sustainability. Field experiences encourage multiple ways of knowing: observing nature, conversing with nature, and participating in nature. Although students arrive in the field with different types and degrees of experience, most quickly realize that each of these ways of knowing offers valuable insights into how the world functions. These help the students to realize becoming scientists and human beings.



Therefore, the Bachelor of Education in Biology Program focuses on equipping students with knowledge along with practical skills for field-based education. The activities are provided for students covering five major areas: ecology, zoology, microbiology, botany, and genetics. The pictures above show an example of a field trip, taken in 2021. In the zoology course, students were taken on field trips regularly, e.g., by visiting locations such as the Fisheries Research Center and the beach.

Students could learn about the diversity and human use of living marine resources and marine life in the ways of the locals who live nearby and understand the community's perception of the utilization of natural resources. In addition to students' instructional skills, they could learn practical skills and methods of collecting living organisms to be used in the laboratory properly without harming the environment and natural resources.



# Developing Fishery Resources and Mangrove Forest Natural Education Center in Samut Sakhon

The fishery resources of mangrove forests are the natural habitat for various species of fish, shrimps, and crabs, as well as a source of germplasm and genetic pool. Mangrove forests also provide valuable ecosystem services to coastal communities, tourist attractions, nature conservation, education, and research. The ecosystems are so openly accessible that they are easily exploited by humans. Local communities that use mangrove forests and their resources may have considerable botanical and ecological knowledge about their forests.



To protect mangrove forests and coastal communities in Bang Krachao Subdistrict, Samut Sakorn, Faculty of Engineering and Industrial Technology organized the project on developing the Fishery resources and Mangrove Forest Natural Education Center, which is part of the royal-initiated project. This contribution can promote people and local communities to learn about the importance of mangrove restoration and how they can help protect mangrove forests, mitigate marine pollution, and how plastic waste in the ocean affects the environment, coastal ecosystems, and communities.

### Increasing the Coastal Fishing Economy in Samut Sakorn

As part of the university's ongoing commitment to give back to the communities, the Faculty of Engineering and Industrial Technology organized the project to create innovation in community production to raise the standard of seafood processing for the Samut Sakhon area. This project could improve food safety standards and develop knowledge about seafood processing techniques and help drive the coastal fishing economy allowing small business operators to generate more income for the local community.



# Innovation of Bio-Fermented Fresh Milk Hormones with Straw Mushroom Cultivation in Baskets

Developing a career in cultivating straw mushrooms in baskets is another project of the Faculty of Science and Technology that can generate income for farmers in the urban drought and flooded areas of Lopburi province.



Mushroom cultivation helps to address the issue of nutritional security and also provides a solution for the proper recycling of agro-food wastes. In addition to good quality protein, no cholesterol, and high fiber, the mushrooms also have bioactive compounds like b-glucans and protein-polysaccharide complexes that impart unique medicinal values like anti-cancer. Interestingly, Straw mushrooms (*Volvariella volvacea*) are suitable to be planted in flood and drought-risk areas. In flooded and drought areas, they should be grown in baskets that can be moved. To save water during the growing phase, a basin should be available. Soaking rice straw to make the rice straw wet will save more water than sprinkling. Lignocellulosic materials for straw mushroom growing are rice straws. Lignocellulosic materials can serve as a suitable substrate in the solid-state fermentation process involving mushrooms. Mushrooms degrade lignocellulosic substrates through lignocellulosic enzyme production and utilize the degraded products to produce their fruiting bodies.

In urban areas of Lopburi province, a large amount of agro-industrial waste such as rice straw is produced by different local industries. The disposal and burning of this waste have created major global environmental problems. Moreover, to reduce milk waste, making fresh milk hormones found that it can reduce the cost of using fertilizers to nourish vegetables and trees as well as helps speed up growth when used with leafy vegetables.

Therefore, the researcher created the innovation for straw mushroom cultivation in baskets by using bio-fermented fresh milk hormones with straw mushroom cultivation in baskets. This knowledge was spread out to local communities through training workshops from our university researchers. They found that this innovation was generated as a result of the eco-friendly conversion of low-value byproducts into new resources that can be used to produce value-added products and also created another alternative option for local people or farmers to increase their incomes.

5 LIFE ON LANE



### **Commercial Beekeeping Project for Biodiversity**

Bees are an innovative and environmentally - friendly way to help make the SDGs a reality. Bees specifically are responsible for the fertilization of many flowering plants, including food crops. From research and efforts, bees are dying at an unprecedented rate due to the loss of habitat and climate change.



The Community Role-Model Project on Integrated Commercial Beekeeping organized by the Faculty of Science and Technology aimed to transfer knowledge on taking care of bee health and bee farms, managing beehives and bee farms as a learning resource for a community attraction and developing the ability to implement technology on beekeeping, bee propagation, and bee farm management as a main or secondary occupation for local people. This project has been carried on since 2020 till the present at Baan Tamnandin Community, Khaopra Subdistrict, U-thong District, Suphanburi Province.

#### Life under the Microscope

The department of Biology (B.B.A.) organized the third academic service activity "Life under the Microscope" for elementary school students of Bansomdejchaopraya Rajabhat University Demonstration School. The activities were arranged to promote student knowledge and understanding of basic science as well as create their experience in studying various living things such as hydra, copepods, earthworms, mosses, coral reefs, sea stars, and stuffed animals such as frog skeletons, fish skeletons, etc. This activity also taught students how to use a microscope to observe such organisms.





### Integrity and Transparency, and No Gift Policies

The University pursues a policy of integrity and transparency in its operations. Accordingly, the University has announced policies, mechanisms, and systems for involving beneficiaries or stakeholders in the operation of the University by announcing policy effective November 1, 2018.



In 2021, BSRU has announced a Declaration of 'Principles of Governance with Integrity, Morality, and Transparency' and a 'No Gift Policy'. The Declaration aims to instill honesty, virtue, and transparency and to prevent corruption and conflicts of interest in all operations. Furthermore, it aims to establish a culture of integrity, positive attitude, and righteousness, and to prevent all forms of corruption and fraud. This refers specifically to the Principles of Administration (See the link for more details: <u>https://link.bsru.ac.th/htl</u>) and the No Gift Policy.

# The University and Local Government Partnerships in Strengthening the Capacity of Good Governance

From April to June 2021, the Faculty of Humanities and Social Sciences at Bansomdejchaopraya Rajabhat University organized an academic service project to educate local government organizations in many provinces of Thailand. The theme was developing and making a local development plan covering legal issues, budgeting regulations, and village and community development planning processes. The project has provided additional information to the executives whose responsibility is formulating policies and action plans. From the outcome of this project, it is widely accepted that the university can be an important local asset and contribute to local and regional policy development in a variety of ways.





### **PDPA Outreach Programme for Establishing Policies**

On June 1st, 2021, Thailand's Personal Data Protection Act BE 2562 (PDPA) came into full effect and brought significant changes to the current data protection regulatory environment in Thailand. This creates challenges for organizations doing business in Thailand both before and after the deadline. The PDPA's scope and requirements are deep and complex, and it takes time for companies to become fully compliant. This means companies should act now, taking a programmatic risk-based approach to data protection so they can demonstrate progress and accountability to the regulators and society.



Therefore, with our awareness, Bansomdejchaopraya Rajabhat University organized an online training program on the Personal Data Protection Act B.E. 2562 (PDPA) for the university president and executives who are responsible for directing and establishing policies for administrators, educators, and stakeholders to create awareness, understanding, practice, and the proper use of the Personal Information Act.



Bansomdejchaopraya Rajabhat University (BSRU) Signing MoU with the Office of National Higher Education Science Research and Innovation Policy Council for SDG Policy

Rajabhat Universities, led by the President of Bansomdejchaopraya Rajabhat University as the chair of the Council of Rajabaht University Presidents, signed the MoU with the Office of National Higher Education Science Research and Innovation Policy Council to develop policies to promote Rajabhat Universities and serve the national development goals in making concrete plans consistent with the national strategy (2018-2037).



It is the country's first national long-term strategy that is developed according to the Constitution. This plan aims to ensure that the country achieves its vision of becoming "a developed country with security, prosperity, and sustainability following the Sufficiency Economy Philosophy" with the ultimate goal being all Thai people will achieve happiness and a high state of well-being.



### **BSRU University to Tambon (BSRU2T)**

BSRU has launched the University to Tambon (U2T) project, which has received a budget from the Ministry of Higher Education, Science, Research and Innovation to organize training activities to enhance the economies and societies of Bangkok, Samut Sakhon, and 40 subdistricts of Suphan Buri. Through this training, the concept of the Bio-Circular-Green Economy: BCG Model was disseminated.



This is to rebrand Thailand, in particular, to align the country with the Sufficiency Economy Philosophy, to incorporate the UN's Sustainable Development Goals (SDGs), and to build national strength from within by promoting the local economy and linking Thailand to the global community. The output and outcomes were monitored actively throughout the projects and we note that overall implementations could mitigate and eventually solve communities' economic, social, and environmental problems.



# The Collaboration for Innovative Research Methods for Sustainable Social and Community Development

Science Center, Faculty of Science and Technology, Bansomdejchaopraya Rajabhat University hosted the 3rd Workshop Project on Innovative Research Methods for Community and Society to Develop the Potential of Academic Work, Technology, Research and Innovation to Achieve Sustainable Development Goals". The executives, lecturers, and staff joined the workshop and exchanged ideas with experts from Institute for Population and Social Research, Mahidol University who shared knowledge on innovative research methods for the community and society.



### Training Workshop on Medicinal Plant Identification in Lao PDR

Thai Traditional Medicine Department, Faculty of Science and Technology, Bansomdejchaopraya Rajabhat University was invited as a guest speaker to the Training workshop on Medicinal Plant Identification in Lao PDR. Here, they provided a lecture entitled "Local knowledge ethnomedicine for flowering plants in Thailand" for students, academics, pharmacists, and lecturers of the Faculty of Forestry at the National University of Laos. There was a demonstration of contorted hermit gestures to disseminate the wisdom of Thai traditional medicine and a lecture on quality control of herbs: a case study of using Murdannia loriformis for developing pharmaceuticals. This activity promotes the development of SDG 3.





# The Lecture Exchange Project on "ASSESSMENT OF ONLINE LEARNING IN PANDEMIC ERA" with Mahasaraswati Denpasar University, Bali, Indonesia

The Office of International Affairs and ASEAN Network in cooperation with the Faculty of Teacher Training and Education, Mahasaraswati Denpasar University, Bali, Indonesia organized the International General Lecture Exchange Project on "Assessment of Online Learning in the Pandemic Era". This lecture was part of the IAAN Webinar Series and covered four subject areas: English, Mathematics, History, and Biology. By organizing this, the office promoted the development of Quality Education (identified as SDG4).









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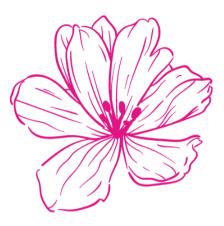
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