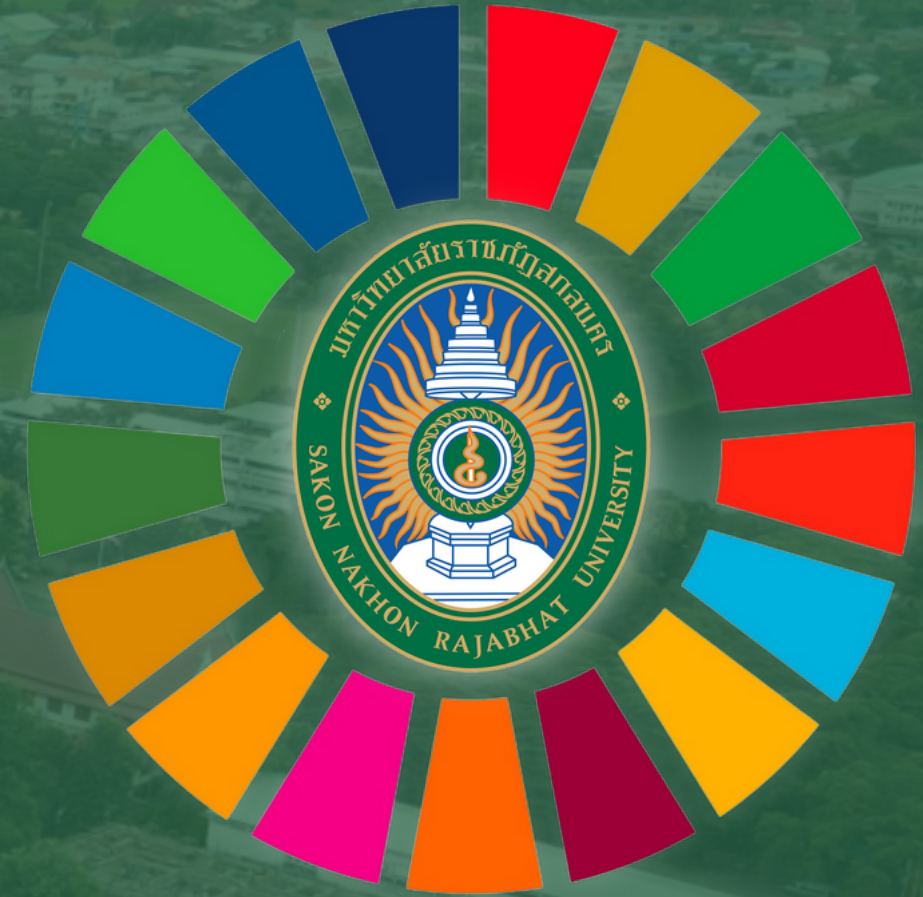


"SNRU Now to Next SDGs"



SDGs Report 2022

THE Impact Ranking :
Sustainable
Development Goals



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Message from our leaders

The Royal Gazette has assigned Sakon Nakhon Rajabhat University to be a university for local sustainable development.

We empower and strengthen the local communities using our expertise and resources through a variety of free academic services, and outreach educational projects and activities.

We also vow to produce research and innovations plus innovatively designed undergraduate and postgraduate, courses generating high quality workforce that serve the needs of the local communities and the wider public.

SNRU
is determined to be an institution
of lifelong learning for all.

Asst. Prof. Chakrit Chanchitprecha
President of SNRU



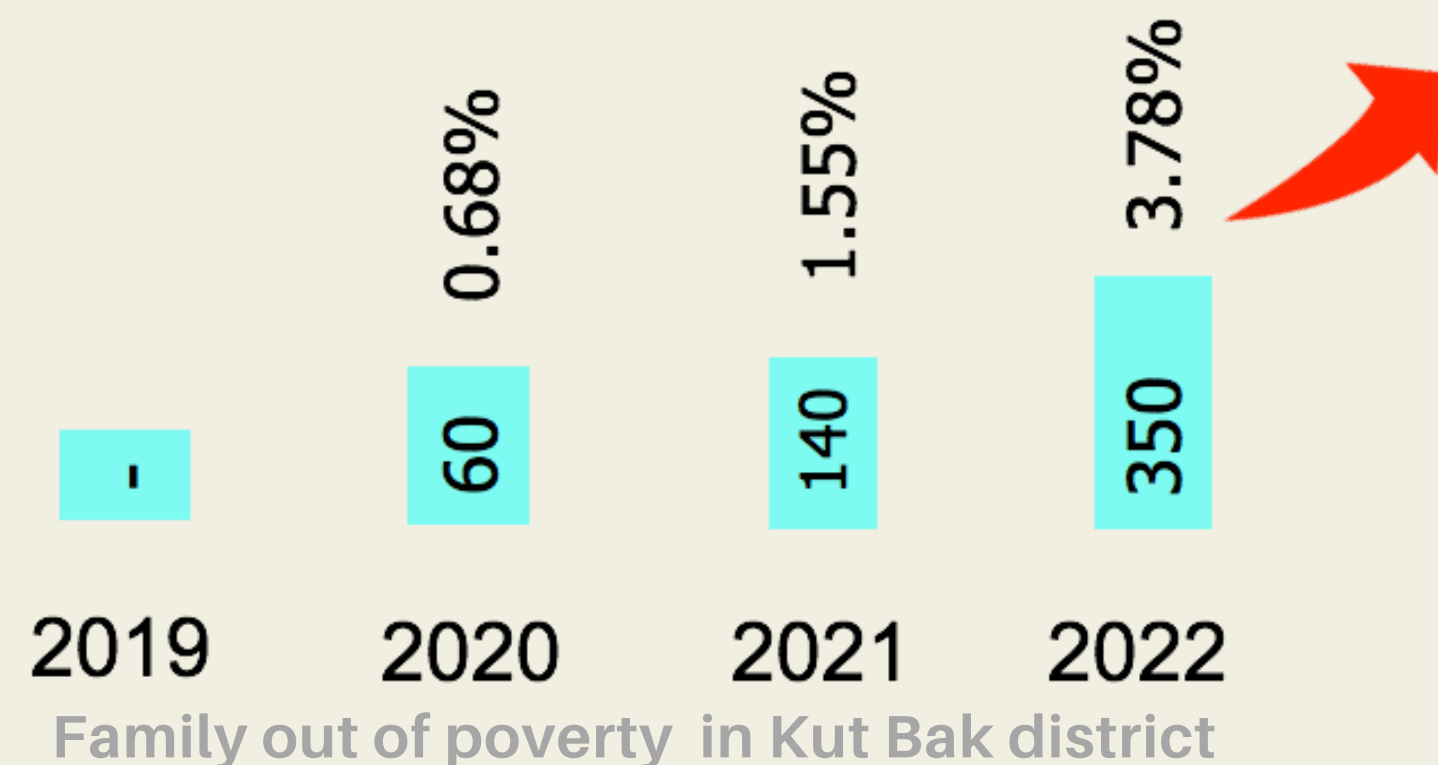
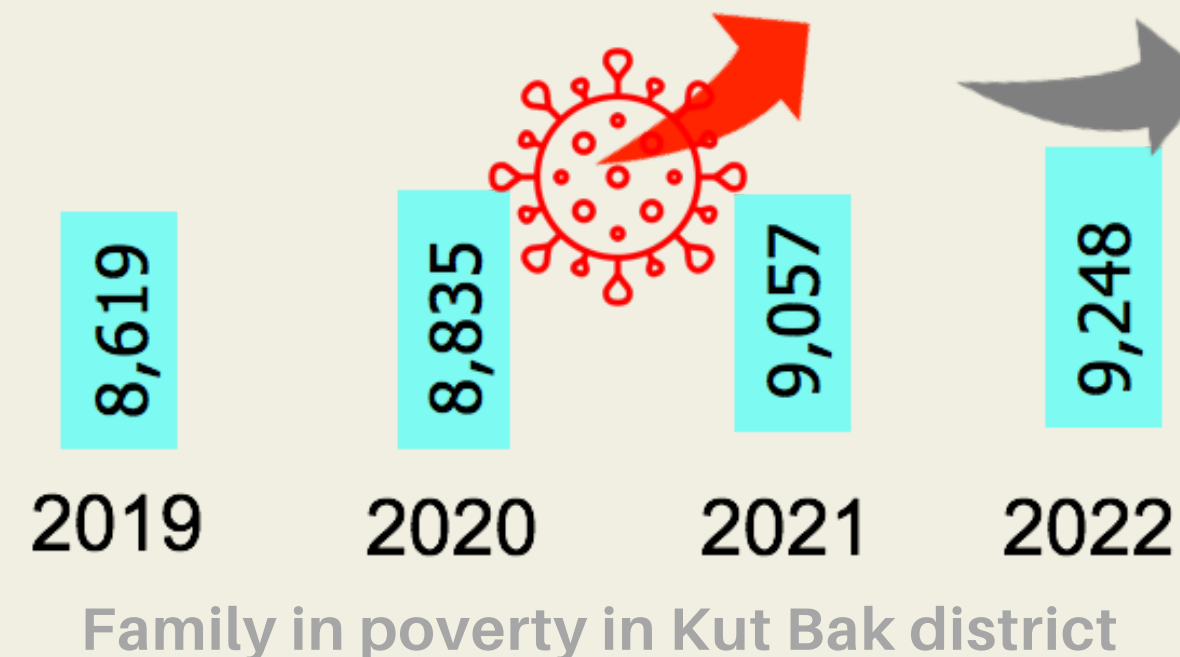
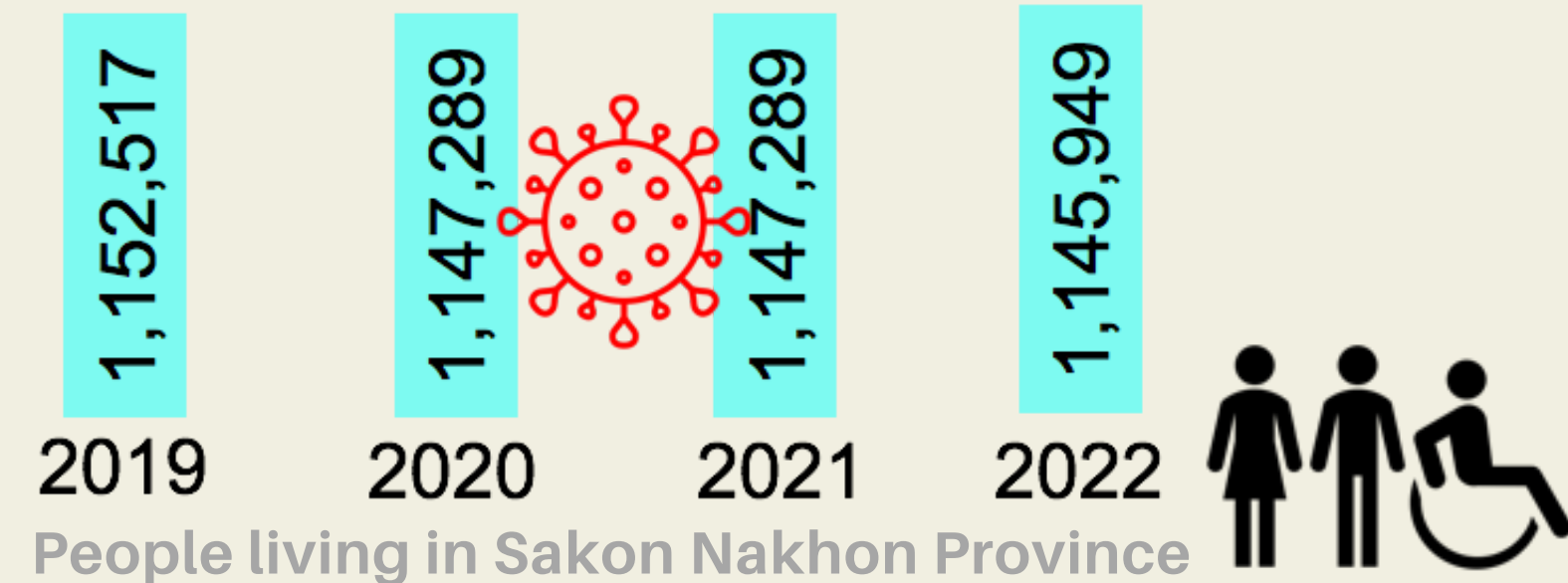
End poverty in all its forms everywhere



**18 Districts;
125 Subdistrict;
1,563 Village;
359,964 Family**



End poverty in Kut Bak District model project: Funded by Program Management Unit on Area Based Development (PMU A), Thailand 2020-2022.



End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

Sakon Nakhon Rajabhat University has 14 projects to end hunger, namely King Science Project, U2T Project, Improving Life for Farmers by AGT Project, and Appropriate Agriculture of Social Communities Project, etc.



SNRU Happy

Sakon Nakhon Rajabhat University, in collaboration with the SNRU Social Engineer Group and those with considerable faith in SakonNakhon Province, set up Happy Bag Sharing to provide dried food, water, consumer goods, and necessary items for living to those affected by the COVID-19 Pandemic at Banpan, Phonnakeaw District Sakon Nakhon Province.



Campus food waste

SNRU pushes for a project to use earthworms to help digest food waste from the cafeterias to reduce the amount of organic waste, laddingorganic matter to the soil and the environment.



2 ZERO HUNGER



Proportion of graduates in agriculture and aquaculture

The Faculty of Agricultural Technology had its origin at the establishment of Sakon Nakhon Rajabhat University in 1999. The Faculty of Agricultural Technology offers Bachelor's degree programs in e fields of Aquaculture, Plant Science, Animal Science, Food Science, Veterinary Technology, and Agribusiness Administration as well as knowledge transfer and extension outreach programs for sustainable farming practices, animal welfare, low environmental impact, and Food Security.





3 GOOD HEALTH AND WELL-BEING

Response to Aged Society : Health Science Program and Wellness Center of SNRU provide programs and workshops, creating social innovations and conduct research for...

- ♥ Raising awareness of aged society and have to live old-age
- ♥ Retirement Preparation and the Elderly
- ♥ Promote health and well-being of the Elderly

Manpower for Health Supply : CWIE, Competency-based program of Public Health through learning collaboration with government and private organizations, and communities. Our relevant publications are ;

- ♥ Tassana-iem, S. et al (2022). Expectations of Desired Competency in the 21st Century among Public Health Technical Officer. AJCPH: 8(2), 77-89.
- ♥ Tassana-iem, S. et al (2022). Effectiveness of Health Communication C ompetency Development Program in the New Normal Era for Public Health Technical Officers in Primary Care Unit. RHPC9Journal: 16(2), 532-49.

Air Pollution (PM 2.5) of Semi-urban area : As can be seen from of our recent publication (Tassana-iem, S. et al, 2022), SNRU conducted the Program to Develop the Elderly to be a prototype for surveillance and prevention of dust hazards in high risk areas.

Ensure healthy lives and promote well-being for all at all ages

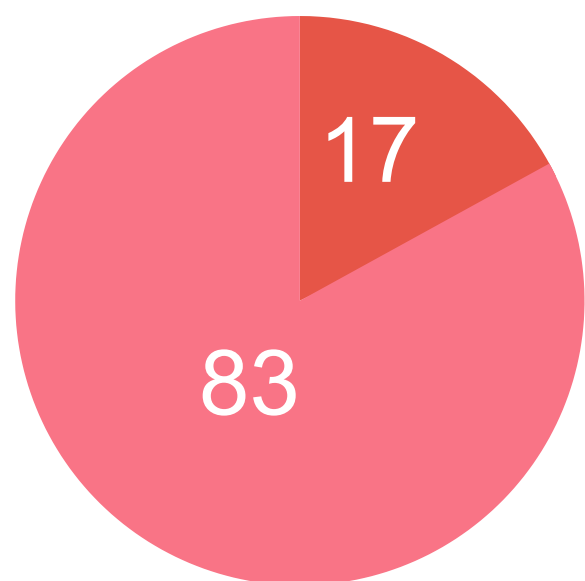
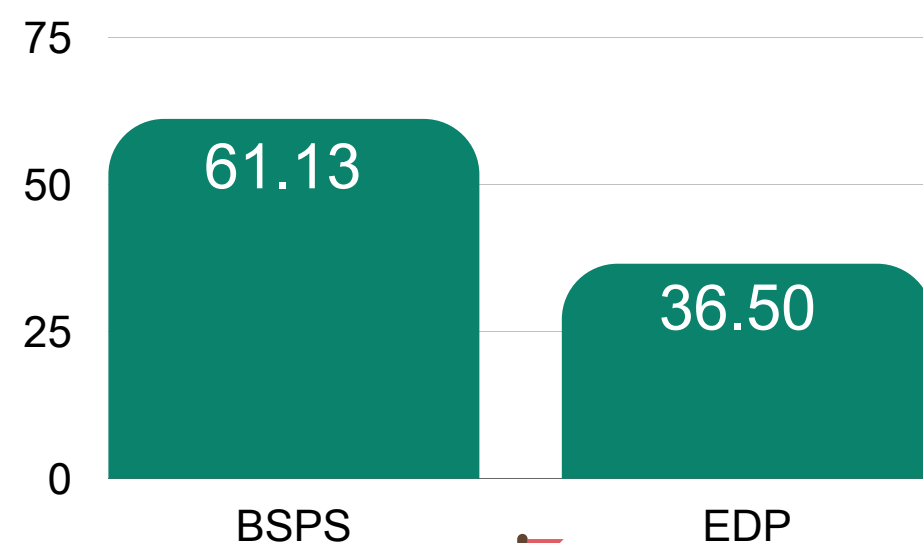
4 QUALITY EDUCATION



SNRU STEAM Education

Academic Service

Determination of Student' Skills



STEAM Education
Traditional Education

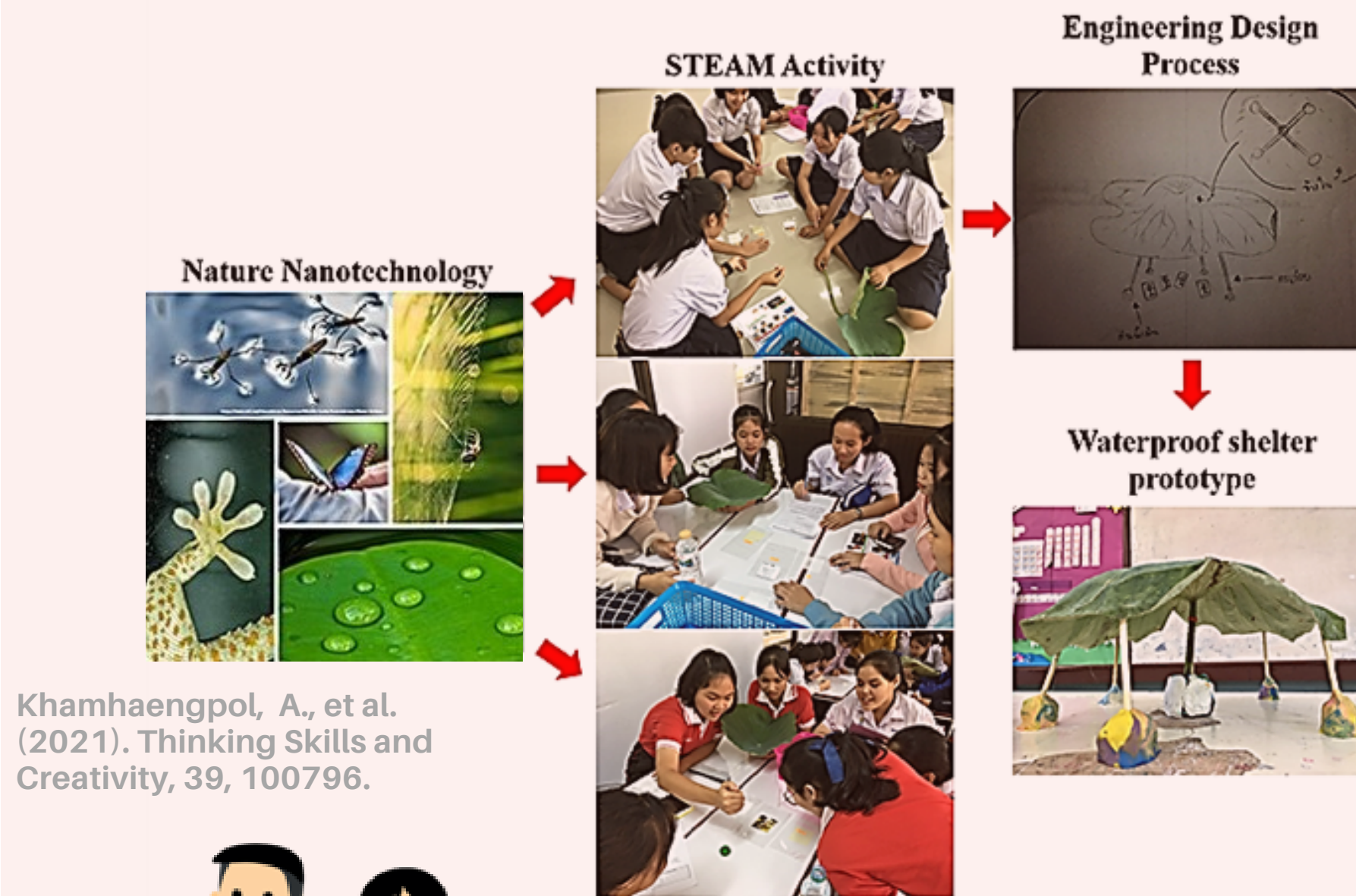


High Schools in Sakon Nakhon Province (%)

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

STEAM Activity

"Miracle Small But Great"



Participants: 180 high school students in Sakon Nakhon Province

Northeastern women : environmental politics in a democratic way

Women Power and Politics



SNRU continuously promotes gender equality in education through social services and organized activities in the Northeast of Thailand in order enhance to women's potential and power encouraging them to have political roles both at local and national levels. Moreover, SNRU strongly supports empowering activities for women to attain a crucial roles in social and economic development plus natural resources management.



End poverty in all its forms everywhere



TALK ABOUT SEX SNRU

Teenage clinic

Education for sexual health and reproductive health. (2018-2022) and continues to promote sexual health and reproductive health education for adolescents who are in the transition from teens to adults through sex education and mature relationship such as distribution of condoms for contraception and safe sex, provision of counseling for pregnant adolescents (unplanned pregnancy) form both SNRU and other educational institutions across Sakon Nakhon province.



Ensure availability and sustainable management of water and sanitation for all

Clean water information of Provincial Waterworks Authority (Sakon Nakhon) 2021

- Total number of users: 24,471
- Active production capacity: 37,500 cubic meters/day
- Production water volume: 757,821 cubic meters/month
- Volume of distribution: 743,551 cubic meters/month

Activities of Sakon Nakhon Rajabhat University

- Developing the potential of knowledge and basic factors of clean water production in Ban Kut Saeng Community, Watthana Sub-district, Song Dao District, Sakon Nakhon Province
- Water and drinking water quality monitoring service in Sakon Nakhon Province
 - Promoting the improvement of domestic water quality for local development
 - Optimizing the wastewater treatment system with natural treatment

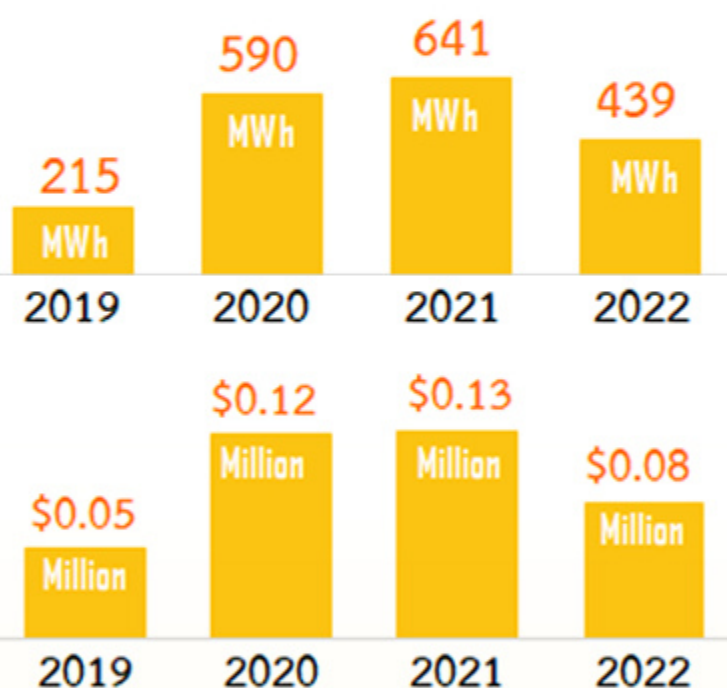




Ensure Access to Affordable, Reliable, Sustainable and Modern Energy for All

Research Innovation and Technology

Power used and cost return from solar cell

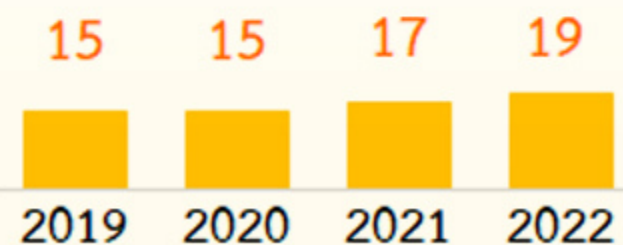


Solar power

Cost return

<http://building.snru.ac.th/>

Published Scopus Index



<https://www.scival.com/overview/publications/summary?uri=Institution>



Biodiesel



Electric car



Solar cell for agriculture



EV Charge



Solar cell for drying

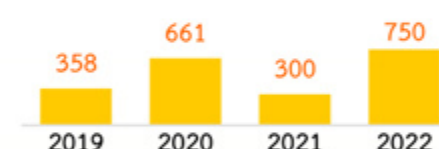
Center of excellence on alternative energy

Development
Research,
Innovation and
technology of
alternative energy

1. Thermoelectric research laboratory
2. Biomass Energy Research Laboratory
3. Electro-Mechanical Energy Laboratory
4. Thin Film Research Laboratory
5. Battery Research Laboratory
6. Optic Research Laboratory

Alternative energy workshop and award

Number of participants



Knowledge Transfer

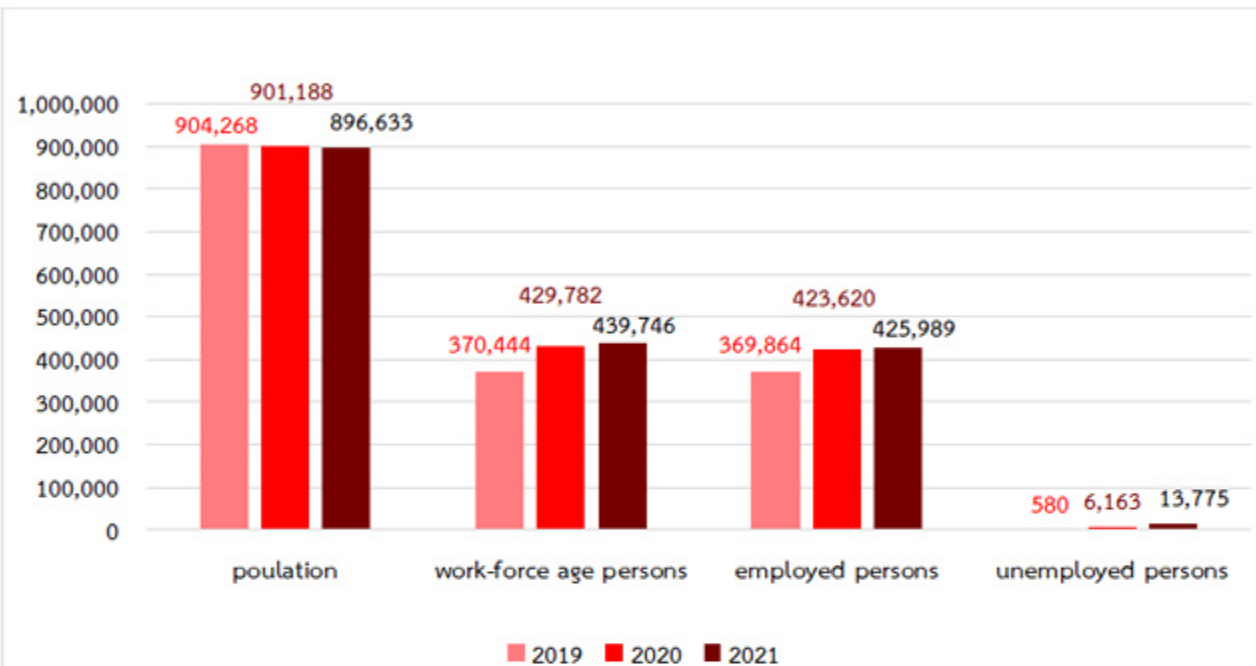


Innovation and technology to communities



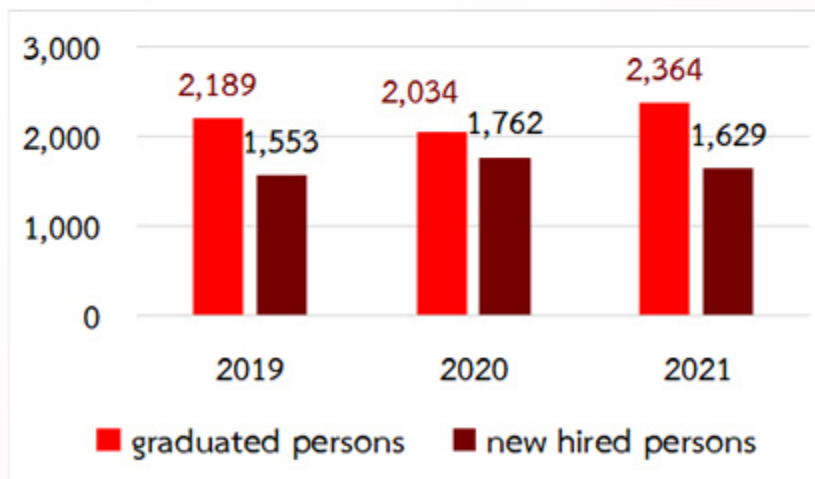
Promote Inclusive and Sustainable Economic Growth, Full and Productive Employment and Decent Work for All

Labor Situation in Sakon Nakhon Province in the years 2019-2021



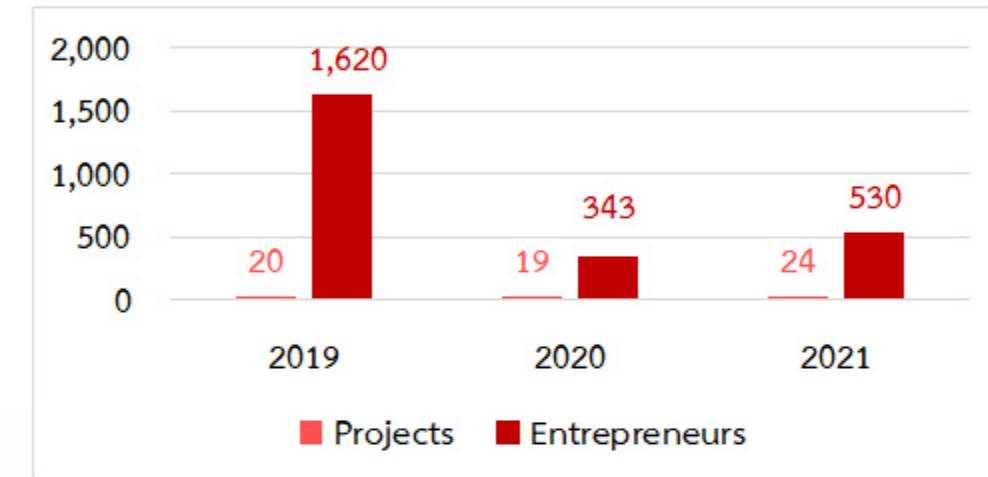
<https://sakonnakhon.mol.go.th/wp-content/uploads/sites/68/2022/02/รายงานสถานการณ์จังหวัดสกลนคร-ไตรมาสที่-4-ปี-2564.pdf>
<https://sakonnakhon.mol.go.th/wp-content/uploads/sites/68/2021/02/รายงานสถานการณ์แรงงานจังหวัดสกลนคร-ไตรมาส-4-ปี-2563-ตุลาคม-ธันวาคม-1.pdf>
<https://sakonnakhon.mol.go.th/wp-content/uploads/sites/68/2020/03/รายงานสถานการณ์แรงงานจังหวัดสกลนคร-ฉบับไตรมาส-4-2562.pdf>

New hired person who graduated bachelor degree from SNRU in the years 2019-2021



<https://upload.snru.ac.th/download.aspx?NFILE=2402453720415682227485188102250195238127160>
<https://upload.snru.ac.th/download.aspx?NFILE=11412116141133982468232237411361651584153>
<https://upload.snru.ac.th/download.aspx?NFILE=861421615213173232226421052369288986232>

Amount of SNRU's Project to improve quality of life and raise income for people in the community at the foundation, and Entrepreneurs under the project in the year 2019-2021



**SNRU's Strategies
for Local
Development**

**Project to improve quality of life
and raise income for people in the
community at the foundation**

<https://plan.snru.ac.th/topics/14755>
<https://plan.snru.ac.th/topics/9910>
<https://plan.snru.ac.th/topics/12849>



9. INNOVATIE EN DUURZAME INFRASTRUCTUUR



Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization and Foster Innovation

The Development of Vacuum Spray Dryer for Functional Food Products (Funder PMU-C) research collaborations with Doi Kham Food Product Co.,Ltd

Extract and Encapsulation of Chrysanthemum,
Tomato, Ginger, ginger root, Chebulic Myrobalan,
Beleric Myrobalan and Indian Gooseberry



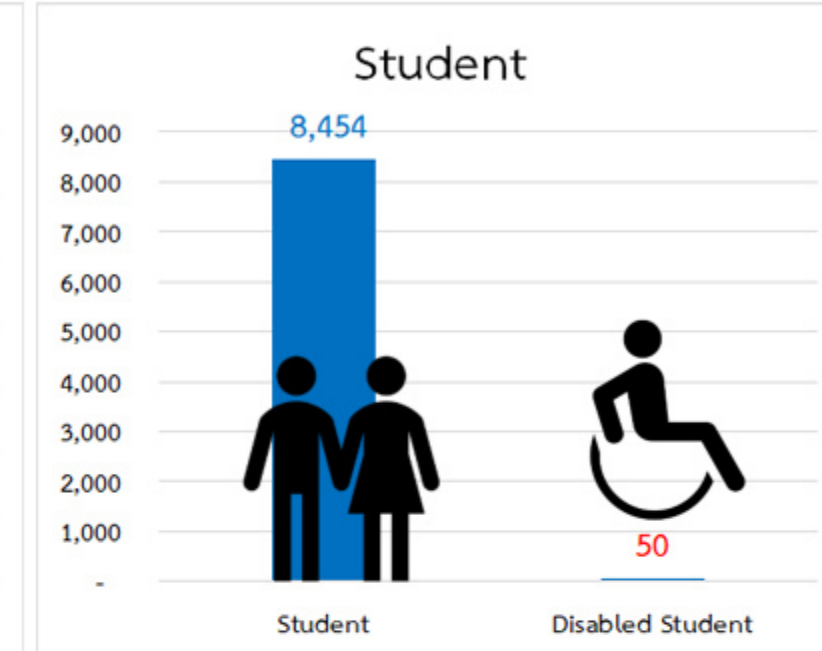
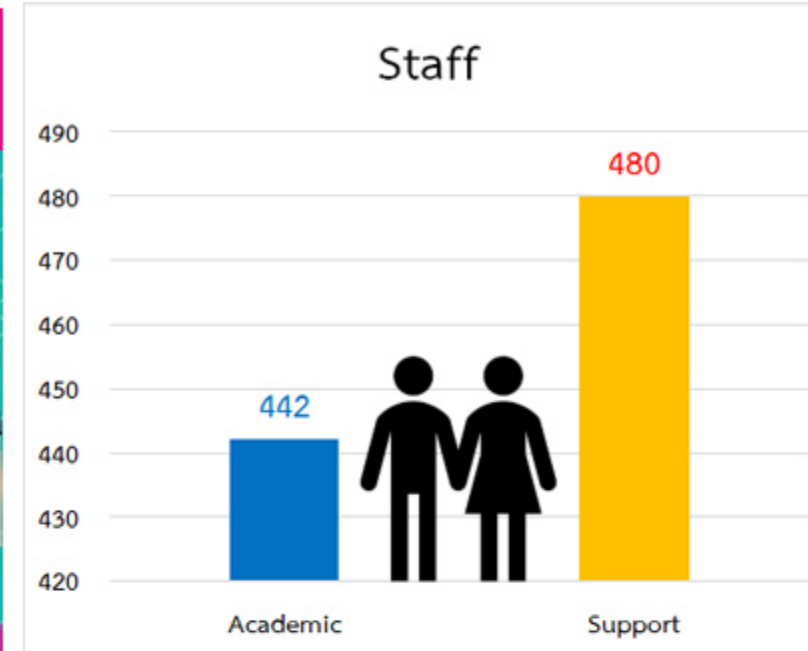
Modification of electric tram for the academic transportation of Sakon Nakhon Rajabhat University and use battery storage power system in electric tram to increase the stability of power system during peak power demand.



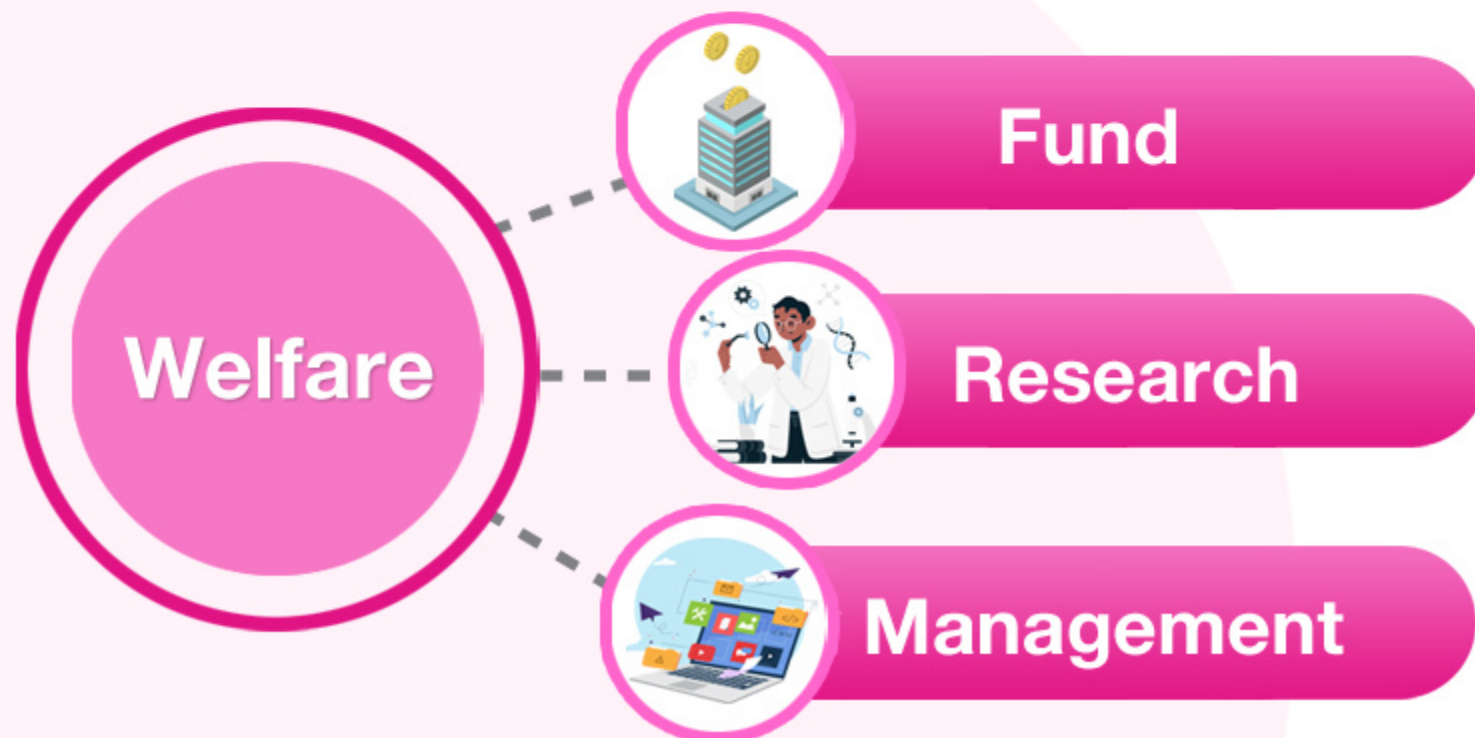


Reduce Inequality Within and Among Countries

Policy



SNRU Regulation



High transparency

Low inequality





Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable



Nong Han Lake



Mankhoksoong, P., et al. (2021). Participation project of Thai Sakon network partners to reduce the risk of flooding in Sakon Nakhon. Sakon Nakhon : Thailand Science Research and Innovation (TSRI), p. 128.



Nong Han Lake covers the area



1,671 km² (**1,044,375** Rai)



80,750 Family



People living in
Sakon Nakhon Province

12
Subdistricts



People living in
Nakhon Phanom Province

20
Subdistricts



Ensure Sustainable Consumption and Production Patterns

SUPPORTS FOOD WASTE REDUCTION ALONG THE CAMPUS ACTIVITY

**CAMPUS
FOOD WASTE
128.0 Kgs/Day**



FOOD WASTE INDEX 23.02 %



62.5%



32.3%



1.6%



3.7%

SNRU CAMPUS FOOD WASTE SOURCE



Cooked to order meal and ready-to-serve meal **34%**



Cooked to order meal only **27%**



Ready-to-serve meal only **9%**



Desserts/Fruits/Drinks & Beverages **8%**



Drinks & Beverages **2%**



Elementary school (Vithidham) **13%**



Campus hotel (Phupan place) **7%**



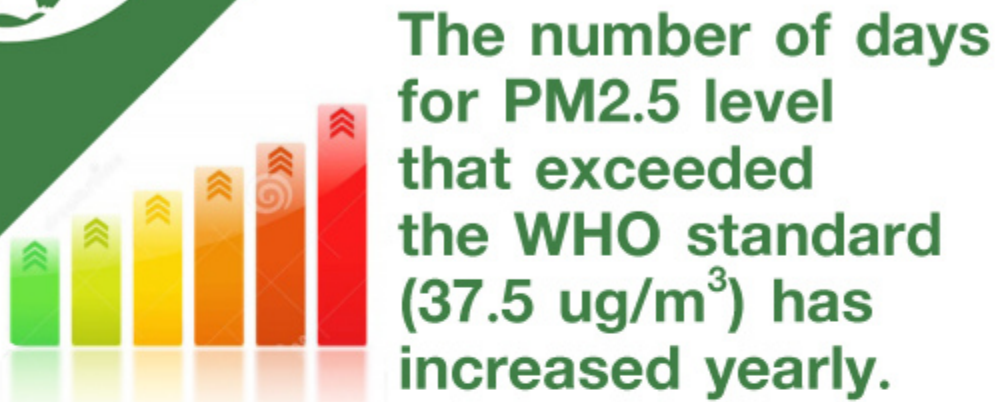
No
Food
Waste



<https://ec.europa.eu>



Take Prompt Action to Combat Climate Change and Its Impacts



To reduce the number of days for PM2.5 levels that exceed WHO standards and monthly average PM2.5 (37.5 ug/m³).



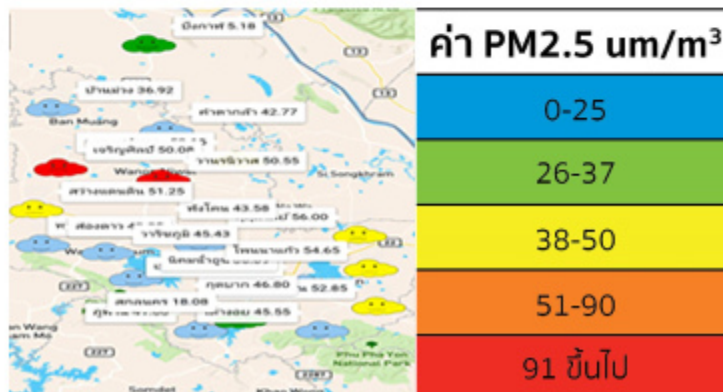
Development of tropical cloud model to evaluate the possibility the occurrence of raining clouds during PM2.5 levels exceeded the standard using satellite data : Financial support by NRCT Haze Free Thailand and PM2.5.

Publications :

1. Sasiwan Tassana-iem, et al (2022). Thai Journal of Public Health. Vol. 52 No. 2 (2022):May-August 2022 TCI 1
2. Pilahome, O. et al (2022). Atmospheric Environment 286, 119218, Impact factor 5.755 (Q1).
3. Piwngam W et al (2022). Advances in Science, Technology & Innovation. In press, Processing index by SCOPUS.
4. Kumharn, W. et al (2022) Advances in Science, Technology & Innovation. In press, Processing index by SCOPUS

Innovations :

1. Mobile application for monitoring PM2.5 (AIRESAN)

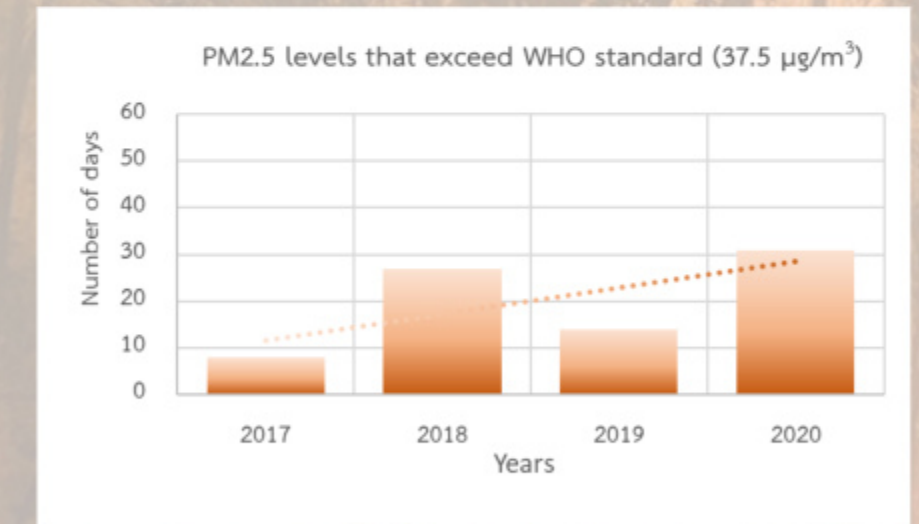


2. Mobile application for evaluating raining cloud properties during high PM2.5 concentrations.



PM2.5 levels Sakon Nakhon Province

2023



To reduce the number of days for PM2.5 that exceed levels of the WHO standard in 2% by 2024.

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Educational Program

SNRU has established the Fisheries program to offer a Bachelor's degree since 2007. The program focuses on Fisheries, Aquaculture, Water Resources and Aquatic Ecology, Aquaculture Innovation, and Conservation of Aquatic Animal Resources and Ecotourism. Academic staff and students work on outreach programs for local communities on sustainable fisheries and aquaculture management.

Maintaining ecosystem and biodiversity

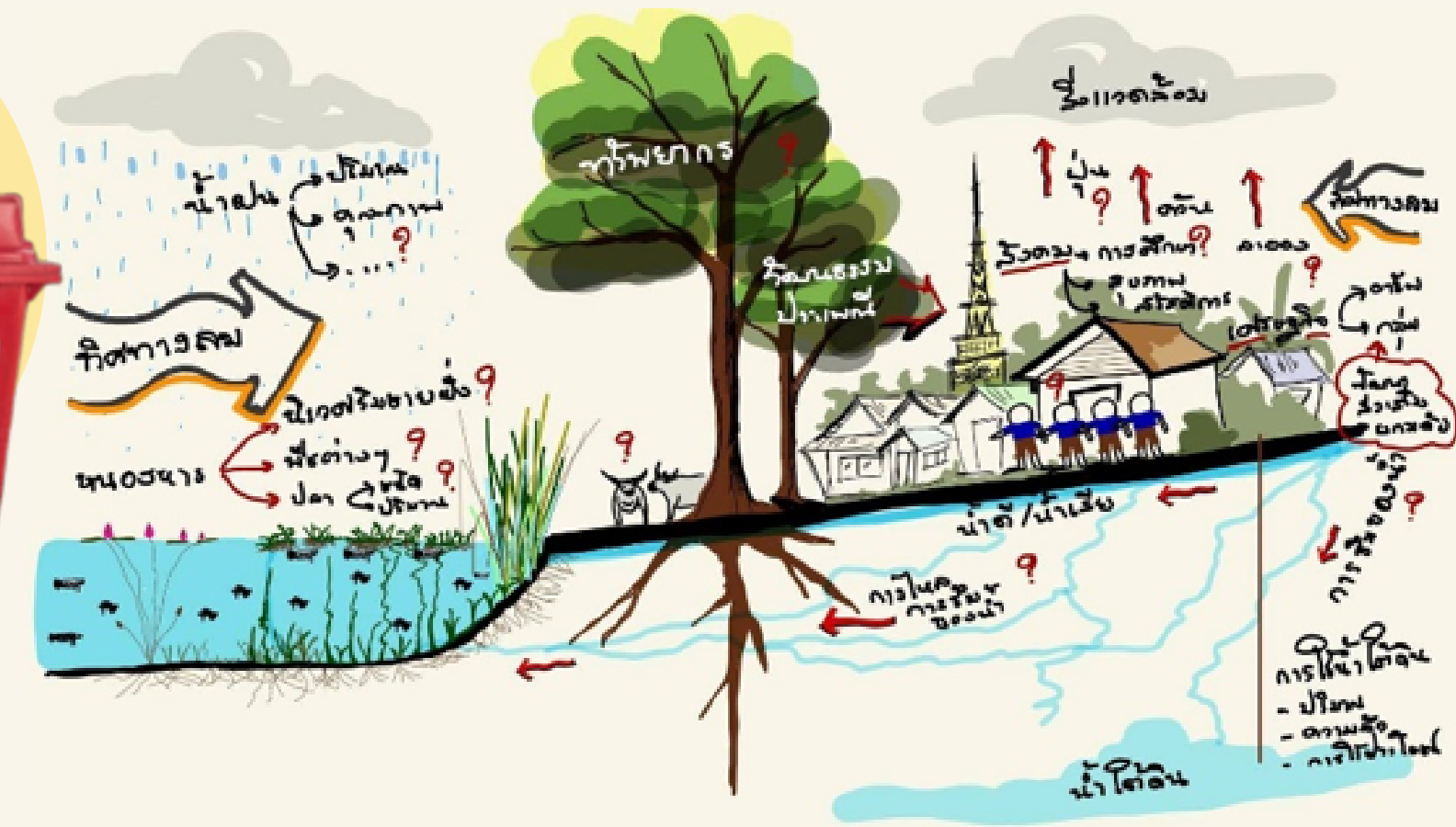
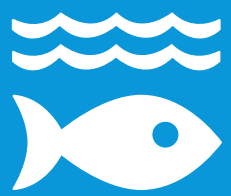
SNRU is the main organization for local community development. Nong Han Study Center aims at community development, research, education, academic service, and cultural studies around at Nong Han Wetlands, Sakon Nakhon Province. The Nong Han Study Center and the community jointly discuss sustainable resource management practices to preserve ecosystems and biodiversity in the Nong Han wetlands.

Reducing plastic use on campus

SNRU has launched a campaign to reduce the use of plastic bags. Students and academic staff use reusable fabric or paper bags instead of single-use plastic bags. In addition, the university has pre-disposal waste separation points covering all areas on campus.



14 LIFE BELOW WATER





Event about sustainable use of land

SNRU provides an area within the campus to set up a demonstrative ecosystem for flora and fauna conservation under Plant Genetic Conservation Project Under The Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (RSPG).

Local biodiversity included in planning and development

Department of Biology, Faculty of Science and Technology set up a tissue culture laboratory for the conservation of rare and endangered plants, plus an exhibition room, displaying collection zone (wet and dry samples) and related knowledge.

Maintain and extend current ecosystems' biodiversity

The Faculty of Agricultural Technology set up a learning center for sustainable farmed food for students and interested people.

Educational programs on ecosystems & sustainable management of land for agriculture and tourism

SNRU set up educational programs on ecosystems, biodiversity, utilization, and sustainable management of biodiversity and land for agriculture and tourism for local communities and local students.



15 LIFE ON LAND

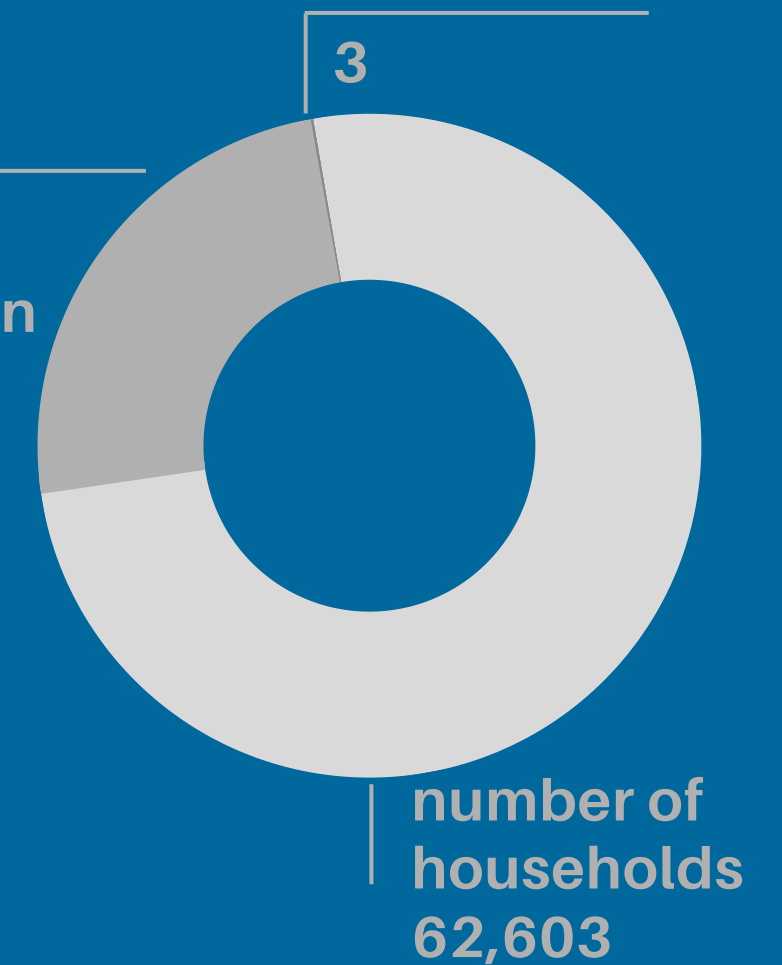


Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

SNRU cooperates with Sakon Nakhon Protection Center for the Destitute have a program to protect destitutes from all forms of violence and human trafficking.

Total population
19,2823





Partnerships for the Goals



Strengthen the means of implementation and revitalize the global partnership for sustainable development

Policies and Strategies

1. Formulate policies to drive SNRU's participation in university Rankings in various fields.
2. Monitor the operations of SNRU's participation in University Rankings and report the results to the committee at the university level for acknowledgment.
3. Provide resources to support the operations in order to achieve the Sustainable Development Goals in the University Rankings
4. Report the assessment results to the University Executive Committee and the University Council.
5. Use the assessment results and recommendations from the University Executive Committee and the University Council to continuously improve the university's operations so as to attain greater quality.

National Collaboration

- National Research Council of Thailand
- Thailand Institute of Science and Technological Research
- 38 Rajabhat University

International Collaboration

- Indonesia : Research & Innovation
- China : Education & Research

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1. Tassana-iem, S.; Insin, N., Talkul, W., & Vongsawat, K. (2022). Expectations of Desired Competency in the 21st Century among Public Health Technical Officer. *Academic Journal of Community Public Health*: 8(2), 77-89.
2. Tassana-iem, S.; Insin, N., Phoolawan, P., & Vongsawat, K. (2022). Effectiveness of Health Communication Competency Development Program in the New Normal Era for Public Health Technical Officers in Primary Care Unit. *Regional Health Promotion Center 9 Journal*: 16(2), 532-49.
3. ArunratKhamhaengpol, Malee Sriprom, Porntip Chuamchaitrakool (2021). Development of STEAM activity on nanotechnology to determine basic science process skills and engineering design process for high school students. *Thinking Skills and Creativity* 39, 100796.
4. ManKhoksoong, P., et al. (2021). Participation project of Thai Sakon network partners to reduce the risk of flooding in Sakon Nakhon. *Sakon Nakhon: Thailand Science Research and Innovation (TSRI)*, p. 128.
5. <http://building.snru.ac.th/>
6. <https://www.scival.com/overview/publications/summary?uri=Institution>
7. <https://sakonnakhon.mol.go.th/wp-content/uploads/sites/68/2022/02/รายงานสถานการณ์จังหวัดสกลนคร-ไตรมาสที่-4-ปี-2564.pdf>
8. <https://sakonnakhon.mol.go.th/wp-content/uploads/sites/68/2021/02/รายงานสถานการณ์แรงงานจังหวัดสกลนคร-ไตรมาส-4-ปี-2563-ตุลาคม-ธันวาคม-1.pdf>
9. <https://sakonnakhon.mol.go.th/wp-content/uploads/sites/68/2020/03/รายงานสถานการณ์แรงงานจังหวัดสกลนคร-ฉบับไตรมาส-4-2562.pdf>
10. <https://upload.snru.ac.th/download.aspx?NFILE=2402453720415682227485188102250195238127160>
11. <https://upload.snru.ac.th/download.aspx?NFILE=11412116141133982468232237411361651584153>
12. <https://upload.snru.ac.th/download.aspx?NFILE=861421615213173232226421052369288986232>
13. <https://plan.snru.ac.th/topics/14755>
14. <https://plan.snru.ac.th/topics/9910>
15. <https://plan.snru.ac.th/topics/12849>
16. <https://www.csdi.or.th/2019/10/nong-han/>
17. SasiwanTassana-iem, WilawanKumharn, NumpornInsin, JarinthipChomchaipon, NeeranuteWontaisong, WiboonsukTalkul, PhoowasitPhoolawan. Predictors for Preventive Behaviors of Health Hazards from Dust Exposure among Elderly in Semi-Urban Community. *Thai Journal of Public Health*. Vol. 52 No. 2 (2022): May-August 2022 TCI 1 (ACI).
18. Pilahome, O., Ninssawan, W., Jankondee, Y., Janjai, S., & Kumharn, W., 2022. Long-term variations and comparison of aerosol optical properties based on MODIS and ground-based data in Thailand. *Atmospheric Environment* 286, 119218, Impact factor 5.755 (Q1).
19. Piwngam W., Pilahome O., Chaochaikong S and Kumharn W., (2022). The Relationship between Climate Variables and Dengue in Bangkok. *The 3rd Conference of the Arabian Journal of Geosciences (CAJG), Advances in Science, Technology & Innovation*. In press, Processing index by SCOPUS.
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