มหาวิทยาลัยราชภัฏร้อยเอ็ด
ROI ET RAJABAHT UNIVERSITY

15 ระบบนิเวศบนบก

SDG15 :
LIFE ON LAND

เป้าหมายที่ 15
ระบบนิเวศน์บนบก

SUSTAINABLE DEVELOPMENT GOALS

15.2.1 Roi Et Rajabhat University: A Commitment to Environmental and Ecosystem Sustainability

Roi Et Rajabhat University (RERU) places environmental preservation and ecosystem protection at the core of its strategic priorities. This dedication is encapsulated in the university's 5-Year Strategic Plan (2023-2027), which emphasizes sustainability as a central pillar. RERU's mission, philosophy, and vision reflect this commitment:

- Mission: To be a source of lifelong knowledge.
- Philosophy: RERU promotes educational accessibility and community empowerment through royal principles and innovation, aiming to enhance the quality of life in local communities.
- Vision: To be a leading higher education institution advancing sustainable local quality of life.

For more details on RERU's guiding principles, refer to the strategic plan (https://www.reru.ac.th/planned-reru/15239/)

Strategic Environmental Focus in 2024

In 2024, RERU reviewed and updated its strategic plan, aligning it with six key strategies:

- Local Development
- Teacher Education and Development
- Educational Quality Enhancement
- Administrative System Improvement
- Natural Resource and Environmental Conservation
- Health Science Graduate Production

ยุทธศาสตร์ที่ 1	การพัฒนาท้องถิ่น	4	เป้าประสงค์	15	กลยุทธ์
ยุทธศาสตร์ที่ 2	การผลิตและพัฒนาครู	3	เป้าประสงค์	7	กลยุทธ์
ยุทธศาสตร์ที่ 3	การยกระดับคุณภาพการศึกษา	4	เป้าประสงค์	14	กลยุทธ์
ยุทธศาสตร์ที่ 4	การพัฒนาระบบการบริหารจัดการ	2	เป้าประสงค์	14	กลยุทธ์
ยุทธศาสตร์ที่ 5	การอนุรักษ์ทรัพยากรธรรมชาติและสภาพแวดล้อม	5	เป้าประสงค์	16	กลยุทธ์
ยุทธศาสตร์ที่ 6	การผลิตบัณฑิตด้านวิทยาศาสตร์สุขภาพ	2	เป้าประสงค์	6	กลยุทธ์

Strategic Goal #5: Natural Resource and Environmental Conservation

Under Strategic Goal #5, RERU aims to establish itself as a leader in natural resource conservation and environmental sustainability. This involves transforming the university into a model institution for ecosystem preservation and, eventually, into a center for academic

services that focus on local natural resource restoration, development, and conservation. A notable initiative in this area is the Plant Genetic Conservation Project under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn.

Beyond conservation, RERU addresses energy, water, and air conservation; reducing greenhouse gas emissions; waste management; and promoting biodiversity within terrestrial ecosystems. In 2024, the university launched five strategic environmental conservation projects, achieving significant milestones: 35% of university-generated waste was repurposed, and environmental activities saw a high participation rate of 94.92% among faculty, staff, and students. Safety protocols—covering physical, chemical, and biological aspects—were also introduced as part of the environmental initiatives.

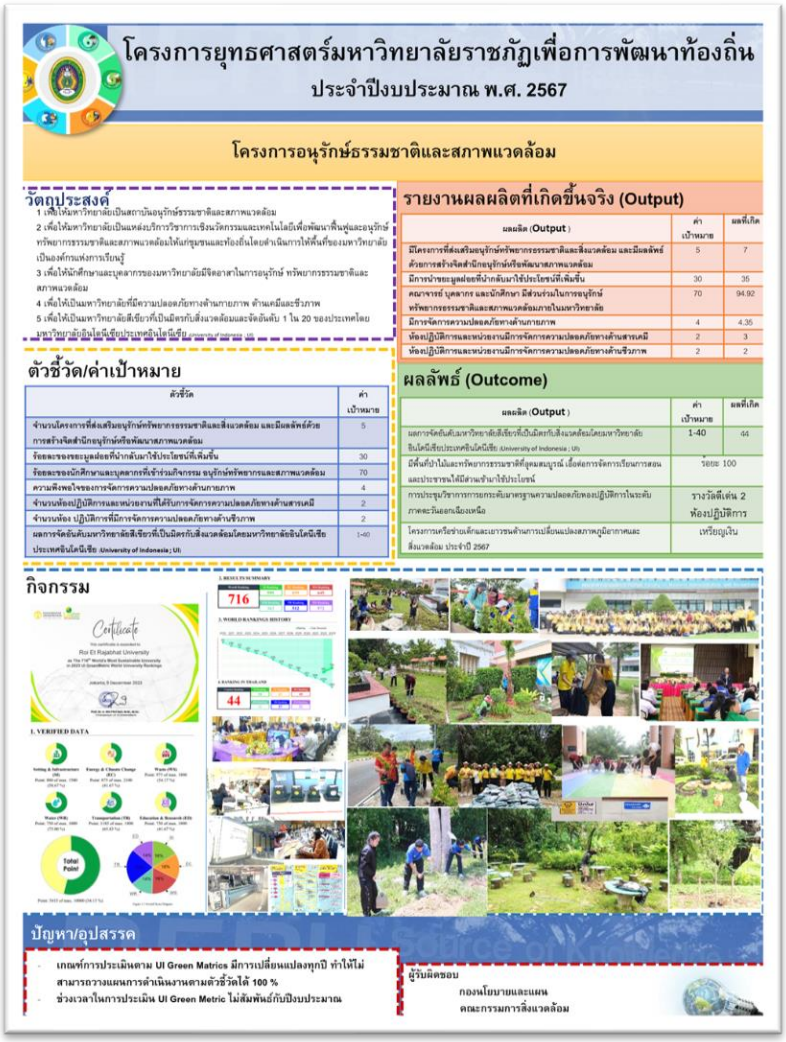
ภาพที่ 14 ยุทธศาสตร์ที่ 5 การอนุรักษ์ทรัพยากรธรรมชาติและสภาพแวดล้อม และความสอดคล้องของเป้าประสงค์

To further this effort, RERU has established the RERU Green University website (https://green.reru.ac.th/) and an environmental safety report platform (https://sites.google.com/reru.ac.th/reru-environment-safety-report/home) to share activities and information with the public.

Activities Organized by Rajabhat University Roi Et

Annual Natural Resource and Environmental Conservation Project

Each year, Rajabhat University Roi Et organizes an Annual Natural Resource and Environmental Conservation Project aimed at promoting awareness and active participation in the conservation of natural resources. The project includes activities such as tree planting, waste management campaigns, environmental workshops, and ecological restoration programs. These initiatives engage students, faculty, and local communities, emphasizing the importance of preserving forests, wildlife, and biodiversity.



The report can be accessed at

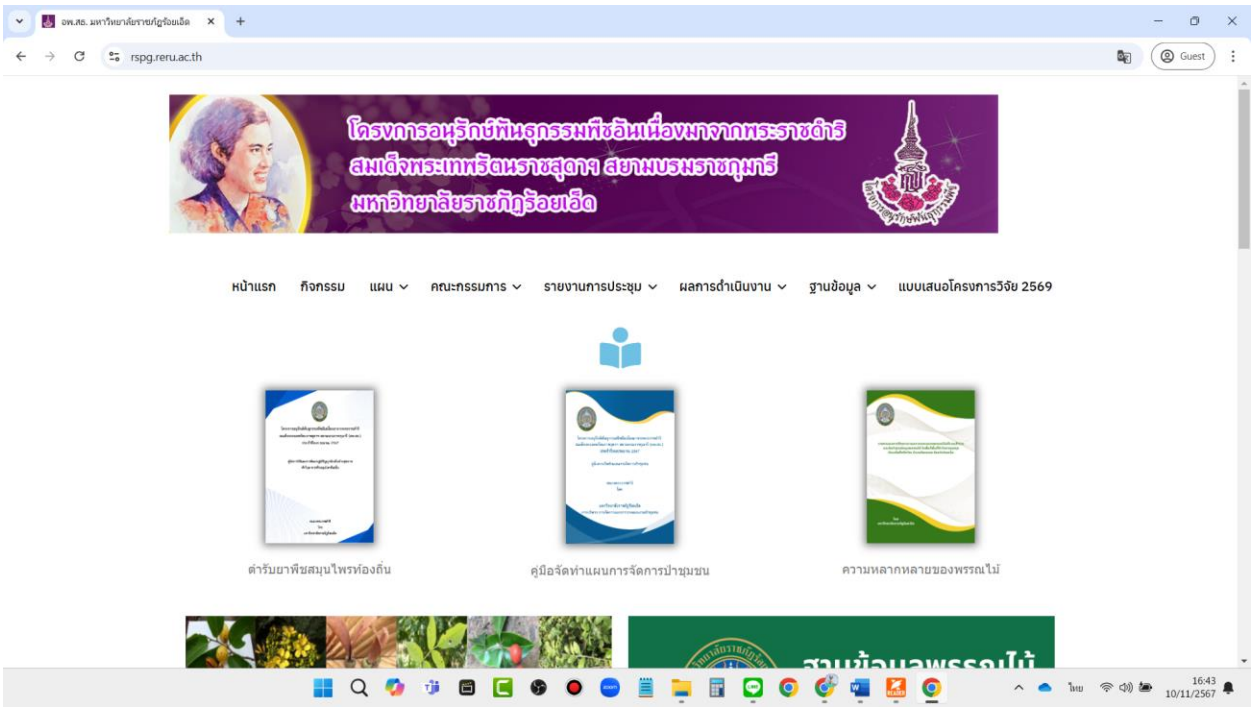
https://drive.google.com/file/d/1rnqj1iKKSTKQJz1j4tIexYYKzmdTAsIX/view?usp=drive_link

Plant Genetic Conservation Project Under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG)

Rajabhat University Roi Et has undertaken the Plant Genetic Conservation Project Under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG), a significant initiative aimed at conserving plant genetic resources, especially indigenous and rare plant species. This project focuses on the preservation and sustainable use of plant varieties that are vital to local ecosystems and agricultural practices.

The project involves the establishment of conservation fields and nurseries, where plant species are collected, propagated, and studied. These efforts contribute to the protection of plant diversity and promote the use of native plants in sustainable agriculture, landscape restoration, and biodiversity conservation.

To ensure transparency and public access to information about this important conservation effort, the university has created a dedicated webpage summarizing the project's activities, progress, and outcomes. This online platform provides detailed information on the plant species being conserved, research findings, and educational resources related to plant genetics and biodiversity conservation.

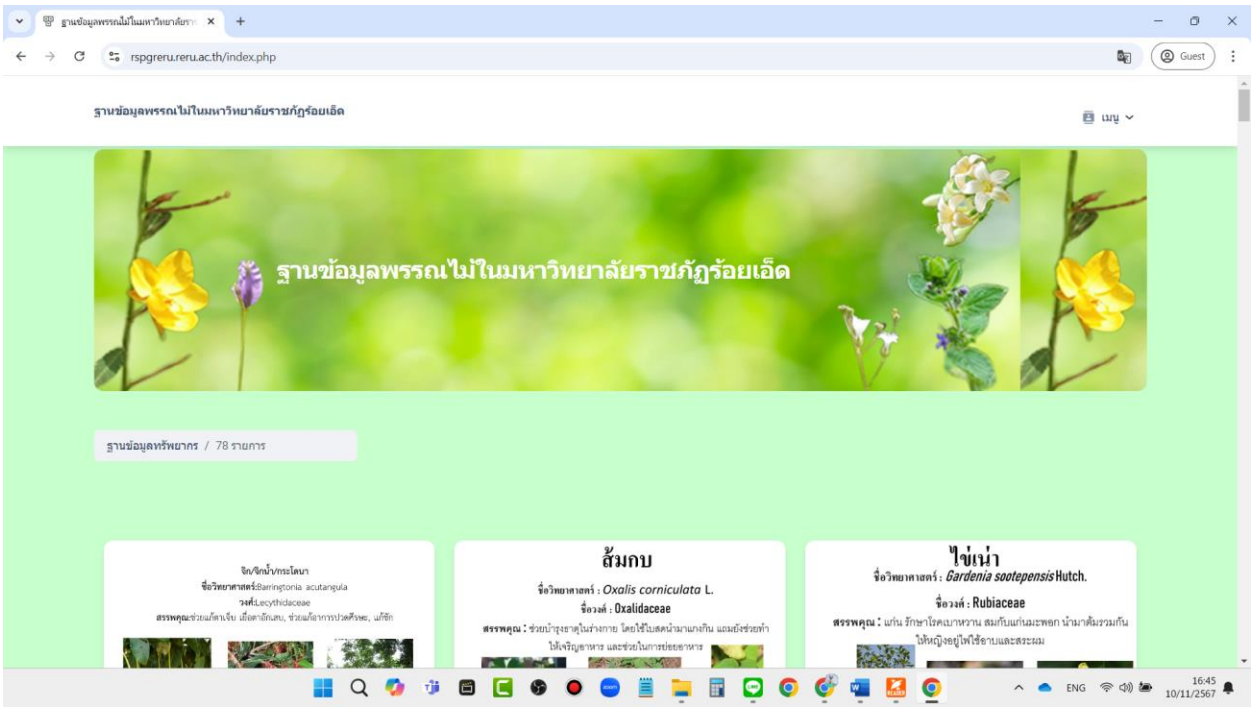


Plant Genetic Conservation Project Under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG) website

https://rspg.reru.ac.th/

Biodiversity Survey and Conservation Project at Thung Ba Forest

As part of the university's ongoing commitment to land conservation and biodiversity, RERU initiated the Biodiversity Survey and Conservation Project at Thung Ba Forest. This project focuses on conducting thorough surveys to assess the biodiversity of the forest ecosystem. Through this project, the university collects valuable data on the flora and fauna of the area, which is essential for developing strategies for the sustainable management and protection of Thung Ba Forest. The project also aims to educate local communities and university members about the significance of maintaining biodiversity.



https://rspgreru.reru.ac.th/index.php

Thung Ba Forest Carbon Credit Project and Public Ecological Education Area

Rajabhat University Roi Et has also launched the Thung Ba Forest Carbon Credit Project. The project's primary goal is to create carbon credits by preserving the forest and reducing deforestation. These carbon credits can be traded or utilized to offset greenhouse gas emissions. As part of this initiative, the university has designated an area of Thung Ba Forest as an Ecological Education Zone, open to the public for environmental education and awareness. This zone serves as an educational resource for students, researchers, and visitors to learn about forest ecosystems, carbon offsetting, and sustainable land management practices.

Biodiversity Conservation and Local Wisdom Learning Center, Koke Thung Ba Forest, Rajabhat University Roi Et

Tree Planting Activity to Enhance Green Spaces on His Majesty King Rama X's Birthday

In celebration of His Majesty King Rama X's Birthday,

Rajabhat University Roi Et organized a Tree Planting Activity aimed at increasing green spaces on campus and promoting environmental sustainability. The event was held annually on the king's birthday and serves as a symbolic gesture of loyalty and respect to the monarchy, while also contributing to the conservation of the environment.

This activity involves the participation of university staff, students, and local community members who come together to plant a variety of native trees and shrubs around the campus. The planting of trees not only helps improve the aesthetic value of the university’s surroundings but also plays a crucial role in mitigating climate change, enhancing biodiversity, and promoting a sustainable campus environment. The initiative aims to create long-term green spaces that benefit both the university community and the local ecosystem.

The trees planted during the event are selected to support local biodiversity and improve the overall environmental quality of the campus, including providing shade, reducing carbon dioxide levels, and promoting better air quality. The university continues to monitor the growth of the plants and encourages regular maintenance to ensure the sustainability of the green spaces created.

Photos from the tree planting event, showcasing students and staff participating in planting native trees on campus.

https://pr.reru.ac.th/?p=40553

Collaboration with External Partners

Establishment of a Community Resource Management Learning Center

In collaboration with Agricultural Enterprise Community (Kaset Samphan) and the Nong Luang Subdistrict Municipality in Selaphum District, Roi Et Province, Rajabhat University has established the Community Resource Management Learning Center. The center aims to provide education and training on sustainable community resource management, focusing on natural resource conservation, sustainable agriculture, and local environmental management practices. The collaboration facilitates the sharing of knowledge and resources between the university, local farmers, and the municipal government, ensuring the implementation of effective and sustainable management practices for local communities.

The Community Resource Management Learning Center Caption: The Community Resource Management Learning Center, a collaborative project between Rajabhat University Roi Et, the Agricultural Enterprise Community, and Nong Luang Subdistrict Municipality, designed to promote sustainable resource management practices in the local community.

https://research.reru.ac.th/read_activity.php?id=53

Conclusion

Rajabhat University Roi Et has demonstrated a strong commitment to land conservation and the sustainable utilization of natural resources. Through various projects such as the Thung Ba Forest Biodiversity Survey, Carbon Credit Project, and the Community Resource Management Learning Center, the university actively contributes to environmental protection and the sustainable use of land. These initiatives not only promote environmental education but also engage local communities in sustainable practices, fostering a culture of environmental stewardship.

In addition to these projects, the university's ongoing collaboration with external partners, such as local municipalities and community organizations, ensures the long-term success of these initiatives. Rajabhat University will continue to prioritize environmental sustainability as part of its strategic mission, ensuring that future generations can benefit from the conservation efforts put forth today.

Attached Documents:

For those interested in exploring the policies and achievements, the following resources provide comprehensive information:

5-Year Strategic Plan (Revised 2024)
(https://flas.reru.ac.th/doc/672b3c69c709dRERU%205%20year%20stratergic%20plan%202023-2027_revised2024.pdf)

Policy Announcement on Natural Resource and Environmental Conservation, Safety, and Occupational Health
(https://drive.google.com/file/d/1R6O4vRroFazPz78J4iHTxORdBTYuqOdO/view?usp=drive_link)

Appointment of the Environmental Committee for 2024 and 2025
(https://drive.google.com/file/d/13Ybs2d08N0H6lPxwrnttVIVY4RXuHFNO/view?usp=drive_link)

Order for Appointment of Specific Safety Committee
(https://drive.google.com/file/d/13TpF3PwEnZOOjSySfWPRo-84wy9MIjZa/view?usp=drive_link)

Plant Genetic Resource Database at Roi Et Rajabhat University

(https://rspgreru.reru.ac.th/index.php)

RSPG Project Website (https://rspg.reru.ac.th/)

Energy Conservation Building Assessment Report

(https://drive.google.com/file/d/12cDwyWUVAck82cMqabcBUJSyuZY82HJ2/view?usp=drive_link)

Summary of Natural Resource and Environmental Conservation Projects 2024

(https://drive.google.com/file/d/1rnqj1iKKSTKQJz1j4tIexYYKzmdTAsIX/view?usp=drive_link)

15.2.2 Sustainable Campus Food Policies and Conservation Efforts at Roi Et Rajabhat University

Roi Et Rajabhat University (RERU) prioritizes environmental sustainability as a core mission. Under Strategic Plan 5, the university emphasizes natural resource and environmental conservation, integrating sustainability into all campus operations. RERU has implemented policies ensuring that campus resources, including food, are managed sustainably. The university's projects and initiatives promote local and sustainable agriculture, reduce waste, and educate the campus and community on sustainable practices.

Environmental Policy Implementation and Institutional Support

To ensure the effective implementation of its environmental policies, Roi Et Rajabhat University (RERU) has established an Environmental Committee tasked with driving the university's sustainability initiatives. The committee plays a key role in overseeing and implementing the university's environmental policies, ensuring that all actions align with the institution's broader mission of environmental stewardship.

On July 24, 2023, the university announced the "Policy on Natural Resource and Environmental Conservation, Safety, and Occupational Health," signed by the University President. This policy sets the framework for RERU's commitment to sustainable practices across the campus, focusing on resource conservation, waste reduction, energy efficiency, and ecological preservation.

This policy not only supports the university's environmental goals but also empowers faculty, staff, and students to actively contribute to a sustainable campus culture. The policy includes specific guidelines on resource management, health and safety protocols, and environmental impact reduction, ensuring that RERU remains at the forefront of promoting sustainability in higher education and beyond.

The establishment of this policy and committee underscores the university's dedication to aligning with national and global sustainability goals, ensuring that environmental conservation is an integral part of university operations and community engagement.

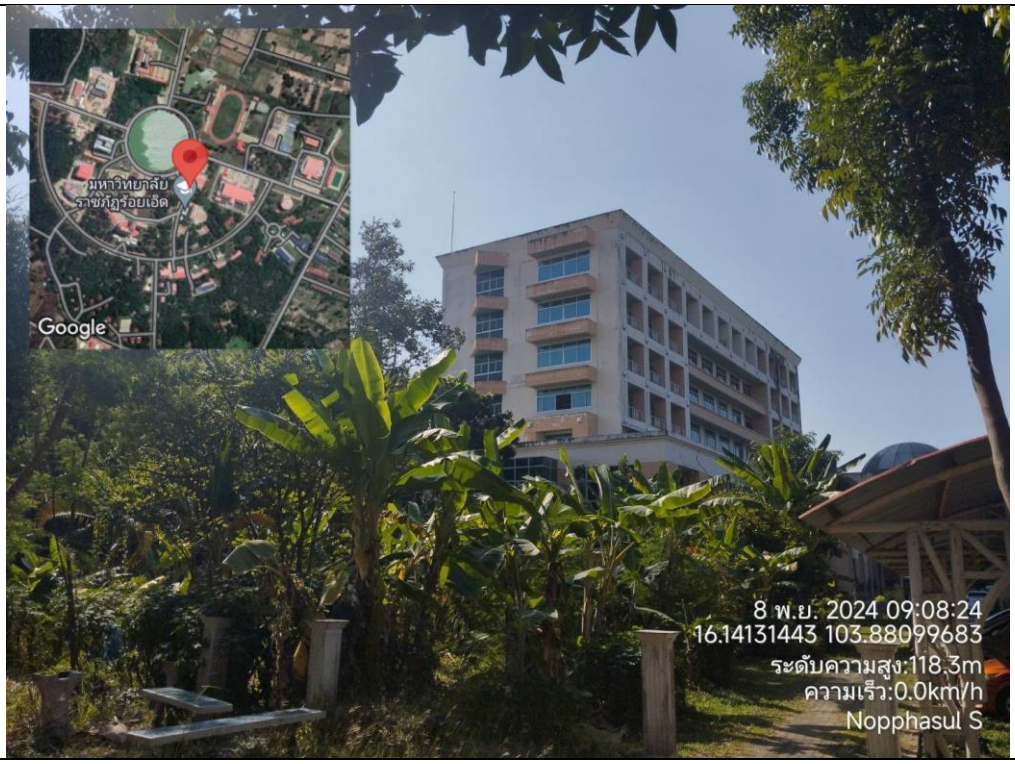
Sustainable Food and Agriculture Initiatives

In alignment with SDG 15.2.2, RERU has launched multiple initiatives on campus to ensure that food is sustainably produced and to promote a self-sufficient food system. Three key projects exemplify this commitment:

Edible Road Project and Green Space Utilization

Roi Et Rajabhat University has implemented the "Edible Road" project, transforming campus roadsides and vacant spaces into productive green landscapes by planting a variety of fruit-bearing trees and edible plants. The project provides an accessible, seasonal food source for students, faculty, and staff who are encouraged to harvest the produce directly, fostering a sustainable food culture on campus.

In addition to planting trees such as bananas and mangoes, the university uses empty spaces between buildings to grow various culinary herbs and medicinal plants, which serve as both cooking ingredients and natural remedies. This approach not only increases campus greenery but also introduces biodiversity and offers educational opportunities related to sustainable agriculture. By integrating edible landscaping, RERU creates a model environment that supports food production, promotes ecosystem diversity, and encourages a strong connection to nature among the university community.



Edible Road Activities and Utilizing Green Spaces for Sustainable Food Production

BSF (Black Soldier Fly) Protein Insect Farming Project

To support sustainable protein production, the university initiated a BSF farming project using food scraps from campus housing and cafeterias. This project uses organic waste as feed for BSF larvae, effectively managing food waste while producing an alternative protein source. The BSF larvae are used as follows:

A portion of the BSF larvae is distributed to university security guards, who assist in the project and use the larvae as feed for chickens and fish at their homes.

The remainder of the larvae is used to feed the egg-laying chickens and catfish at RERU's Demonstration School.

This closed-loop system not only reduces waste but also contributes to a sustainable, locally produced food supply on campus. It educates the university community on alternative protein sources and the benefits of organic waste management.

BSF Breeding House, Egg-Laying Hens, and Catfish Pond at the Demonstration School of Roi Et Rajabhat University

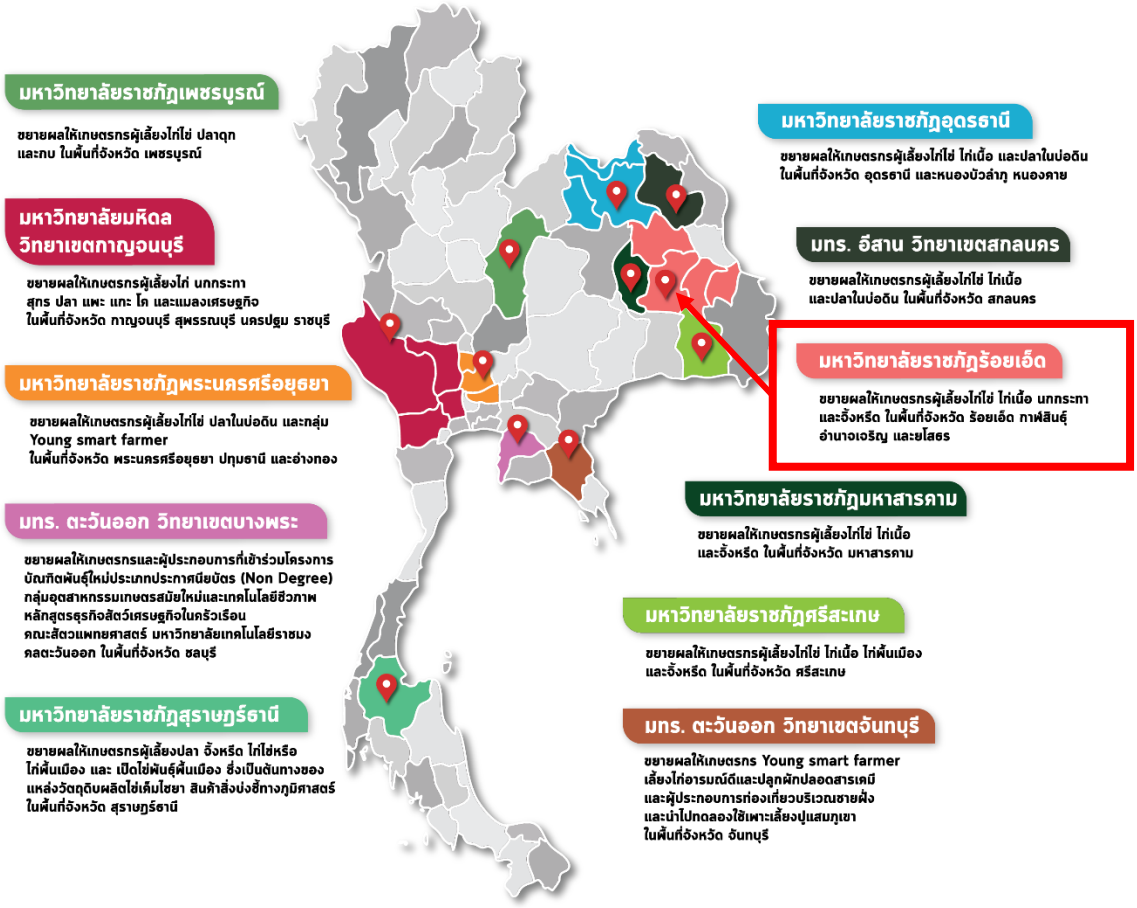
Community Outreach and Expansion: BSF Learning Center

The BSF farming initiative at Roi Et Rajabhat University (RERU) is part of a larger collaborative effort with the Office of Bioeconomy Development (BEDO) of Thailand, Khon Kaen University, and the network of Rajabhat and Rajamangala Universities across 10 campuses, launched in 2023. In 2024, this initiative enters its second year and is strengthened by a Memorandum of Understanding (MoU) signed between RERU and partner universities. This collaboration continues to promote sustainable insect farming and the development of local bioeconomies.

As part of this continued effort, RERU expanded its BSF farming project into the neighboring Nong Luang Subdistrict in Selaphum District, Roi Et Province. The university has established a BSF Learning Center to provide hands-on training for community members in sustainable farming, waste reduction, and resource management. In 2024 alone, over 200 individuals have participated in training sessions, and another 60 are expected to join in November 2024.

The BSF Learning Center offers practical knowledge in breeding Black Soldier Fly larvae, which can be used for protein production and waste management, benefiting both the participants and their communities. This initiative has fostered closer collaboration between the university and the local population, contributing to community involvement in sustainable agricultural practices and supporting food security at the local level.

By continuing this partnership, the project not only empowers individuals with new skills but also strengthens the regional network of universities, creating a sustainable and eco-friendly model that can be replicated in other communities across Thailand.



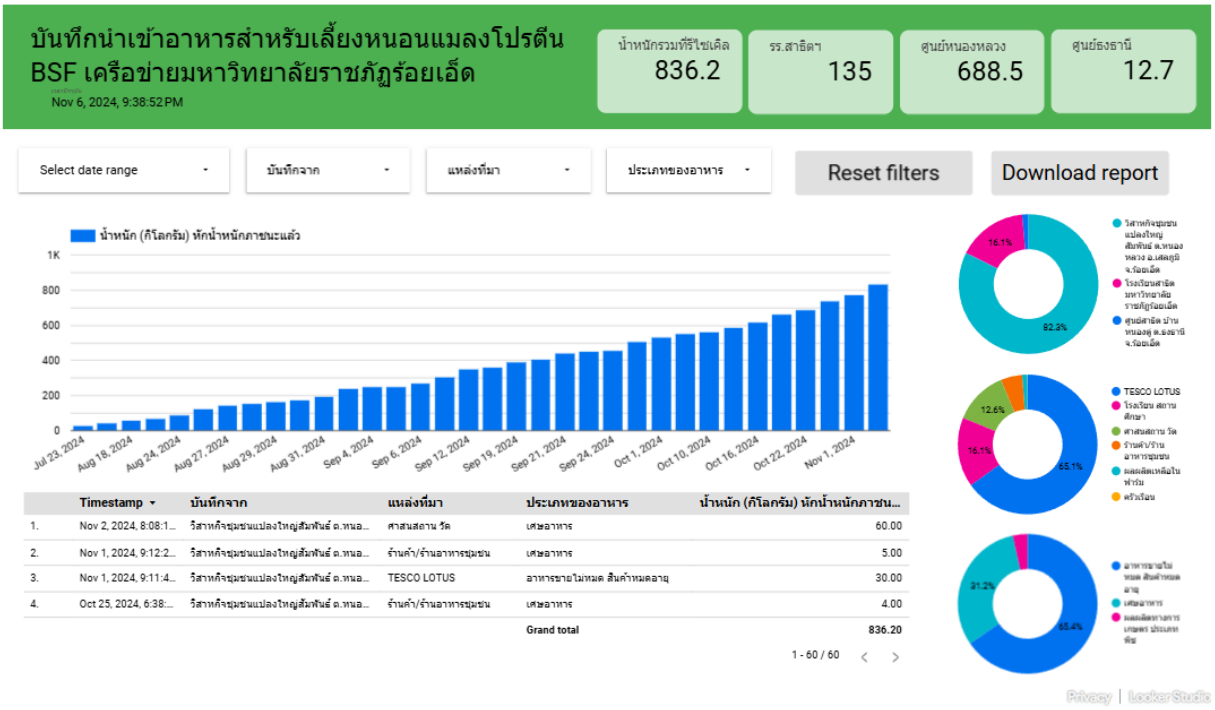
Expansion Areas for BSF Farming in the Second-Year Project Trained by Roi Et Rajabhat University https://www.bedo.or.th/uploadfile/5892

Model Farm and Learning Center, Nong Luang Subdistrict, Selaphum District, Roi Et Province

Memorandum of Agreement Signing Between Networks for Knowledge Transfer and BSF Farming Technology in the 2nd year

https://www.bedo.or.th/news/topnewsdetail?id=4831&type=news

Training Community Instructors for Knowledge Transfer on BSF Farming and Utilization
https://www.bedo.or.th/news/topnewsdetail?id=4684&type=news



Organic waste recycled by Roi Et Rajabhat University BSF network shown total 836kg of food waste has been recycled since the data system used since 23rd July 2024 https://sites.google.com/reru.ac.th/reru-environment-safety-report/2024-report/2024-bsf-organic-waste

Impact and Future Goals

These initiatives align with RERU's commitment to SDG 15.2.2 by establishing policies and practices that ensure food sustainability and environmental stewardship on campus. Through projects like the Edible Road, BSF farming, and the Community Learning Center, RERU is creating a model for other institutions to follow, showcasing how sustainable food systems and waste management practices can be effectively implemented within educational institutions. Future plans include expanding the BSF project to reach more communities, increasing biodiversity through additional edible landscaping, and enhancing educational efforts on sustainable agriculture and resource conservation.

By advancing these projects, RERU demonstrates leadership in sustainable practices and contributes to the UN's Sustainable Development Goals, specifically SDG 15: Life on Land. The university is committed to continuous improvement in environmental

stewardship and fostering a sustainable future for both the campus and the surrounding communities.

More resources

Policy https://green.reru.ac.th/wp-content/uploads/2023/11/Announcement-of-Roi-Et-Rajabhat-University-th.pdf

BEDO's news letter and campaign page

https://www.bedo.or.th/content-v2/3509

https://www.bedo.or.th/news/topnewsdetail?id=4684&type=news

https://www.bedo.or.th/news/topnewsdetail?id=4831&type=news

RERU BSF project page

https://sites.google.com/reru.ac.th/reru-environment-safety-report/activities/bsf-raising

total organic waste recycled dashboard

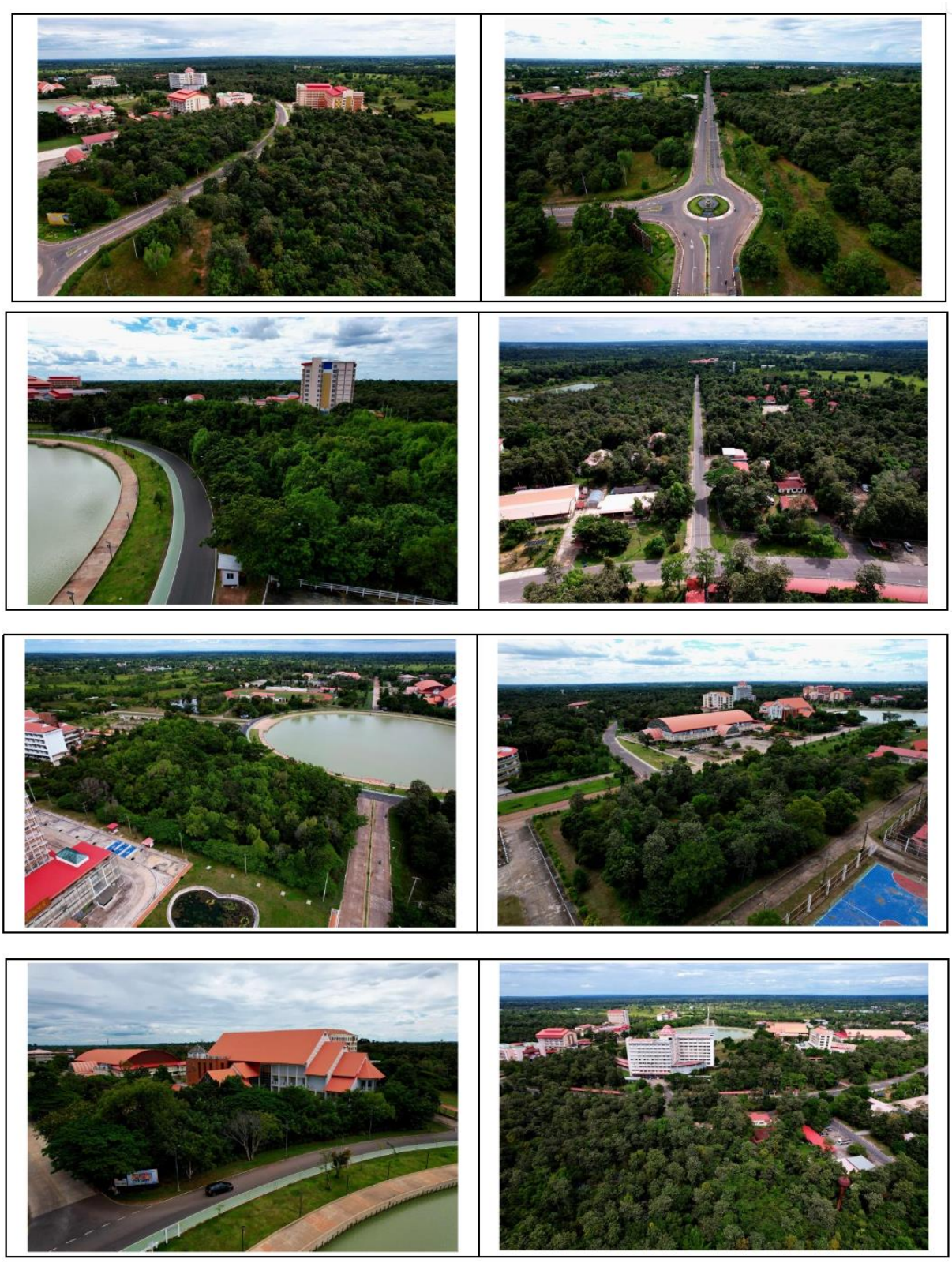
https://sites.google.com/reru.ac.th/reru-environment-safety-report/2024-report/2024-bsf-organic-waste

SDG 15.2.3 Implementation at Roi Et Rajabhat University

Roi Et Rajabhat University has demonstrated a significant commitment to the conservation and expansion of ecosystems and biodiversity, emphasizing the preservation of both plant and animal species, particularly within at-risk ecosystems. This commitment is articulated within the framework of Strategic Plan No. 5, which focuses on the conservation of natural resources and the environment. The university's efforts align with the Sustainable Development Goal 15 (SDG 15: Life on Land) set by the United Nations, emphasizing the need for maintaining and enhancing terrestrial ecosystems.

Total area: 846,993.97 m2

Total distance/circumference: 9.59 km



The forest area within Roi Et Rajabhat University is a naturally occurring forest, mostly deciduous forest in the dry season.

Strategic Plan and Environmental Conservation Policy Declaration

Roi Et Rajabhat University has instituted Strategic Plan No. 5, which aims to conserve natural resources and foster an environment conducive to biodiversity enhancement. The plan highlights the need for preserving both flora and fauna, alongside the university's formal declaration of a policy for natural resource conservation, environmental safety, and occupational health. This policy ensures a safe and conducive environment for both learning and working, thus supporting the university's sustainability objectives.

In line with these objectives, the university has appointed an environmental committee tasked with overseeing and implementing a wide range of conservation-related activities. These activities are designed to support the conservation and expansion of vital ecosystems, such as Thung Ba Forest, as well as areas designated by the Royal Forest Department for university activities, which must be conducted in tandem with forest conservation efforts. The environmental committee plays a pivotal role in the strategic planning and coordination of conservation efforts, involving both students and staff in numerous environmental initiatives while ensuring that all activities are aligned with principles of sustainability. This encompasses conducting regular environmental assessments, organizing training workshops on conservation methodologies, and fostering collaboration with external environmental organizations to augment the efficacy of conservation efforts. By adopting a proactive approach, the committee ensures that university activities not only adhere to environmental regulations but also make a meaningful contribution to ecosystem health and biodiversity preservation.

The environmental committee also prioritizes building partnerships with governmental and non-governmental organizations to facilitate the exchange of knowledge, resources, and best practices in conservation. By actively involving students in hands-on conservation projects, the university fosters a deep sense of environmental stewardship and responsibility among future leaders. Such collaborative efforts are integral to fostering a culture of sustainability that transcends the university, positively influencing surrounding communities and contributing to broader conservation goals at regional and national scales. Moreover, the committee maintains a robust system for monitoring and evaluating the outcomes of conservation initiatives, ensuring their effectiveness and refining strategies to maximize conservation impact.

Activities for Conservation of Natural Resources and Biodiversity

Roi Et Rajabhat University has implemented numerous activities focusing on ecosystem conservation and biodiversity enhancement. These key initiatives include:

Thung Ba Forest Conservation Project:

The university has spearheaded the Thung Ba Forest Conservation Project, which is dedicated to preserving the integrity of a natural forest area and mitigating ecosystem degradation. This initiative is a collaboration between the university and the local community to safeguard the forest and promote its sustainable use. The project encompasses activities such as tree planting, forest monitoring, and community

outreach campaigns aimed at raising awareness about the significance of forest conservation. By engaging local residents, the project not only helps to conserve the forest but also strengthens community relations and cultivates a shared sense of responsibility for managing natural resources.

Eco-Tourism Area Development:

The university has established an eco-tourism area to offer educational opportunities for students and the general public to learn about the biodiversity of plants and animals on the university grounds. The focus is on promoting sustainable tourism practices that minimize environmental impact and foster appreciation for natural resources. This eco-tourism area features guided tours, educational programs, and interpretive signage that provide detailed information on local species and ecosystems. By integrating educational elements into tourism, the university aims to create an enriching experience that encourages visitors to become advocates for conservation in their own communities.

Promoting eco-tourism as a learning center for biodiversity and preserving the traditional wisdom of Thung Ba forest, Roi Et Rajabhat University

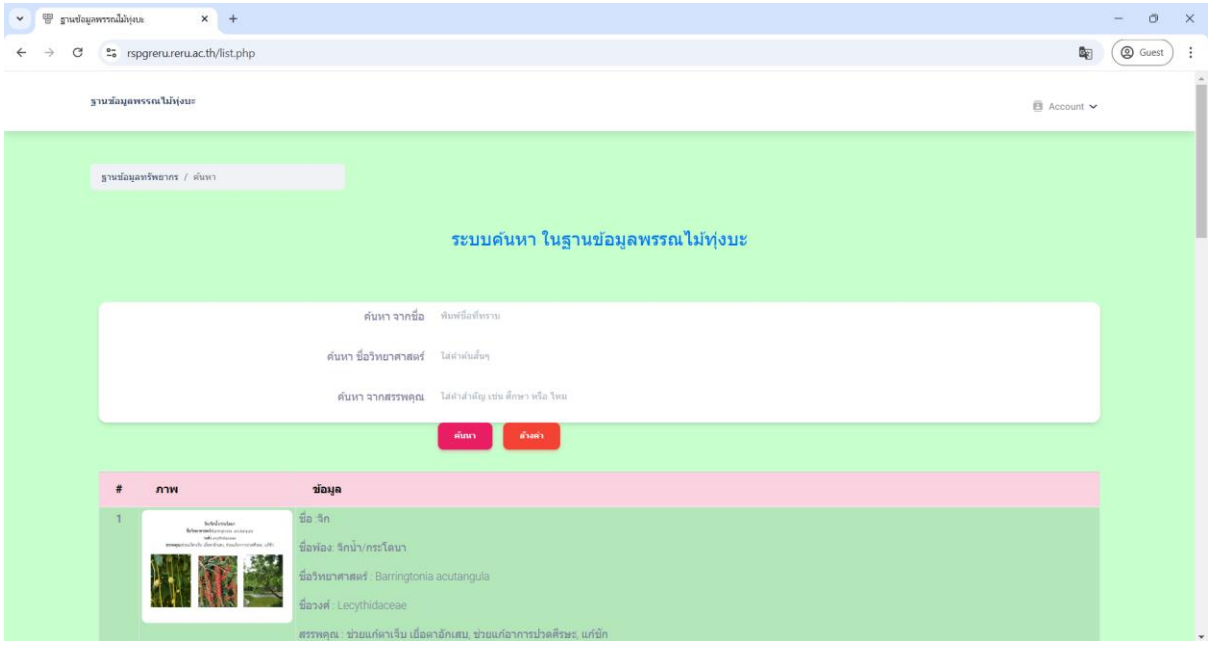
Survey of Flora and Fauna:

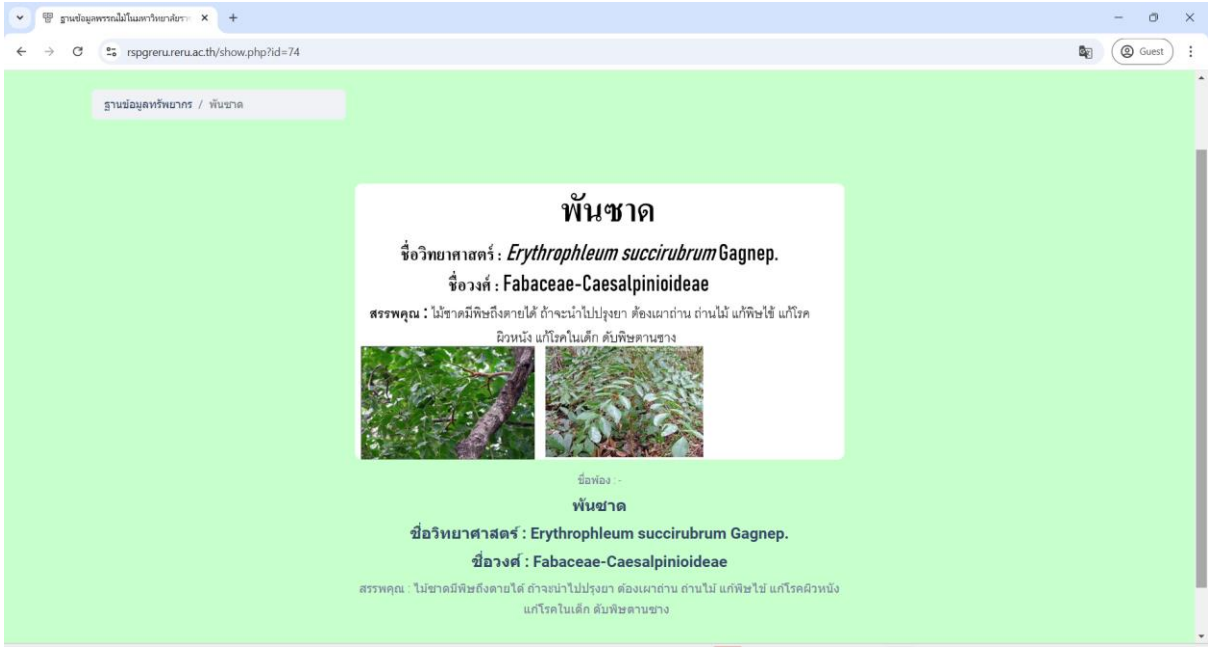
The university conducts systematic surveys of flora and fauna within the campus to document the presence of various species, including birds, mammals, and reptiles. These surveys form the basis for informed conservation planning and biodiversity management. Conducted periodically, these surveys track changes in species populations and habitat conditions, providing essential insights into ecosystem health. Such data is instrumental in identifying areas requiring targeted conservation actions and assessing the efficacy of ongoing initiatives. Furthermore, the survey results are shared with students and researchers, supporting academic studies and fostering a deeper understanding of local biodiversity.

An activity capturing the survey of plant species to create a comprehensive database of flora and fauna at Roi Et Rajabhat University, including the calculation of biodiversity indices within the university conservative area

Plant Species Database Development:

Roi Et Rajabhat University has developed a comprehensive database of plant species identified on campus. This initiative serves to document plant species, their habitats, ecological roles, and conservation statuses, which is instrumental for effective conservation planning. The database is a valuable resource for students, faculty, and researchers, supporting educational and research activities while guiding biodiversity conservation initiatives. Maintaining an up-to-date record of plant species enables the university to monitor trends in plant diversity effectively and implement measures to protect at-risk species.





RERU Plant species database

https://rspgreru.reru.ac.th/list.php

Plant Genetic Conservation Project under Royal Initiative:

The university has actively participated in the Plant Genetic Conservation Project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn. This project is focused on the conservation, study, and sustainable utilization of local plant species to support long-term food security and natural resource sustainability. As part of this project, the university has established a plant nursery to propagate native species and has organized workshops to educate the community on the importance of plant genetic conservation. The project also involves research into the potential applications of local plant species in fields such as agriculture and medicine, contributing to the sustainable development of the region.

Conclusion

The efforts of Roi Et Rajabhat University in conserving and expanding ecosystems and biodiversity underscore its dedication to leading natural resource conservation efforts at both the local and national levels. The university emphasizes not only the conservation of natural resources but also their sustainable use, ensuring long-term benefits for society and the environment. The various activities and projects implemented by the university reflect its steadfast commitment to supporting and promoting biodiversity, which is a critical aspect of achieving Sustainable Development Goal 15.

By engaging students, staff, and the broader community in conservation initiatives, the university cultivates a culture of environmental stewardship that extends beyond the campus. The experiential learning opportunities provided to students through participation in conservation projects are instrumental in preparing them for future roles as leaders in sustainability and environmental management. Moreover, the university's partnerships with external organizations and its proactive approach to monitoring and evaluating conservation activities ensure that its efforts are both effective and aligned with best practices.

Educational Programs on Ecosystems at Roi Et Rajabhat University: Supporting SDG 15 - Life on Land

Roi Et Rajabhat University (RERU) plays a significant role in promoting environmental sustainability and addressing the United Nations Sustainable Development Goal (SDG) 15: Life on Land. The university's commitment is reflected in its educational programs, which aim to raise awareness and understanding of ecosystems, particularly focusing on wild flora and fauna. RERU offers both formal academic programs and short-term training courses designed to educate local and national communities about the importance of conserving biodiversity and preserving natural resources.

Academic Programs for Ecosystem Conservation

RERU provides a range of undergraduate and graduate programs that address issues related to ecosystem conservation and the sustainable management of natural resources. Key courses include general education classes as well as specialized degree programs. For instance, the general education course "Science and Environment for Quality of Life" offers a foundational understanding of the importance of environmental conservation and the relationship between science, the environment, and human well-being. This course is required for all students in non-science disciplines, ensuring a broad-based understanding of environmental issues across fields.

In addition, RERU offers Bachelor's degree programs that specifically focus on the study of ecosystems, biodiversity, and conservation. These programs include the Bachelor of Science in Biology and the Bachelor of Education in Biology. Both programs incorporate curricula on the study of biodiversity, genetics, and conservation techniques for both plants and animals. By incorporating these topics, students gain practical skills in identifying, protecting, and managing biological diversity. Moreover, the programs encourage hands-on experiences through fieldwork, where students interact directly with natural habitats, contributing to their understanding of ecosystem conservation.

Biology students during a biodiversity survey activity on campus.

A student club activity participated in a national competition and won a silver award in environmental conservation in 2024.
https://flas.reru.ac.th/newsInfo/124

Short-Term Training Programs

Beyond formal degree programs, RERU is also actively engaged in offering short-term courses and workshops that address the conservation of ecosystems and biodiversity. These programs are often targeted toward local communities, teachers, and other stakeholders interested in learning about the protection and sustainable use of natural resources. The training content typically covers practical strategies for preserving local ecosystems, environmental education techniques, and the importance of maintaining a balance between human activities and ecosystem health.

The university collaborates with community organizations and local government agencies to ensure that these training programs address the needs and priorities of local and regional ecosystems. Participants in these programs are encouraged to apply the knowledge they acquire to their own communities, thereby contributing to the broader goal

of ecosystem conservation. This community-centered approach fosters an awareness of local environmental challenges and provides practical tools to address them.

Community Engagement and Practical Impact

RERU's commitment to SDG 15 is further highlighted by its community engagement initiatives. These initiatives focus on creating meaningful impacts in the community through educational outreach, workshops, and partnerships. For instance, students and faculty members frequently participate in biodiversity surveys, reforestation efforts, and other conservation activities, which not only benefit the environment but also serve as learning opportunities for students.

The university also organizes events such as "Environmental Awareness Day," where students and local community members come together to participate in activities aimed at conserving local wildlife and plant species. These events provide a platform for the community to engage with experts and learn about the value of protecting natural habitats.

Training to enhance skills in solar panel installation to promote the use of renewable energy.

https://flas.reru.ac.th/newsInfo/101

Tree planting activity to increase green spaces on campus.

https://flas.reru.ac.th/newsInfo/112

Conclusion

Roi Et Rajabhat University is committed to the promotion of environmental education and conservation as part of its mission to contribute to sustainable development, specifically in relation to SDG 15 - Life on Land. By integrating environmental topics into formal education programs and offering targeted short-term training courses, RERU actively supports the preservation of ecosystems and the conservation of biodiversity. Through academic programs in biology, community workshops, and engagement initiatives, RERU empowers both students and community members to take meaningful actions toward conserving their natural environment. This approach not only enhances the university's educational offerings but also strengthens the bond between the university and the surrounding community, making RERU a pivotal institution in the region's efforts to protect and sustain life on land.

SDG 15.2.5 Educational Programs and Outreach on Sustainable Land Management for Agriculture at Roi Et Rajabhat University

Roi Et Rajabhat University is deeply committed to contributing to the global efforts of sustainable land management for agriculture, in alignment with the United Nations' Sustainable Development Goal (SDG) 15, specifically target 15.2.5. This target calls for the promotion of sustainable land management practices, particularly in agricultural settings, to protect and restore ecosystems. The university plays a significant role in educating both students and the broader community about sustainable agricultural practices and the importance of land management for long-term environmental health.

The university offers a variety of programs through both degree courses and non-degree outreach initiatives that promote knowledge and skills in sustainable agricultural practices. These initiatives are designed to reach both students and the local community, fostering a deep understanding of how agriculture can be managed in harmony with the environment. This report outlines the educational programs and outreach activities that are part of the university's commitment to sustainable land management for agriculture.

Academic Programs Related to Sustainable Agriculture and Land Management

Roi Et Rajabhat University offers several courses that provide undergraduate students with a strong foundation in sustainable agriculture and land management. These courses are part of the university’s general education curriculum and specialized courses aimed at developing knowledge and skills that students need to address agricultural sustainability challenges. The following courses are particularly relevant:

1. GEN4110: Agriculture and Quality of Life

This course explores the relationship between agriculture and human well-being, emphasizing how sustainable agricultural practices can improve the quality of life for both rural and urban communities. Students learn about sustainable farming practices, environmental impact, and the importance of conserving land and resources for future generations.

2. GEN4111: Sustainable Agricultural Resources and Environment Management**

This course provides in-depth knowledge of sustainable agricultural resource management and environmental preservation. It covers topics such as soil conservation, water management, agroecology, and the impact of agricultural practices on biodiversity. Students learn how to manage agricultural land and resources in ways that balance productivity with environmental sustainability.

3. GEN4112: Thai Lives Agriculture

Focused on traditional and modern Thai agricultural practices, this course examines how Thai farmers manage land and resources in a sustainable manner. It highlights the importance of preserving traditional agricultural knowledge while integrating modern innovations that promote sustainability.

Source: https://drive.google.com/file/d/1EY5PJ1duTuzJ64I_nV6xvht3hey4Sshr/view

In addition to these general education courses, the university also offers specialized courses related to local management and innovation in agricultural practices:

1. POL1103: Innovations in Local Management

This course introduces students to innovative approaches in local management, including sustainable agriculture practices that are adapted to the local context. Students gain insights into how local communities can implement sustainable agricultural strategies to improve their livelihoods and preserve their land.

Source: https://drive.google.com/file/d/1pr7kgeWKeENpdXMB6Awr1058vLHPRzkI/view

Outreach Programs and Training for Local and National Communities

Beyond the academic curriculum, Roi Et Rajabhat University also offers a variety of non-degree training programs and outreach activities aimed at local and national communities. These programs are designed to build capacity, promote sustainable practices, and enhance agricultural productivity through knowledge sharing and skill development. Some of the key outreach initiatives include:

1. Tissue Culture Plant Propagation Training

This training program focuses on advanced techniques in plant tissue culture, providing local farmers with knowledge and skills to propagate high-quality plants in a sustainable manner. In 2024, the university held two sessions of this training, with 60 participants in total. The program emphasizes sustainable agricultural practices that support local agriculture while minimizing environmental impact.

2. Organic Farming Management Training

Roi Et Rajabhat University offers training on organic farming practices, promoting the use of sustainable farming techniques that reduce the need for chemical inputs and enhance soil health. This training is particularly valuable for farmers seeking to transition to organic farming. In 2024, approximately 180 participants from four training sessions gained practical skills in organic farming methods.

Activity on processing organic herbs into products for daily use, such as organic turmeric soap.

Workshop activity on the production of agricultural bio-products and compost for self-use on farms.

3. Black Soldier Fly (BSF) Larvae Farming for Animal Feed

Another key initiative is the BSF farming training program, which teaches participants how to cultivate Black Soldier Fly larvae as a sustainable source of protein for animal feed. This practice not only reduces the need for conventional feed sources, which are often linked to environmental degradation, but also creates an innovative waste management solution. In 2024, around 180 participants from four training sessions learned about the economic and environmental benefits of BSF farming.

These training programs are offered free of charge to local farmers and other interested individuals, enabling them to adopt sustainable practices without the barrier of course fees. The university collaborates with local government agencies, agricultural organizations, and community leaders to ensure that the programs address the specific needs of the community and support local agricultural development.

Promotional poster for the 2024 training program for farmers on raising and utilizing BSF protein insects, as part of the second year of the ongoing project by the Rajabhat University Network in collaboration with BEDO

Impact and Contribution to Sustainable Land Management

The university's educational programs and outreach initiatives have had a significant impact on promoting sustainable land management practices within local and national communities. By equipping participants with practical knowledge and skills, these programs empower farmers and local communities to adopt environmentally friendly agricultural practices that enhance land productivity, preserve ecosystems, and contribute to long-term sustainability.

Through both academic and non-academic initiatives, Roi Et Rajabhat University fosters a strong culture of sustainability, where students, local farmers, and community members work together to address challenges related to land management and agricultural production. These efforts align with the university's broader goal of contributing to the achievement of SDG 15, particularly in promoting sustainable agricultural practices that protect and restore terrestrial ecosystems.

Additional evidence

https://sites.google.com/reru.ac.th/reru-environment-safety-report/activities/bsf-raising

https://www.bedo.or.th/content-v2/3509

https://www.bedo.or.th/news/topnewsdetail?id=4684&type=news

https://www.bedo.or.th/news/topnewsdetail?id=4831&type=news

Sustainable Agriculture and Food Security Farm Demonstration Activity within the Sufficiency Economy Philosophy Learning Center, Roi Et Rajabhat University

https://sites.google.com/reru.ac.th/reru-environment-safety-report/activities/sufficiency-economy-learing-center

Conclusion

Roi Et Rajabhat University's commitment to sustainable land management for agriculture is demonstrated through its educational programs and outreach activities aimed at local and national communities. By offering both formal courses and hands-on training programs, the university equips students and local farmers with the knowledge and skills needed to manage land and agricultural resources in a sustainable manner. These efforts contribute to the broader goal of achieving SDG 15.2.5, which promotes sustainable land management and the restoration of ecosystems in agricultural contexts.

15.2.6 Educational Programs on Sustainable Land Management for Tourism.

The university offers a business administration program, specializing in hotel and tourism management, which includes education on sustainable land management for tourism. A notable success is the involvement of students in the "GSB Youth Development Project," where they applied their knowledge to local resource management, souvenir production, and tourism program development. This initiative has contributed to increased income for the community through sustainable tourism practices.

https://baac.reru.ac.th/?page_id=485


ขอแสดงความยินดีกับ
นักศึกษา
คณะบริหารธุรกิจและการบัญชี
คณะครุศาสตร์และการพัฒนามนุษย์
ทีม : รักษ์ถิ่นโฮแซว
The Best
มีผลงานการพัฒนาดีเด่น ประเภท : รักษ์ดี
• การพัฒนาพระเครื่องเมืองศรี
• ตุ๊กตาน้องขอ & ไผ่น้องขอ
ชุมชนบ้านป่าเม้าเหนือ ตำบลเมืองเปลือย อำเภอศรีสมเด็จ จังหวัดร้อยเอ็ด
อาจารย์ที่ปรึกษา ผศ.ดร.วิไลวรรณ โพนศิริ นายอานนท์ จันจิตร
ภายใต้โครงการ
ออมสิน ยุวพัฒน์รักษ์ถิ่น ประจำปี 2567
มหาวิทยาลัยราชภัฏร้อยเอ็ด

https://baac.reru.ac.th/?p=659

15.3.1 Roi Et Rajabhat University's policy to ensure the conservation, restoration and sustainable use of terrestrial ecosystems associated with the university, in particular forests, mountains and drylands.

Roi Et Rajabhat University (RERU) has made environmental preservation and ecosystem protection central to its strategic priorities. This focus on sustainability is outlined in the university's 5-Year Strategic Plan (2023-2027), which includes an environmental strategy as one of six core pillars. The university's guiding statements reflect this commitment:

Mission: A source of lifelong knowledge.

Philosophy: RERU emphasizes educational accessibility and community empowerment through royal principles and innovation, aiming to uplift the quality of life within local communities.

Vision: To be a leading higher education institution advancing sustainable local quality of life.

References https://www.reru.ac.th/planned-reru/15239/

References https://www.reru.ac.th/planned-reru/15239/

In 2024, the university reviewed and updated its strategic plan, aligning it with the following six key strategies:

1. Local Development
2. Teacher Education and Development
3. Educational Quality Enhancement
4. Administrative System Improvement
5. Natural Resource and Environmental Conservation
6. Health Science Graduate Production

Strategic Goal #5: Natural Resource and Environmental Conservation

Under Strategy 5, RERU aims to become an institution committed to the conservation of natural resources and environmental sustainability. Initially, this involves developing the university as a model institution for ecosystem preservation. Future plans include transforming RERU into a center for academic services focused on local natural resource restoration, development, and conservation, taking part in initiatives such as the Plant Genetic Conservation Project under Her Royal Highness Princess Maha Chakri Sirindhorn's patronage.

The university has a clear policy outlined in its 5-year strategic plan (Fiscal Year 2023-2024) to be an organization focused on the conservation and restoration of natural resources and the environment.

Objective 1: To develop the university as an institution for the conservation of nature and the environment

Goal 1.1: To conserve natural resources and the environment, with outcomes focused on raising awareness for conservation or improving the environment

Goal 1.2: To manage and handle waste and promote recycling

Objective 2: To develop the university as a center for academic services in the restoration, conservation, and management of local resources and the environment, with the university's campus serving as a model under the **Plant Genetic Conservation Project Under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG)**

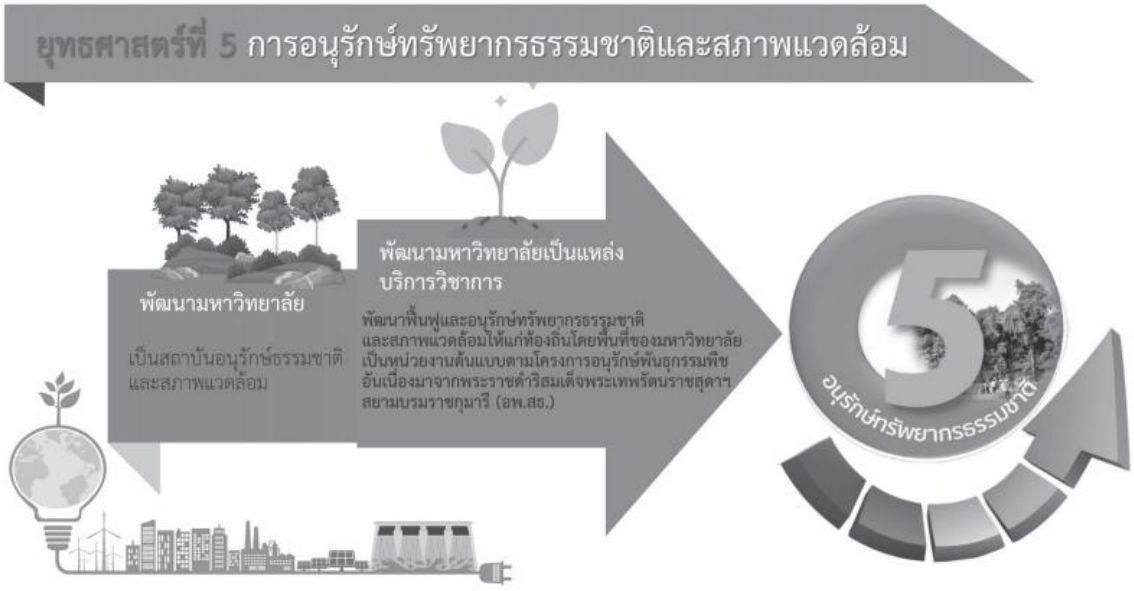
Goal 2.1: To innovate or implement projects for environmental restoration, with clear outcomes and measurable targets

Goal 2.2: To establish a network involved in environmental conservation and restoration, with clear outcomes

Goal 2.3: To serve as a model institution under the "Plant Genetic Conservation Project Under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG)"

Goal 2.4: To be ranked among the top 20 universities in the country in the Green University Index ranking, as ranked by the University of Indonesia

The university has allocated budgets to carry out projects and activities each year to achieve the objectives and key performance indicators continuously."



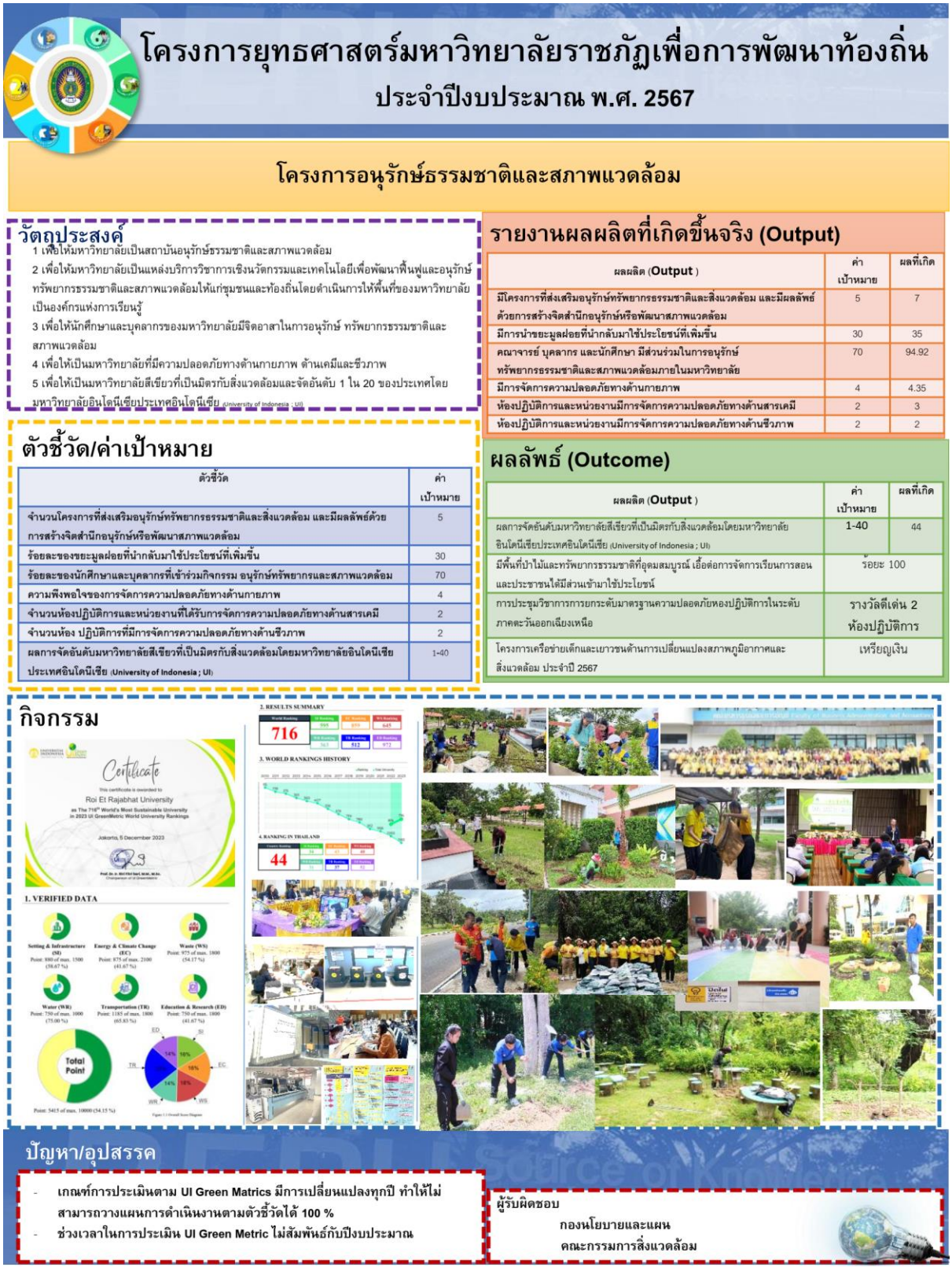
ภาพที่ 14 ยุทธศาสตร์ที่ 5 การอนุรักษ์ทรัพยากรธรรมชาติและสภาพแวดล้อม และความสอดคล้องของเป้าประสงค์

Strategy 5: Conservation of Natural Resources and the Environment

References https://www.reru.ac.th/planned-reru/15239/

Beyond conservation initiatives, RERU addresses energy, water, and air conservation; reducing greenhouse gas emissions; waste management; and promoting biodiversity within terrestrial ecosystems. In 2024, the university implemented five strategic environmental conservation projects. These projects enabled the repurposing of 35% of university-generated waste, and faculty, staff, and students participated in environmental activities with a high engagement rate of 94.92%. The university has also introduced physical, chemical, and biological safety protocols, as detailed in the accompanying project reports.

To achieve these objectives, Roi Et Rajabhat University has been implementing projects in line with its 5th strategic goal, which focuses on the continuous conservation of natural resources and the environment. They have also established the RERU Green University website to report on their activities and disseminate related information to the public. (https://green.reru.ac.th/ and https://sites.google.com/reru.ac.th/reru-environment-safety-report/home)



โครงการยุทธศาสตร์มหาวิทยาลัยราชภัฏเพื่อการพัฒนาท้องถิ่น

ประจำปีงบประมาณ พ.ศ. 2567

โครงการอนุรักษ์ธรรมชาติและสภาพแวดล้อม

วัตถุประสงค์

1 เพื่อให้มหาวิทยาลัยเป็นสถาบันอนุรักษ์ธรรมชาติและสภาพแวดล้อม
2 เพื่อให้มหาวิทยาลัยเป็นแหล่งบริการวิชาการเชิงนวัตกรรมและเทคโนโลยีเพื่อพัฒนาฟื้นฟูและอนุรักษ์ทรัพยากรธรรมชาติและสภาพแวดล้อมให้แก่ชุมชนและท้องถิ่นโดยดำเนินการให้พื้นที่ของมหาวิทยาลัยเป็นองค์กรแห่งการเรียนรู้
3 เพื่อให้นักศึกษาและบุคลากรของมหาวิทยาลัยมีจิตอาสาในการอนุรักษ์ ทรัพยากรธรรมชาติและสภาพแวดล้อม
4 เพื่อให้เป็นมหาวิทยาลัยที่มีความปลอดภัยทางด้านกายภาพ ด้านเคมีและชีวภาพ
5 เพื่อให้เป็นมหาวิทยาลัยสีเขียวที่เป็นมิตรกับสิ่งแวดล้อมและจัดอันดับ 1 ใน 20 ของประเทศโดยมหาวิทยาลัยอินโดนีเซียประเทศอินโดนีเซีย (University of Indonesia ; UI)

รายงานผลผลิตที่เกิดขึ้นจริง (Output)

ผลผลิต (Output)	ค่าเป้าหมาย	ผลที่เกิด
มีโครงการที่ส่งเสริมอนุรักษ์ทรัพยากรธรรมชาติและสิ่งแวดล้อม และมีผลลัพธ์ด้วยการสร้างจิตสำนึกอนุรักษ์หรือพัฒนาสภาพแวดล้อม	5	7
มีการนำขยะมูลฝอยที่นำกลับมาใช้ประโยชน์ที่เพิ่มขึ้น	30	35
คณาจารย์ บุคลากร และนักศึกษา มีส่วนร่วมในการอนุรักษ์ทรัพยากรธรรมชาติและสภาพแวดล้อมภายในมหาวิทยาลัย	70	94.92
มีการจัดการความปลอดภัยทางด้านกายภาพ	4	4.35
ห้องปฏิบัติการและหน่วยงานมีการจัดการความปลอดภัยทางด้านสารเคมี	2	3
ห้องปฏิบัติการและหน่วยงานมีการจัดการความปลอดภัยทางด้านชีวภาพ	2	2

ตัวชี้วัด/ค่าเป้าหมาย

ตัวชี้วัด	ค่าเป้าหมาย
จำนวนโครงการที่ส่งเสริมอนุรักษ์ทรัพยากรธรรมชาติและสิ่งแวดล้อม และมีผลลัพธ์ด้วยการสร้างจิตสำนึกอนุรักษ์หรือพัฒนาสภาพแวดล้อม	5
ร้อยละของขยะมูลฝอยที่นำกลับมาใช้ประโยชน์ที่เพิ่มขึ้น	30
ร้อยละของนักศึกษาและบุคลากรที่เข้าร่วมกิจกรรม อนุรักษ์ทรัพยากรและสภาพแวดล้อม	70
ความพึงพอใจของการจัดการความปลอดภัยทางด้านกายภาพ	4
จำนวนห้องปฏิบัติการและหน่วยงานที่ได้รับการจัดการความปลอดภัยทางด้านสารเคมี	2
จำนวนห้อง ปฏิบัติการที่มีการจัดการความปลอดภัยทางด้านชีวภาพ	2
ผลการจัดอันดับมหาวิทยาลัยสีเขียวที่เป็นมิตรกับสิ่งแวดล้อมโดยมหาวิทยาลัยอินโดนีเซียประเทศอินโดนีเซีย (University of Indonesia ; UI)	1-40

ผลลัพธ์ (Outcome)

ผลผลิต (Output)	ค่าเป้าหมาย	ผลที่เกิด
ผลการจัดอันดับมหาวิทยาลัยสีเขียวที่เป็นมิตรกับสิ่งแวดล้อมโดยมหาวิทยาลัยอินโดนีเซียประเทศอินโดนีเซีย (University of Indonesia ; UI)	1-40	44
มีพื้นที่ป่าไม้และทรัพยากรธรรมชาติที่อุดมสมบูรณ์ เอื้อต่อการจัดการเรียนการสอนและประชาชนได้มีส่วนเข้ามาใช้ประโยชน์	ร้อยละ 100	
การประชุมวิชาการการยกระดับมาตรฐานความปลอดภัยห้องปฏิบัติการในระดับภาคตะวันออกเฉียงเหนือ	รางวัลดีเด่น 2 ห้องปฏิบัติการ	
โครงการเครือข่ายเด็กและเยาวชนด้านการเปลี่ยนแปลงสภาพภูมิอากาศและสิ่งแวดล้อม ประจำปี 2567	เหรียญเงิน	

กิจกรรม

ปัญหา/อุปสรรค

- เกณฑ์การประเมินตาม UI Green Matrics มีการเปลี่ยนแปลงทุกปี ทำให้ไม่สามารถวางแผนการดำเนินงานตามตัวชี้วัดได้ 100 %
- ช่วงเวลาในการประเมิน UI Green Metric ไม่สัมพันธ์กับปีงบประมาณ

ผู้รับผิดชอบ

กองนโยบายและแผน
คณะกรรมการสิ่งแวดล้อม

Strategic Project Report for Local Development by Roi Et Rajabhat University, Fiscal Year 2024

Project on Natural Resource and Environmental Conservation (Strategy 5)

https://drive.google.com/file/d/1rnqj1iKKSTKQJz1j4tIexYYKzmdTAsIX/view?usp=drive_link

Resources

5-Year Strategic Plan (Revised 2024)

https://www.reru.ac.th/planned-reru/15239/

Alternate Link:
https://flas.reru.ac.th/doc/672b3c69c709dRERU%205%20year%20stratergic%20plan%202023-2027_revised2024.pdf

Policy Announcement on Natural Resource and Environmental Conservation, Safety, and Occupational Health

https://drive.google.com/file/d/1R6Q4vRroFazPz78J4iHTxQRdBTYuqQdO/view?usp=drive_link

Appointment of the Environmental Committee for 2024 and 2025

https://drive.google.com/file/d/13Ybs2d08N0H6lPxwrnttVIVY4RXuHFNQ/view?usp=drive_link

Order for Appointment of Specific Safety Committee

https://drive.google.com/file/d/13TpF3PwEnZQQjSySfWPRo-84wy9MIjZa/view?usp=drive_link

Plant Genetic Resource Database at Roi Et Rajabhat University (Output of RSPG Project)

https://rspgreru.reru.ac.th/index.php

RSPG Project Website at Roi Et Rajabhat University

https://rspg.reru.ac.th/

Energy Conservation Building Assessment Report at Roi Et Rajabhat University

https://drive.google.com/file/d/12cDwyWUVAck82cMqabcBUJSyuZY82HJ2/view?usp=drive_link

Summary of Natural Resource and Environmental Conservation Projects 2024

https://drive.google.com/file/d/1rnqj1iKKSTKQJz1j4tIexYYKzmdTAsIX/view?usp=drive_link

15.3.2 - Identifying, Monitoring, and Protecting IUCN Red Listed Species and National Conservation List Species at Roi Et Rajabhat University

Roi Et Rajabhat University recognizes the importance of biodiversity conservation and the role it plays in maintaining ecological balance, in line with Sustainable Development Goal (SDG) 15. Specifically, SDG 15.3.2 focuses on the identification, monitoring, and protection of species listed on the International Union for Conservation of Nature (IUCN) Red List and national conservation lists, particularly in areas affected by university operations. The university has implemented several initiatives to address this responsibility.

Firstly, Roi Et Rajabhat University conducts regular surveys to identify and monitor species that are classified as endangered or at risk under the Wildlife Preservation and Protection Act of Thailand. These efforts are aligned with national conservation priorities, ensuring that the university contributes to the protection of species vulnerable to extinction. The university actively participates in the identification of these species and integrates this data into its broader environmental management strategies.

In addition to monitoring wildlife, the university has established a genetic database of plant species found within its campus. This initiative supports the conservation of plant diversity, especially species that may be under threat due to habitat loss or climate change. By documenting the genetic profiles of local plant species, the university aims to contribute to the preservation of genetic resources and promote sustainable practices in plant conservation.

Furthermore, the university's campus is located within a designated conservation area, as announced by the Forest Department of Thailand. This area is recognized for its ecological significance, and the university's operations are designed to align with the regulations and guidelines set forth for the conservation of biodiversity in this region. As such, the university is committed to maintaining a careful balance between its academic activities and its conservation efforts.

The discovery of plants listed as vulnerable species on the IUCN Red List, such as the Doi Suthep gardenia (*Gardenia sootepensis*), and the identification of ancient plants, such as the non-flowering species, *Gnetum montanum*, among others

Asian Water Monitor (Varanus salvator) found at Roi Et Rajabhat University, which is a protected species under the Wildlife Preservation and Protection Act B.E. 2562.

Through these measures, Roi Et Rajabhat University demonstrates a strong commitment to biodiversity conservation, ensuring that it actively participates in the protection of both plant and animal species that are crucial to maintaining ecological integrity. The university's policies and actions reflect its ongoing dedication to contributing to SDG 15 and supporting national and international conservation efforts.

Edible mushrooms found in the Thung Ba Forest Conservation Area, Roi Et Rajabhat University.

This approach also emphasizes the university's responsibility to safeguard ecosystems affected by its operations, while fostering a deeper understanding of environmental sustainability within its academic and local communities.

Source: https://sites.google.com/reru.ac.th/reru-environment-safety-report/activities/biodiversity-learning-space

15.3.3 - Biodiversity Integration in Planning and Development Processes

Roi Et Rajabhat University is strategically located in a green zone, with a significant portion of its land adjacent to a conservation forest area managed by the Department of National Parks, Wildlife and Plant Conservation. This forest area is governed by a sustainable land use agreement, under which the university plays an active role in maintaining the biodiversity and ecological integrity of the surrounding environment.

Biodiversity Integration in Planning:

In alignment with its commitment to environmental sustainability, the university integrates biodiversity considerations into its planning and development processes. All new construction projects undergo thorough environmental and biodiversity impact assessments before approval. These assessments evaluate the potential effects of new buildings on local flora, fauna, and ecosystems. The goal is to ensure that construction activities do not adversely affect the biodiversity in the surrounding area, including the conservation forest.

Green Space and Water Absorption:

As part of its sustainable development practices, the university has dedicated 55.09% of its total area (846,993.97 square meters) to green spaces, including forested areas and forest gardens. This exceeds the policy requirement of maintaining at least 30% green space. Additionally, the university has implemented measures to ensure that at least 40% of its total area is designed to absorb water. These features enhance the resilience of the campus to flooding, support local biodiversity, and contribute to mitigating climate change impacts by improving the water retention capacity of the land.

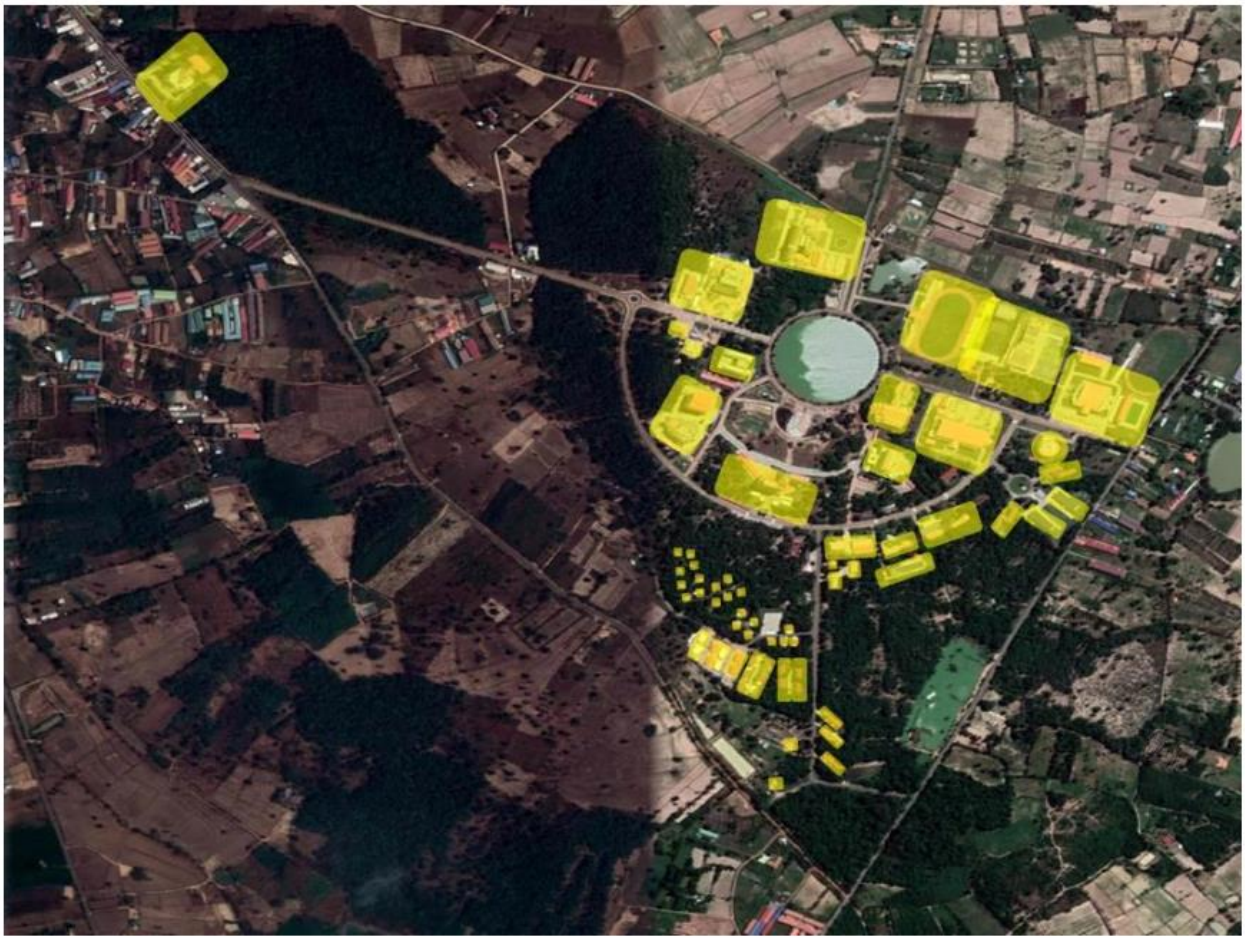
Sustainable Construction Practices:

Roi Et Rajabhat University places a strong emphasis on sustainable building practices. Construction projects prioritize energy-efficient designs, minimize concrete usage, and

incorporate permeable materials to allow water to naturally absorb into the ground. By restricting development to designated zones within the university's master plan, the university ensures that new buildings are constructed in a way that does not disturb protected green spaces or critical biodiversity areas. This careful planning helps preserve the integrity of the natural environment while allowing for necessary campus expansion.

Conclusion:

Roi Et Rajabhat University demonstrates a firm commitment to preserving local biodiversity through the thoughtful integration of environmental sustainability into its planning and development processes. By conducting comprehensive impact assessments, maintaining substantial green spaces, and adhering to sustainable construction practices, the university plays a pivotal role in protecting regional biodiversity and contributing to long-term ecological health. This proactive approach aligns with the university's broader goals of sustainability and environmental stewardship.



Designated Construction Area According to the University's Master Plan

https://www.reru.ac.th/location-and-buildings-images-in-reru/

https://maps.app.goo.gl/58Mj7rLiPiETizvc6

https://flas.reru.ac.th/doc/673049a0b0e83RERU-environment%20safety%20policy.pdf

15.3.4 Policy on Reducing the Impact of Alien Species on Campus

Roi Et Rajabhat University is committed to environmental conservation and sustainability, in alignment with the global Sustainable Development Goals (SDGs). Specifically, the university has a clear and actionable policy aimed at reducing the impact of alien species on its campus, as part of its broader efforts to protect biodiversity and natural resources.

The university's commitment to environmental sustainability is enshrined in its 5-Year Strategic Plan (Fiscal Year 2023-2024), with "Environmental Policy" being one of the five key pillars. This policy underscores the university's dedication to safeguarding the environment, natural resources, and biodiversity through proactive measures. (https://flas.reru.ac.th/doc/672b3c69c709dRERU%205%20year%20stratergic%20plan%202023-2027_revised2024.pdf)

As part of its environmental policy, Roi Et Rajabhat University has formally announced a policy for the conservation of natural resources, environmental safety, and occupational health. In particular, Section 1.5 of the policy addresses the control of alien species, stipulating that the university takes measures to prevent the introduction of non-native species to the campus and actively manages the potential impacts of any such species. This policy is designed to ensure that the presence of alien species does not disrupt the native ecosystems and biodiversity of the campus and surrounding areas. (https://flas.reru.ac.th/doc/673049a0b0e83RERU-environment%20safety%20policy.pdf)

ประกาศมหาวิทยาลัยราชภัฏร้อยเอ็ด
เรื่อง นโยบายการอนุรักษ์ทรัพยากรธรรมชาติและสภาพแวดล้อม ความปลอดภัย และอาชีวอนามัย

.....

ด้วยนโยบายของสภามหาวิทยาลัยราชภัฏร้อยเอ็ด ได้กำหนดยุทธศาสตร์ด้านสิ่งแวดล้อม เพื่อให้มหาวิทยาลัยเป็นสถาบันอนุรักษ์ธรรมชาติและสภาพแวดล้อม เป็นแหล่งบริการวิชาการเชิงนวัตกรรม และเทคโนโลยีเพื่อพัฒนา ฟื้นฟู และอนุรักษ์ทรัพยากรธรรมชาติและสภาพแวดล้อมให้แก่ชุมชนและท้องถิ่น โดยดำเนินการให้พื้นที่ของมหาวิทยาลัยเป็นองค์กรแห่งการเรียนรู้ และเป็นหน่วยงานต้นแบบตามโครงการอนุรักษ์พันธุกรรมพืชอันเนื่องมาจากพระราชดำริสมเด็จพระเทพรัตนราชสุดาฯ สยามบรมราชกุมารี (อพ.สธ.) นักศึกษาและบุคลากรของมหาวิทยาลัยมีจิตอาสาในการอนุรักษ์ ทรัพยากรธรรมชาติ และสภาพแวดล้อม มีความปลอดภัยทางด้านกายภาพ ด้านเคมีและชีวภาพ เป็นมหาวิทยาลัยสีเขียว ที่เป็นมิตรกับสิ่งแวดล้อม

อาศัยอำนาจตามความในมาตรา ๓๑ (๑) และ (๙) แห่งพระราชบัญญัติมหาวิทยาลัยราชภัฏ พ.ศ. ๒๕๔๗ ประกอบกับโดยความเห็นชอบจากมติที่ประชุมคณะกรรมการบริหารมหาวิทยาลัยราชภัฏร้อยเอ็ด ในการประชุมครั้งที่ ๑๑(๓๓๙)/๒๕๖๖ เมื่อวันพฤหัสบดีที่ ๑๓ กรกฎาคม พ.ศ. ๒๕๖๖ มหาวิทยาลัยราชภัฏร้อยเอ็ด จึงกำหนดนโยบายการอนุรักษ์ทรัพยากรธรรมชาติและสภาพแวดล้อม ความปลอดภัย และอาชีวอนามัย ดังต่อไปนี้

ข้อ ๑. นโยบายด้านสถานที่และโครงสร้างพื้นฐาน

๑.๑ มหาวิทยาลัยมีแผนการบริหารจัดการพื้นที่ภายในมหาวิทยาลัย รวมทั้งลักษณะสภาพอาคารและกายภาพของสิ่งปลูกสร้าง ให้เกิดประโยชน์สูงสุดและมีความเหมาะสม โดยมีการประเมินผลกระทบต่อสุขภาพ สิ่งแวดล้อม และความหลากหลายทางชีวภาพก่อนดำเนินแผนการก่อสร้าง

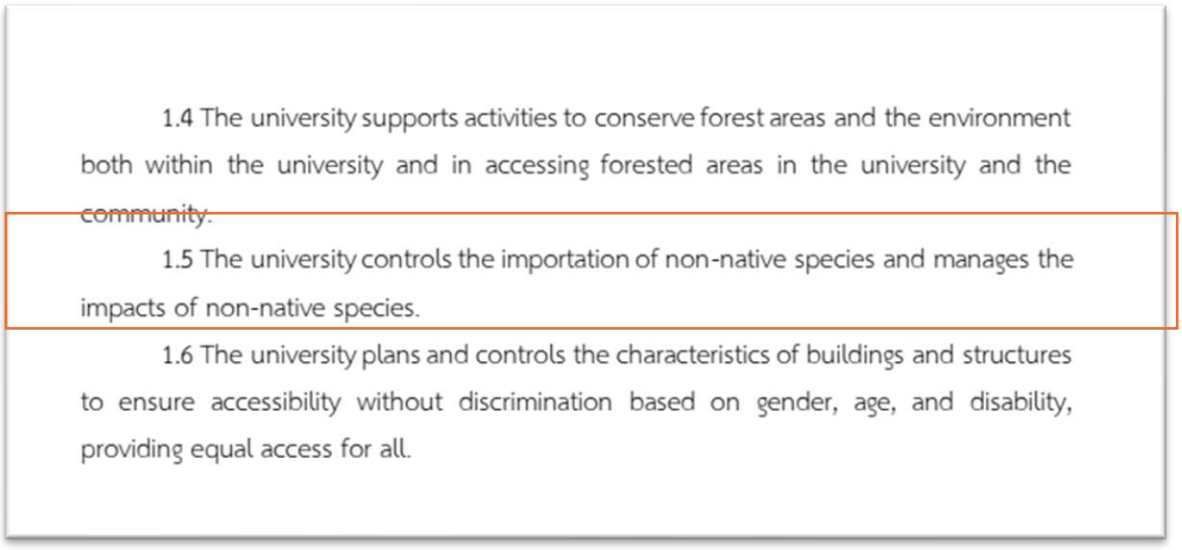
๑.๒ มหาวิทยาลัยมีการวางแผนการจัดการ การพัฒนาความหลากหลายทางชีวภาพ และส่งเสริมให้มีพื้นที่สีเขียวภายในมหาวิทยาลัยอย่างน้อย ร้อยละ ๓๐ พื้นที่ดูดซึมน้ำอย่างน้อยร้อยละ ๔๐ ของพื้นที่ทั้งหมด

๑.๓ มหาวิทยาลัยมีแผนการจัดสรรงบประมาณสนับสนุน โครงการ/กิจกรรม ด้านสิ่งแวดล้อม และความยั่งยืน อย่างน้อยร้อยละ ๑๐ ของงบประมาณดำเนินงานทั้งหมด

๑.๔ มหาวิทยาลัยมีการสนับสนุนกิจกรรมเพื่ออนุรักษ์พื้นที่ป่าไม้และสภาพแวดล้อม ทั้งในมหาวิทยาลัยและการเข้าถึงพื้นที่ป่าในมหาวิทยาลัยและชุมชน

๑.๕ มหาวิทยาลัยมีการควบคุมการนำเข้าชนิดพันธุ์ต่างถิ่นและควบคุมผลกระทบที่เกิดขึ้นจากชนิดพันธุ์ต่างถิ่น

๑.๖ มหาวิทยาลัยจะดำเนินการวางแผนและควบคุมลักษณะสภาพอาคารและกายภาพของสิ่งปลูกสร้าง ให้อำนวยความสะดวก เข้าถึง โดยไม่เกิดอุปสรรคไม่ว่าจะเป็น เพศ วัย และผู้ที่ทุพพลภาพมีความเท่าเทียมในการใช้งาน



1.4 The university supports activities to conserve forest areas and the environment both within the university and in accessing forested areas in the university and the community.

1.5 The university controls the importation of non-native species and manages the impacts of non-native species.

1.6 The university plans and controls the characteristics of buildings and structures to ensure accessibility without discrimination based on gender, age, and disability, providing equal access for all.

Translated version of RERU's environmental policy announcement (https://flas.reru.ac.th/doc/673049a0b0e83RERU-environment%20safety%20policy.pdf page 5-8)

To implement this policy, the university conducts regular assessments of plant and animal species on campus and in nearby natural areas, working closely with local environmental agencies and experts to monitor and control the introduction of invasive species. The university also promotes awareness among students, faculty, and staff about the risks posed by alien species and the importance of maintaining ecological balance on campus.

In conclusion, Roi Et Rajabhat University demonstrates a strong commitment to preserving the integrity of its local ecosystem by establishing clear policies aimed at reducing the impact of alien species. This effort contributes to the broader goal of achieving SDG 15, "Life on Land," by promoting biodiversity conservation and the sustainable management of natural resources.

SDG 15.3.5 - Collaboration with Local Community to Maintain Shared Land Ecosystems

Roi Et Rajabhat University has long recognized the importance of maintaining shared land ecosystems and has established various collaborative efforts with local communities to protect and sustain these ecosystems. Through a combination of partnerships, educational initiatives, and hands-on projects, the university has made significant strides in fulfilling its commitment to Sustainable Development Goal 15 (SDG 15), specifically the target 15.3.5, which focuses on maintaining and enhancing land ecosystems.

In 2024, the university continued and expanded its environmental initiatives in collaboration with local communities. The most notable project is the establishment of a **Sustainable Community Resource Management Learning Center** located in Nong Luang Subdistrict, Selaphum District, Roi Et Province. This center serves as a hub for disseminating knowledge on sustainable natural resource management, organic agriculture, and the circular economy (BCG), with the aim of reducing environmental impacts and promoting ecosystem conservation.

the opening of the Community Learning Center for Sustainable Community

Sustainable Resource Management Learning Center

The center provides training and education in several key areas:

- **Natural Resource Management**: The center focuses on best practices for managing natural resources in a way that supports biodiversity and ecosystem health. The aim is to reduce overexploitation and ensure that local ecosystems are preserved for future generations.

- **Organic Agriculture and Circular Economy (BCG)**: The center educates community members on the principles of organic farming and how to incorporate the circular economy model into agricultural practices. This includes techniques for reducing waste, recycling organic matter, and using sustainable farming methods that minimize chemical inputs.
- **Waste Management and BSF Insect Farming**: One of the center's key initiatives is to teach the local community about waste management, particularly through the farming of **Black Soldier Fly (BSF)** larvae. This project focuses on converting agricultural waste into high-protein feed for livestock, helping to reduce waste, minimize environmental pollution, and create a sustainable protein source for animal husbandry.
- **Organic Fertilizer Production**: The university promotes the use of organic fertilizers produced locally by community members. This initiative supports the goal of a carbon-neutral agricultural society, helping to reduce reliance on chemical fertilizers and their negative impact on soil health and water systems.

By establishing this center, the university not only empowers local communities to take charge of their environmental futures but also fosters a culture of sustainability and resilience. The collaboration between the university and local communities is key to addressing the complex challenges posed by environmental degradation and biodiversity loss.

Conservation of Local Plant Genetic Resources

In addition to the establishment of the Sustainable Resource Management Center, the university has initiated a **plant genetic conservation project** that focuses on the preservation and cataloging of local plant species. This project involves extensive field surveys, conservation efforts, and the creation of a genetic resource bank for indigenous plants. The aim is to protect

and conserve the genetic diversity of local plant species, which are vital for the health of the local ecosystem and agricultural resilience.

The university works closely with local farmers, conservationists, and government agencies to identify endangered or rare plant species and develop strategies for their protection. The genetic knowledge gathered through this project is shared with local communities to help them understand the importance of preserving these species and incorporating them into their agricultural practices. This partnership not only ensures the survival of these species but also promotes sustainable land use practices that benefit both the environment and the community.

Online publication on the Plant Species Database of Wat That Upmung Forest Area, Phosri Sawang Subdistrict, Phonthong District, Roi Et Province

https://online.fliphtml5.com/rivyz/mzyz/#p=1

Conclusion

Roi Et Rajabhat University's ongoing efforts to collaborate with local communities in maintaining shared land ecosystems reflect its commitment to SDG 15. Through projects such as the Sustainable Community Resource Management Center and the conservation of local plant genetic resources, the university plays a vital role in promoting environmental sustainability, preserving biodiversity, and fostering sustainable development practices in the region. These initiatives exemplify the power of community-based partnerships in addressing the challenges of land ecosystem conservation and highlight the importance of collaborative efforts in achieving SDG 15.

15.4.1 Report on Water Management and Wastewater Treatment System at Rajabhat University Roi Et

Rajabhat University Roi Et (Roi Et Rajabhat University, or RERU) is committed to ensuring the sustainable management of water resources on campus as part of its broader environmental sustainability efforts. In alignment with the university's policy on the conservation of natural resources and the environment, safety, and occupational health, the university has implemented a comprehensive water management strategy. Specifically, under the "Water Management Policy" outlined in Section 4.3 of the university's declaration, RERU focuses on wastewater reuse and the optimization of water use across campus facilities.

Water Management Policy

The university has outlined specific measures for water management under the policy framework of "Conservation of Natural Resources and the Environment". These measures include:

Project for Reusing Wastewater: The university has planned to implement a system for reusing treated wastewater for various non-potable purposes. This includes irrigation for the university’s lawns, flushing toilets, cooling systems, and car washing.

Water Recycling System: The system focuses on utilizing treated water in sustainable ways, contributing to water conservation efforts and reducing overall water consumption on campus.

Wastewater Treatment System at RERU

RERU employs an effective wastewater treatment system designed to ensure environmental protection and compliance with national water quality standards. The system consists of a stabilization pond (pond for wastewater treatment) combined with solar-powered aeration turbines, which provide additional oxygenation to the water for enhanced purification.

Key Features of the Wastewater Treatment System:

Stabilization Pond: A natural method of wastewater treatment where wastewater is treated through sedimentation and biological processes. The system effectively reduces pollutants and enhances water quality before it is reused.

Solar Aeration: The integration of solar-powered aeration turbines helps improve the efficiency of the treatment process by adding oxygen to the water, supporting aerobic microbial activity.

Water Quality Testing: After treatment, the wastewater undergoes laboratory testing conducted by government-approved agencies to ensure that it meets the regulatory standards for reuse. The most recent test results confirm that the treated water meets required quality standards for its intended purposes.

Monitoring and Reporting

The university is committed to transparent monitoring and regular reporting of its water management practices. Monthly reports on the treated wastewater quality are submitted to the local Municipality of Koh Kaew Subdistrict for compliance and oversight. The university ensures that these reports are accurate and provide detailed information on the quality of the treated wastewater, supporting public accountability and regulatory compliance.

Wastewater Reuse Applications

Treated water is effectively reused within the university for various non-potable applications:

Irrigation of Grass Fields: Water is used to irrigate lawns and other green areas on campus, reducing the need for fresh water resources.

Toilet Flushing: The treated water is utilized in toilet systems across campus, further minimizing potable water consumption.

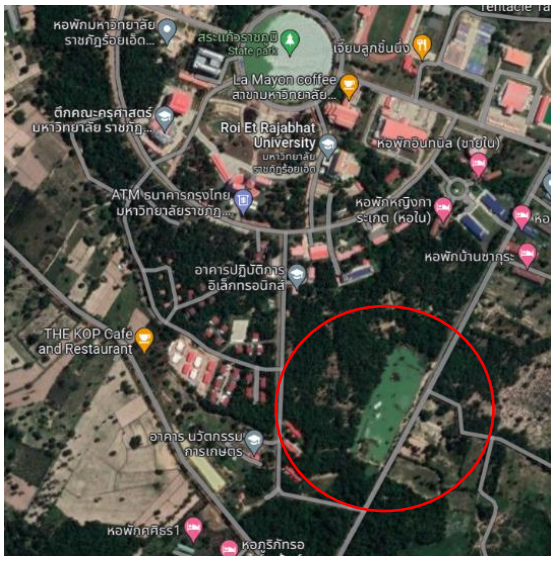
Cooling Systems: Reused water is applied in cooling towers and air conditioning systems, contributing to energy efficiency and water conservation.

Car Washing: The university also uses treated water for vehicle cleaning purposes, ensuring sustainable water use across various operations.

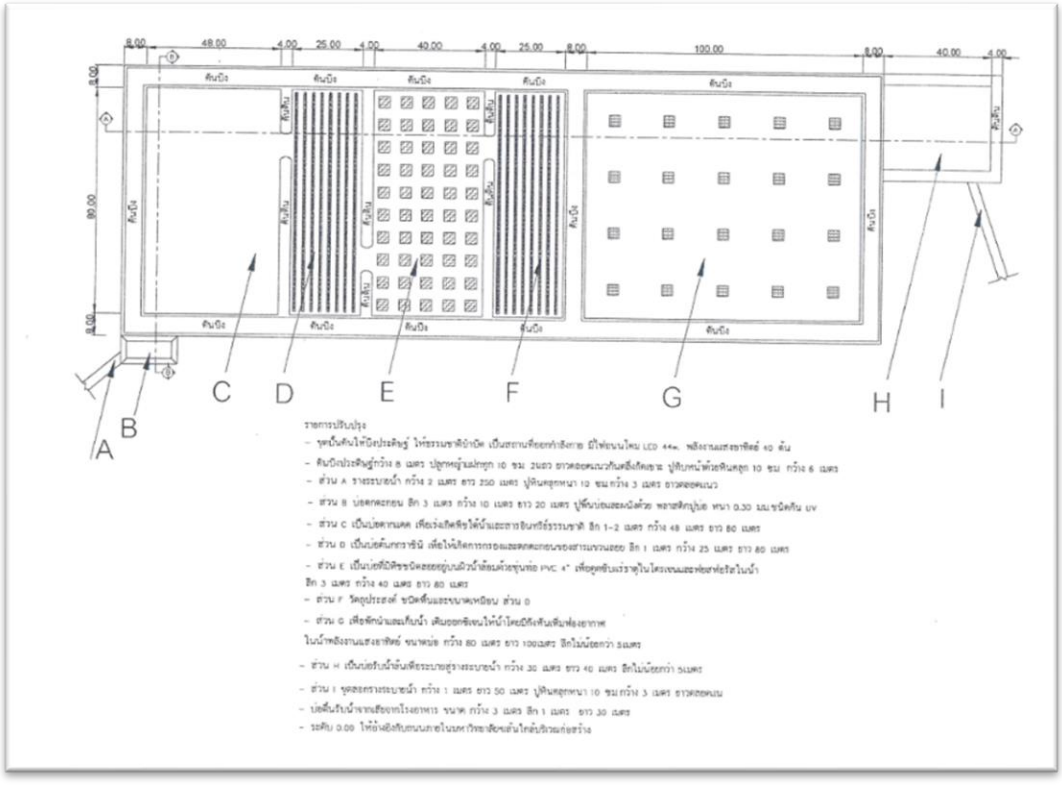
Evidence and Visual Documentation

To provide clear evidence of the wastewater management process, the following visual materials are included:

The university's wastewater treatment system, utilizing stabilization ponds and solar-powered aeration turbines for effective treatment and water quality management.



Location of the wastewater treatment system on campus, showing the infrastructure layout and surrounding facilities.



Detailed blueprint illustrating the design and structure of the wastewater treatment system, including the layout of the stabilization pond and aeration units.

Treated wastewater is reused in various campus applications, including irrigation, cooling, and sanitation systems.

Monthly Reporting to Local Authorities

The university ensures that the treated water quality is regularly reported to the Koh Kaew Subdistrict Municipality every month, in line with local government regulations. These reports contain the results of water quality tests and confirm the effectiveness of the treatment process in maintaining environmental standards.

	ใบรายงานผลการทดสอบ	QF-27
	ศูนย์ทดสอบทางวิทยาศาสตร์ คณะศิลปศาสตร์และวิทยาศาสตร์มหาวิทยาลัยราชภัฏร้อยเอ็ด 113 หมู่ 12 ตำบลเกาะแก้ว อำเภอเสลภูมิ จังหวัดร้อยเอ็ด 45120 โทรศัพท์ 043-556111	

วันที่ออก	25 มีนาคม 2567
เลขที่รายงาน	RE24-WT-018

ชื่อผู้ส่งผลิตภัณฑ์ทดสอบ	มหาวิทยาลัยราชภัฏร้อยเอ็ด
ที่อยู่	113 หมู่ 12 ตำบลเกาะแก้ว อำเภอเสลภูมิ จังหวัดร้อยเอ็ด
ข้อมูลตัวอย่าง	น้ำเสียจากบ่อบำบัดมหาวิทยาลัย
วันที่รับตัวอย่าง	11 มีนาคม 2567
วันที่ทดสอบ	12 มีนาคม 2567

ผลการทดสอบ

รายการทดสอบ	ผลการทดสอบ	หน่วย	ค่าควบคุม	วิธีทดสอบที่อ้างอิง
1.ความเป็นกรด-ด่าง (pH)	7.82	-	5-9	pH Meter
2.บีโอดี (Biochemical Oxygen Demand; BOD)	17	มิลกรัม/ลิตร	ไม่เกิน 20	Titration
3.ซีโอดี (Chemical Oxygen Demand; COD)	108	มิลกรัม/ลิตร	ไม่เกิน 120	Closed Reflux
4.ของแข็งจมตัว (Settleable Solids; SS)	22	มิลกรัม/ลิตร	ไม่เกิน 30	Imhoff Cone
5.ค่าสารที่ละลายได้ทั้งหมด (Total Dissolved Solid :TDS)	380	มิลกรัม/ลิตร	ไม่เกิน 500	Dry at ๑๐๕°C
6.ไนโตรเจน รูปแบบ ทีเคเอ็น (Total Kjeldahl Nitrogen; TKN)	20.8	มิลกรัม/ลิตร	ไม่เกิน 35	Kjeldahl Method
7.ฟอสฟอรัส/ฟอสเฟตทั้งหมด (Total Phosphorus/Phosphate; TP)	1.15	มิลกรัม/ลิตร	ไม่เกิน 2	Spectrophotometry
8.น้ำมันและไขมัน (Fat , Oil and Grease)	8.5	มิลกรัม/ลิตร	ไม่เกิน 20	Extraction

(อาจารย์ ดร. [illegible] นิลผาย)
[illegible]

A copy of the most recent water quality test results conducted by certified laboratories, confirming that treated water meets regulatory standards for reuse.

Conclusion

Rajabhat University Roi Et continues to prioritize sustainable water management as part of its broader commitment to environmental conservation. By investing in wastewater treatment and reuse systems, the university reduces its dependence on fresh water and minimizes the environmental impact of its operations. Through ongoing monitoring, collaboration with local authorities, and regular reporting, RERU remains accountable in ensuring that its water management practices meet both regulatory standards and sustainability goals.

Attached Documents:

Wastewater Report to Koh Kaew Subdistrict Municipality

https://drive.google.com/file/d/1RusnoMpMpslu_JbFv-TxSExbrPTHTHDl/view?usp=drive_link

Water Quality Test Results 2024

https://drive.google.com/file/d/1O3WHT4_gdqADzcsT0ViNH0G4IEq5KrMj/view?usp=drive_link

15.4.2 Waste Management and Environmental Sustainability at Rajabhat University Roi Et

Rajabhat University Roi Et (RERU) is deeply committed to environmental sustainability, as outlined in its strategic plan under Strategy 5: Conservation of Natural Resources and the Environment. This commitment is reflected in the university's environmental policies, which aim to manage waste effectively, promote recycling, and reduce the consumption of paper and plastics. These efforts are integrated into the university's broader goals of achieving a sustainable campus and minimizing its environmental footprint.

The university's Environmental Conservation Policy focuses on several key areas of waste management and sustainability, as stated in Section 3 of the policy, which includes the reduction of plastic waste, the sustainable management of waste, and the promotion of recycling activities.

University Waste Management Policy

Waste Management and Recycling Activities

Section 3.1: RERU has implemented a waste management system that ensures continuous participation from all staff and students. The university actively promotes recycling and reusing materials, contributing to a sustainable environment.

Section 3.2: The university has adopted sustainable and cost-effective waste management practices, aiming to comply with effective waste management standards.

Section 3.4: Organic waste is processed into compost to reduce greenhouse gas emissions and contribute to sustainable practices. This compost is used for soil improvement, as a bio-fertilizer, as an animal feed protein alternative, and for producing high-value proteins, which are then recycled and reused within the university and the broader community.

Section 3.5: The university has introduced a policy to reduce paper use, encouraging printing only when necessary, using both sides of the paper, and utilizing digital solutions for administration and communication.

Section 3.6: A policy to reduce single-use plastic consumption has been implemented, encouraging the use of reusable items such as water bottles and bags instead of disposable plastics.

Measures Taken by Rajabhat University Roi Et

Reducing Plastic Packaging in Campus Cafeterias

The university works with food vendors on campus to reduce the use of plastic packaging by encouraging the use of biodegradable or recyclable materials.

Regular awareness campaigns and training sessions are held for cafeteria staff and students to promote the use of sustainable packaging options.

Electronic Communication and Paperless Practices

The university has mandated the use of electronic signatures and electronic communication for official correspondence, reducing the need for paper-based records and documents. This initiative supports the broader goal of reducing paper waste on campus.

Promotion of Recycling Activities

RERU has established designated recycling stations around campus, where students and staff can separate recyclable waste. These materials are collected, sold, and the proceeds are used to support campus staff, particularly the cleaning personnel, as an incentive for their participation in recycling activities.

Data on the amount of recyclable waste collected and processed is regularly tracked to evaluate the success of these efforts.

Recycling stations strategically placed across the university to facilitate waste sorting and promote recycling practices.

Use of Alternative Materials

The university has introduced biodegradable containers, such as plates and cups made from leaves, as part of an initiative to replace single-use plastic with environmentally friendly alternatives.

These eco-friendly products are used for catering events and in university cafeterias to further reduce the environmental impact of plastic waste.

Related Activities and Projects

Paper Reduction Campaign

The university has initiated a campaign to encourage the use of paper only when necessary. In addition, reusable water bottles and cups have been distributed to students and staff, along with free water refill stations on campus. This initiative aims to reduce the consumption of bottled water and plastic cups.

Free water refill stations set up around campus to reduce the use of plastic water bottles and encourage the use of reusable water bottles.

Waste Sorting and Recycling Campaign

RERU runs educational campaigns to teach students and staff how to sort waste effectively. In addition to campus-wide waste segregation, there are competitions and activities that encourage environmental awareness, such as environmental clubs and national-level student competitions on environmental projects.

Training for BSF Insect Farming

RERU provides training in Black Soldier Fly (BSF) larvae farming to process organic waste, reduce methane emissions, and promote circular economy practices on campus. This innovative project helps in the recycling of organic waste and provides a sustainable source of protein for animal feed.

The university's model farm for Black Soldier Fly (BSF) farming, aimed at processing organic waste and producing sustainable protein alternatives for animal feed.

Public Information and Awareness

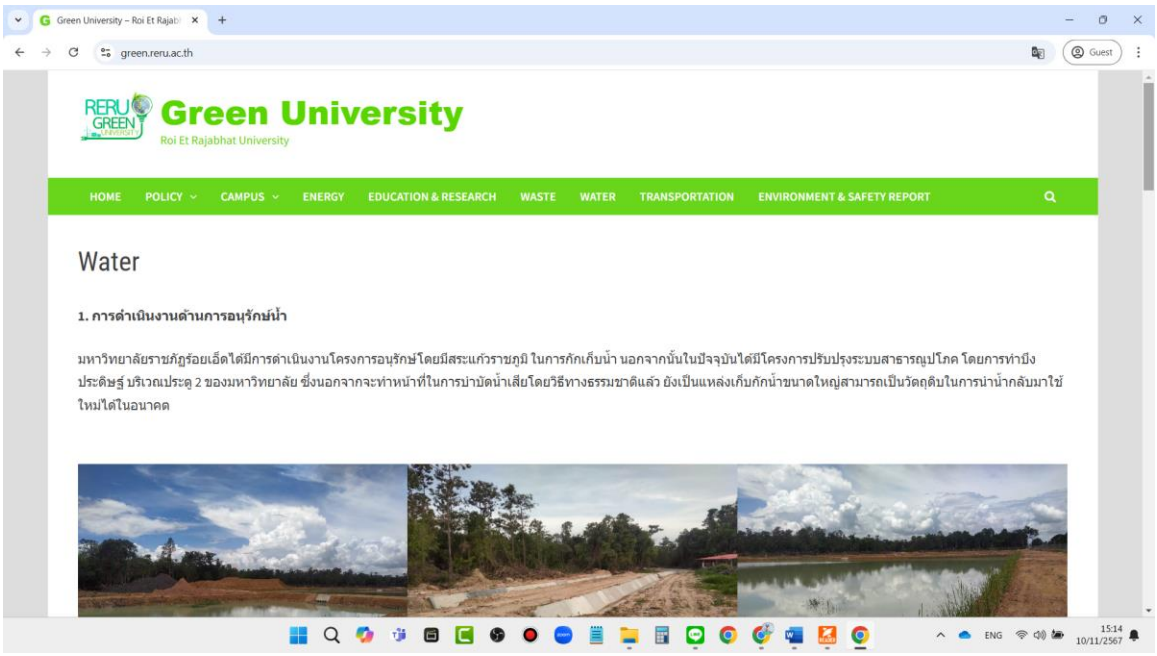
"Green Heart, New Star Club": The university has established a student-led club, "Green Heart, New Star," which actively promotes environmental conservation efforts across the campus. The club's activities are regularly shared via social media and the club's own Facebook page, where they inform the community about ongoing projects and campaigns.

Website and Social Media: The university's official website and social media platforms provide information on sustainability projects, training sessions, and upcoming environmental initiatives. These channels are used to inform both the university community and the public about sustainable practices and events.

Disclosure of Information

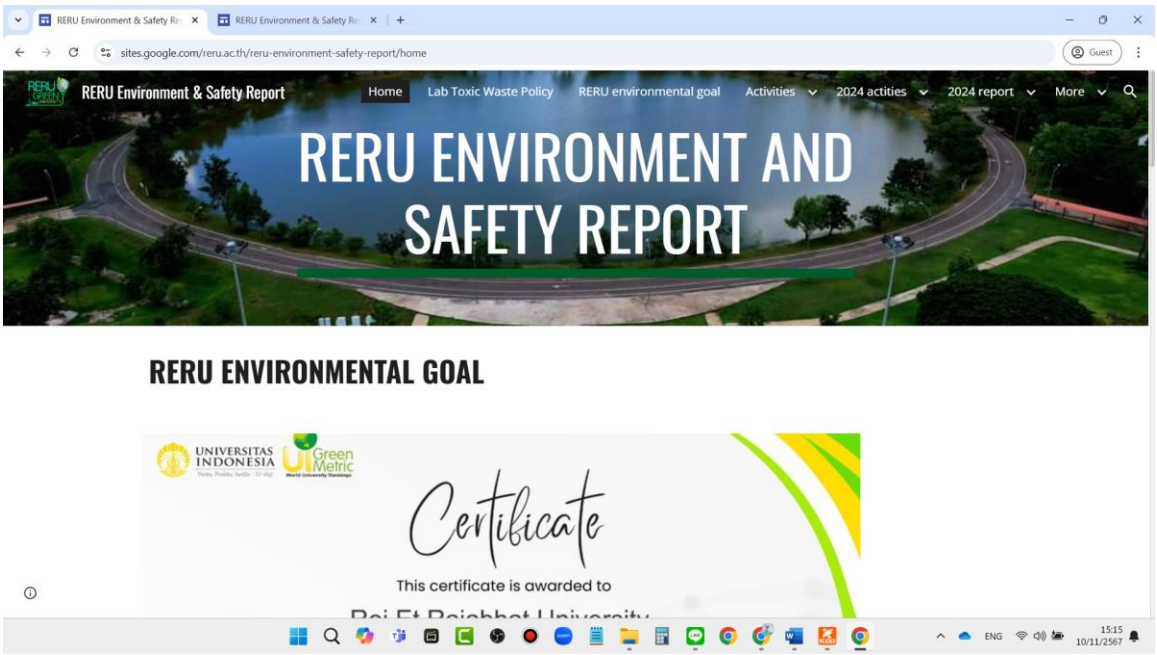
RERU is committed to transparency in its environmental efforts. The university openly shares data on the quantity of waste generated, the amount of hazardous waste produced, and the effectiveness of its waste management practices. The following information is regularly updated and made available to the public:

- Statistics on waste generation and recycling.
- Policies and guidelines related to environmental management.
- Reports on environmental performance and the impact of sustainability initiatives.



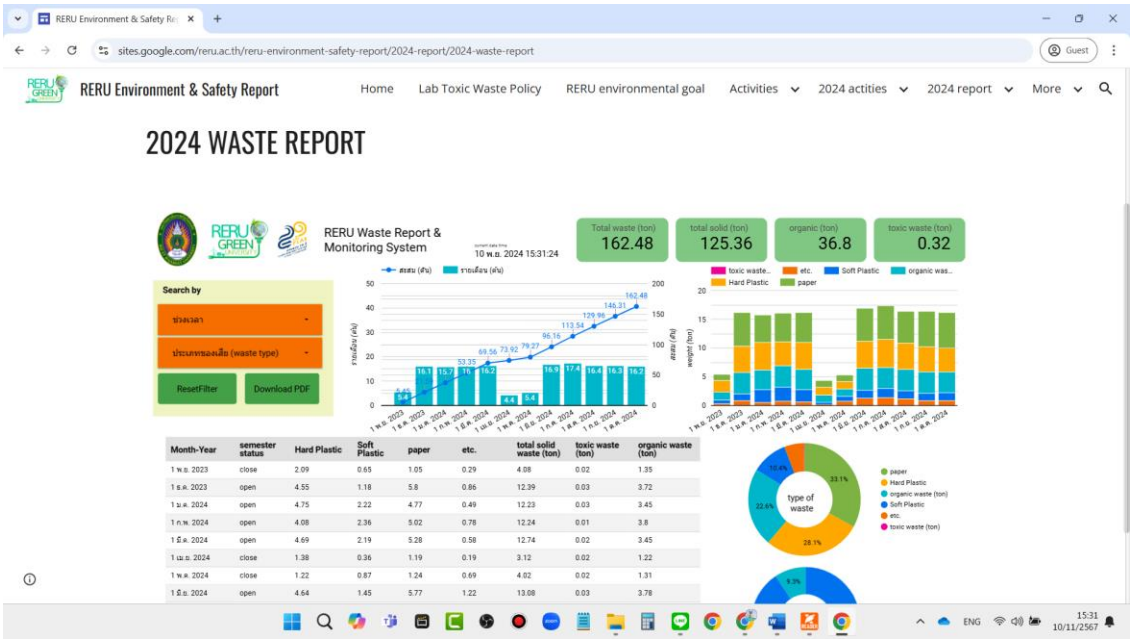
The university's official website for promoting environmental safety and sustainability projects.

https://green.reru.ac.th/



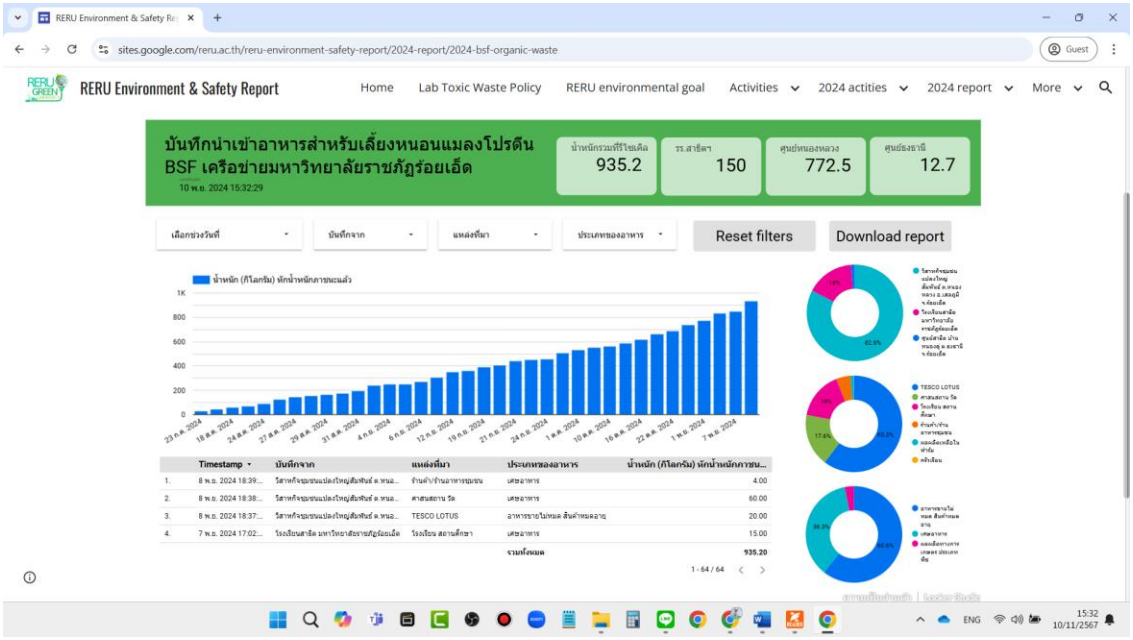
Social media and website platforms for sharing environmental training and initiatives within the university.

https://sites.google.com/reru.ac.th/reru-environment-safety-report/



Interactive waste report

https://sites.google.com/reru.ac.th/reru-environment-safety-report/2024-report/2024-waste-report



Interactive organic waste utilization by BSF raising report

https://sites.google.com/reru.ac.th/reru-environment-safety-report/2024-report/2024-bsf-organic-waste

Conclusion

Rajabhat University Roi Et is fully dedicated to reducing its environmental impact through effective waste management, recycling initiatives, and a commitment to minimizing plastic and paper usage. The university's comprehensive policies and initiatives reflect its commitment to creating a sustainable and eco-friendly campus environment. With continued support from staff, students, and the wider community, RERU aims to achieve its environmental goals while fostering a culture of sustainability.

Attached Documents:

Environmental Conservation and Safety Policy (Issued 25 July 2023) with English translation.

https://flas.reru.ac.th/doc/673049a0b0e83RERU-environment%20safety%20policy.pdf

Strategic Plan of Rajabhat University Roi Et (2023-2027) (Updated 24 September 2024)

https://flas.reru.ac.th/doc/672b3c69c709dRERU%205%20year%20stratergic%20plan%202023-2027_revised2024.pdf

Waste Management Policy at Roi Et Rajabhat University

Introduction

Waste management is a critical policy at Roi Et Rajabhat University, supporting sustainable development according to the Sustainable Development Goals (SDGs), particularly SDG 15, which emphasizes protecting terrestrial ecosystems. Proper waste management within the university helps reduce pollution and serves as an inspiration for students, staff, and the surrounding community to recognize the importance of responsible and sustainable waste practices.

Policies and Waste Management Approaches

1. Waste Segregation

Roi Et Rajabhat University has established a systematic waste management plan that classifies waste into four main categories:

- Recyclable waste (e.g., paper, plastic bottles, and metals)
- Non-recyclable waste (e.g., items that cannot be reused or repurposed)
- Food waste (e.g., leftovers from the university's cafeterias and food courts)
- Hazardous waste (e.g., chemicals from laboratories and expired batteries)

The university has set up designated bins in various locations for each waste type, allowing staff and students to dispose of waste appropriately. Additionally, ongoing training and awareness programs are conducted to educate staff and students on waste segregation and proper disposal methods.

2. Recyclable Waste Management

Recyclable waste, such as paper, plastic bottles, and metals, is collected and sold, with proceeds going toward the university's housekeeping staff as a form of encouragement. This initiative motivates the staff and demonstrates community involvement in fostering a sustainable campus environment.

3. Non-recyclable Waste Disposal

Non-recyclable waste is collected and handed over to the Tha Muang Sub-district Municipality under an agreement for proper disposal. The municipality is responsible for handling this waste through environmentally safe methods. This collaboration helps reduce waste-related pollution within the community and protects the environment.

Figure 1 Waste Segregation for Recycling Project (RERU, Thailand)

Figure 2 BSF raising for food waste upcycling (RERU, Thailand)

4. Food Waste for BSF Protein Insect Farming

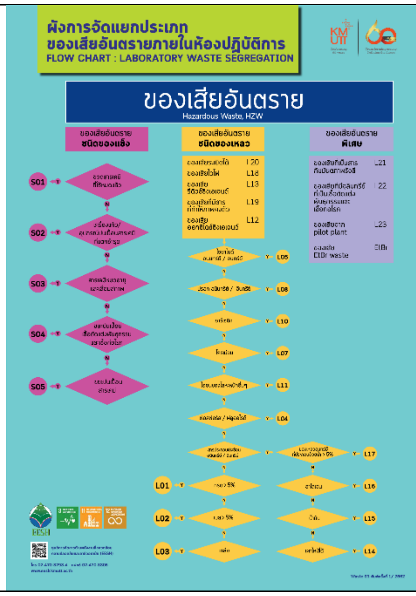
The university collects food waste from Roi Et Rajabhat University Demonstration School to use as feed for Black Soldier Fly (BSF) larvae, which serve as an alternative protein source in animal husbandry. This practice not only reduces the volume of waste but also generates economic and environmental value from food scraps.

5. Hazardous Waste Management

Hazardous waste generated in university laboratories and offices, including research chemicals, expired batteries, and electronic waste, is separated from other waste types and stored in appropriate facilities before being handed over to certified waste management companies. These companies adhere to safe and environmentally friendly disposal practices, ensuring compliance with safety standards. The university collaborates only with authorized agencies for hazardous waste management to protect the environment

A) e-waste collecting point (RERU, Thailand)

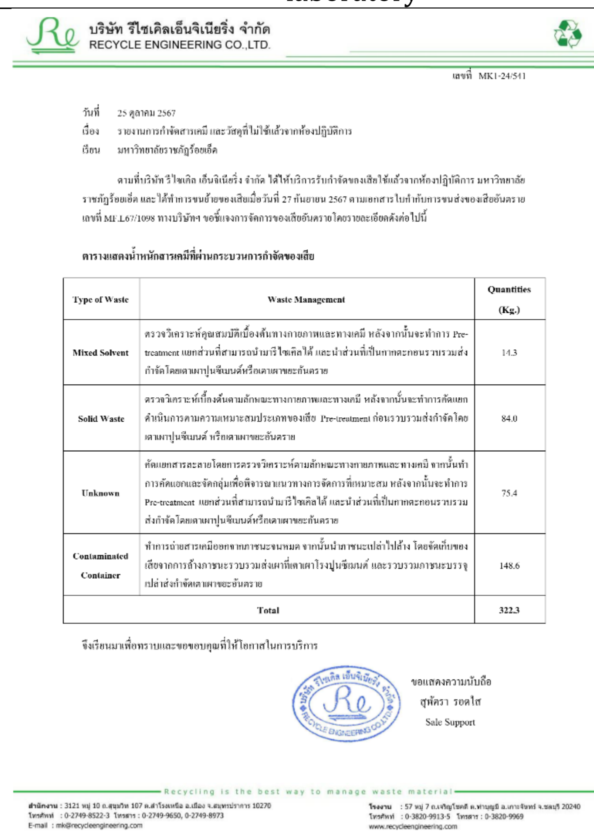
B) Temporary infectious waste storage after autoclave



C) Laboratories waste management diagram

D) Chemical and hazard waste storage zone in laboratory

E) Toxic waste collecting by authorized & certified company



บริษัท รีไซเคิลเอ็นจิเนียริ่ง จำกัด
RECYCLE ENGINEERING CO.,LTD.

เลขที่ MK1-24/541

วันที่ 25 ตุลาคม 2567
เรื่อง รายงานการกำจัดสารเคมี และวัสดุที่ไม่ใช้แล้วจากห้องปฏิบัติการ
เรียน มหาวิทยาลัยราชภัฏร้อยเอ็ด

ตามที่บริษัท รีไซเคิล เอ็นจิเนียริ่ง จำกัด ได้ให้บริการรับกำจัดของเสียใช้แล้วจากห้องปฏิบัติการ มหาวิทยาลัยราชภัฏร้อยเอ็ด และได้ทำการขนย้ายของเสียเมื่อวันที่ 27 กันยายน 2567 ตามเอกสารใบกำกับการขนส่งของเสียอันตราย เลขที่ MF.L67/1098 ทางบริษัทฯ ขอชี้แจงการจัดการของเสียอันตรายโดยรายละเอียดดังต่อไปนี้

ตารางแสดงน้ำหนักสารเคมีที่ผ่านกระบวนการกำจัดของเสีย

Type of Waste	Waste Management	Quantities (Kg.)
Mixed Solvent	ตรวจวิเคราะห์คุณสมบัติเบื้องต้นทางกายภาพและทางเคมี หลังจากนั้นจะทำการ Pre-treatment แยกส่วนที่สามารถนำมารีไซเคิลได้ และนำส่วนที่เป็นกากตะกอนรวบรวมส่งกำจัดโดยเตาเผาปูนซีเมนต์หรือเตาเผาขยะอันตราย	14.3
Solid Waste	ตรวจวิเคราะห์เบื้องต้นตามลักษณะทางกายภาพและทางเคมี หลังจากนั้นจะทำการคัดแยกดำเนินการตามความเหมาะสมประเภทของเสีย Pre-treatment ก่อนรวบรวมส่งกำจัดโดยเตาเผาปูนซีเมนต์ หรือเตาเผาขยะอันตราย	84.0
Unknown	คัดแยกสารละลายโดยการตรวจวิเคราะห์ตามลักษณะทางกายภาพและทางเคมี จากนั้นทำการคัดแยกและจัดกลุ่มเพื่อพิจารณาแนวทางการจัดการที่เหมาะสม หลังจากนั้นจะทำการ Pre-treatment แยกส่วนที่สามารถนำมารีไซเคิลได้ และนำส่วนที่เป็นกากตะกอนรวบรวมส่งกำจัดโดยเตาเผาปูนซีเมนต์หรือเตาเผาขยะอันตราย	75.4
Contaminated Container	ทำการถ่ายสารเคมีออกจากภาชนะจนหมด จากนั้นนำภาชนะเปล่าไปล้าง โดยจัดเก็บของเสียจากการล้างภาชนะรวบรวมส่งเผาที่เตาเผาโรงปูนซีเมนต์ และรวบรวมภาชนะบรรจุเปล่าส่งกำจัดเตาเผาขยะอันตราย	148.6
Total		**322.3**

จึงเรียนมาเพื่อทราบและขอขอบคุณที่ให้โอกาสในการบริการ

บริษัท รีไซเคิล เอ็นจิเนียริ่ง จำกัด RECYCLE ENGINEERING CO.,LTD.

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โทรศัพท์ : 0-3820-9913-5 โทรสาร : 0-3820-9969
www.recycleengineering.com

F) Toxic waste report 2024

G) Train the traniner workshop

H) Lab staff safety training 2024

Figure 3 Hazardous waste Handle in RERU

1. Hazardous waste outside of laboratories, such as e-waste, is collected at designated points throughout the university. At scheduled intervals, the accumulated waste is collected and transferred to authorized agencies for proper disposal. (figure 3A and 3F)
2. Hazardous laboratory waste is categorized into biological and chemical hazards. Biological waste is treated through autoclaving and then temporarily stored until a negative spore test confirms sterilization. Afterward, it proceeds to the next disposal stage.(figure 3B)
3. Chemical and toxic waste generated in laboratories is systematically classified according to the accompanying diagram and stored in designated containers within a specialized storage area. Upon completion of the designated storage period, the waste is collected and disposed of by a certified private company that adheres to established standards and regulations set forth by relevant governmental agencies, thereby ensuring the implementation of appropriate disposal methods in compliance with best practices. (figure 3C-3F)
4. While stringent measures are in place for managing hazardous waste within the university and its laboratories, it is essential to continuously update our knowledge to ensure its accuracy and relevance. Over the past year, representatives from the Laboratory Safety Committee underwent training to become certified instructors in hazardous waste and chemical management. This training aims to enhance the correct management of laboratory waste and to disseminate this knowledge to

laboratory personnel, including scientists, researchers, students, and cleaning staff, thereby ensuring the safety of operators, stakeholders, and the environment. (figure 3H)

5. In 2024, we also conducted training on emergency response and hazardous waste and toxic substance management for relevant personnel, maintaining our commitment to ongoing education and preparedness, as we have done consistently each year. (figure 3H)

Outcomes of Waste Management Policies

The systematic and sustainable waste management policy at Roi Et Rajabhat University has significantly reduced waste volume. Proper waste segregation and disposal have contributed to a reduction in greenhouse gas emissions, aiding in the fight against global warming. Additionally, repurposing food waste for BSF insect farming has created additional value, reducing waste disposal requirements and contributing economic benefits.

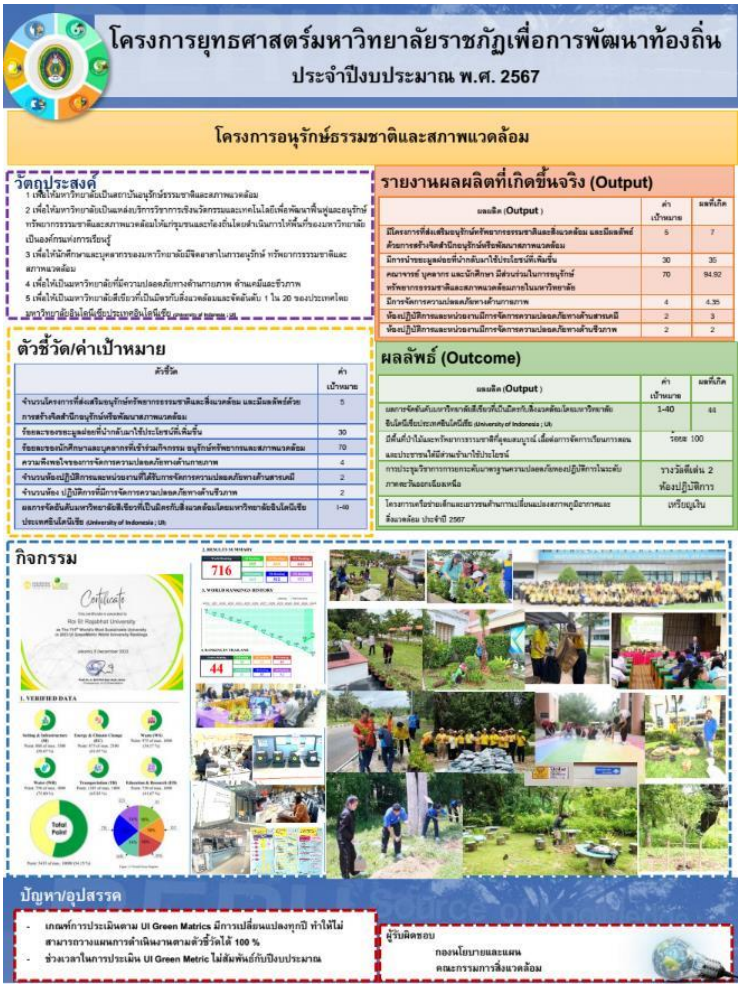

Figure 4 : Environmental and Conservation Initiative report 2024 (RERU, Thailand) Link

Conclusion

Roi Et Rajabhat University's waste management policy reflects a commitment to becoming a leader in sustainable development in higher education. Classifying waste types and following proper management practices not only reduces environmental pollution but also fosters a sense of community engagement and instills sustainable practices in students and staff, promoting environmental stewardship.

Additional evidence link (i.e., for videos, more images, or other files that are not included in this file):

High resolution report file
https://drive.google.com/file/d/1rnqj1iKKSTKQJz1j4tIexYYKzmdTAsIX/view?usp=drive_link
Example of 3R related activities and campaigns
https://sites.google.com/reru.ac.th/reru-environment-safety-report/activities/paper-plastic-reducing
https://sites.google.com/reru.ac.th/reru-environment-safety-report/activities/waste-separation
https://sites.google.com/reru.ac.th/reru-environment-safety-report/activities/bsf-raising
https://flas.reru.ac.th/newsInfo/121
https://drive.google.com/file/d/1b_V8hWyOeZ9FcBK2a9huPBMV5ufMQOlW/view?usp=drive_link