Phranakhon Si Ayutthaya Rajabhat University Environmental Statement Report 2023

Thailand

https://aru.ac.th/greenaru/

Phranakhon Si Ayutthaya Rajabhat University (ARU) is committed to sustainable development. The university is developing to create a balance between environmental, social, and economic dimensions so the university can be a model for students, staff and community around university to be aware of the environmental changes and to maintain a suitable environment for future generations especially neutral carbon community. The University development for sustainability consists of 6 areas which are;

1. Setting and Infrastructure (SI)
2. Energy and Climate Change (EC)
3. Waste (WS)
4. Water (WR)
5. Transportation (TR)
6. Education and Research [ED]

The sustainability development of ARU reveals better environmental, class activity, and university member habits. This success is due to the cooperation of everyone in the university. We try to give them a chance to express their inspiration and let them create a great place for living together even with animals, and plants. The campaign slogan is "ARU TOGETHER GREEN".

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Country : Thailand
Web Address : https://www.aru.ac.th/

[1] Setting and Infrastructure (SI)

[1.3] Number of Campus Sites

View of Campus and Some Academic Area (ARU, Thailand)

Description:

Phranakhon Si Ayutthaya Rajabhat University (ARU) consists of 1 campus covering a total area of 267,324 m^2. It was founded for the purpose of training teachers in 1905 and became a higher education institute in 1992. It is located amidst the historic greenery and ruins of the old capital of Ayutthaya, which was designated as a UNESCO World Heritage Site in December 1991. ARU focuses on developing and strengthening the capacity of local communities through 4 faculties for Bachelor's degrees and 1 demonstration school. Furthermore, since being designated a World Heritage Site, ARU has become a center for cultural tourism management given its unique position in the center of Ayutthaya. In addition to education and tourism, ARU is a leading university in health science and environmental studies.

Additional evidence link:

History, Protection and management requirements of Ayutthaya Historical Park (https://whc.unesco.org/en/list/576/)

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[1] Setting and Infrastructure (SI)

[1.4] Campus Setting

Urban Campus Setting (ARU, Thailand)

Description:

Phranakhon Si Ayutthaya Rajabhat University is located in the center of the Ayutthaya UNESCO World Heritage Site. The architectural style of the university incorporates the historic Ayutthaya designs seen in the surrounding ruins. Given its location, the university buildings are limited in height in order to comply with building regulations in the World Heritage Site. The university makes use of all available land while preserving the trees located on campus which provide shade for the faculty and students. ARU belongs to Phranakhon Si Ayutthaya district which is located in the city center of the Phranakhon Si Ayutthaya Province. The Phranakhon Si Ayutthaya district has a total area of 130.60 km² and a total population of 136,467.00. This means a median population density of 1,053.13 inhabitants per km².

Additional evidence link:

Population and area (https://en.wikipedia.org/wiki/Phra_Nakhon_Si_Ayutthaya_District)

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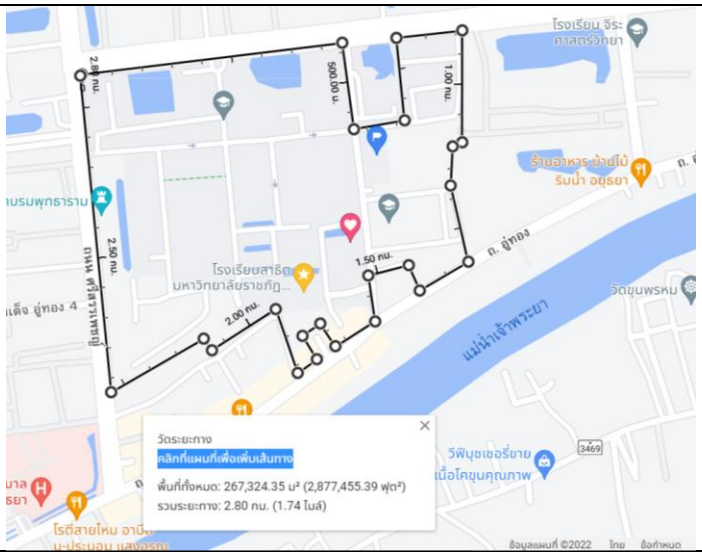
[1] Setting and Infrastructure (SI)

[1.5] Total Campus Area (meter^2)



Total Campus Area (ARU, Thailand)

Description:

The marked area on the map is the academic area of higher education including two primary and one secondary schools. The marked area includes the classrooms, lecture halls, administration buildings, the cafeteria, parking lots, and the forest.

Total area: 267,324 m^2
Total distance/circumference: 2.80 km = 2,800 m

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[1] Setting and Infrastructure (SI)

[1.7] Total Campus Building Area (m^2)

Building No.	Name (Thai)	Ground Floor Area	No. of Floor	Total Building Area	Unit
1	อาคารป่าดินสอ	914.00	3	2,742.00	sqm
2	อาคารป่าตอง	914.00	3	2,742.00	sqm
3	กองนโยบายและแผน	411.00	3	1,233.00	sqm
4	อาคารคณะวิทยาการจัดการ	614.00	3	1,842.00	sqm
5	คณะวิทยาศาสตร์	814.00	3	2,442.00	sqm
6	คณะครุศาสตร์	595.00	3	1,785.00	sqm
7	คณะครุศาสตร์	495.00	3	1,485.00	sqm
12	อาคาร ปฏิบัติการเทคโนโลยี	205.00	2	410.00	sqm
13	อาคารสาขาดนตรี	392.00	3	1,176.00	sqm
15	อาคารสำนักวิทยบริการ	1,054.00	2	2,108.00	sqm
18	โรงยิม 1	945.00	1	945.00	sqm
19	โรงยิม 2	763.00	1	763.00	sqm
20	อาคารโรงอาหาร(เก่า)	770.00	1	770.00	sqm
21	อาคาร หอประชุม	1,131.00	1	1,131.00	sqm
24	อาคารศูนย์วิทยาศาสตร์	972.00	3	2,916.00	sqm
30	อาคารบัณฑิตวิทยาลัย	1,055.00	3	3,165.00	sqm
31	อาคาร 100 ปี	5,579.00	2	11,158.00	sqm
35	อาคารท้องฟ้าจำลอง	616.00	2	1,232.00	sqm
36	อาคารศูนย์การศึกษาพิเศษ	903.00	2	1,806.00	sqm
37	กองพัฒนานักศึกษา	559.00	2	1,118.00	sqm
41	คณะวิทยาการจัดการ	1,064.00	2	2,128.00	sqm
42	อาคารเทคโนโลยีอุตสาหกรรม	1,658.00	2	3,316.00	sqm
43	อาคารคณะมนุษยศาสตร์ฯ	1,039.00	2	2,078.00	sqm
44	อาคารสำนักงานอธิการบดี	947.00	2	1,894.00	sqm
45	อาคารบ้านพลูหลวง	2,688.00	2	5,376.00	sqm
46	อาคารครุศาสตร์	935.00	2	1,870.00	sqm
47	อาคารสวนหลวงค้างคาว	2,089.00	2	4,178.00	sqm
48	อาคารเรียนมัธยม 1	935.00	4	3740.00	sqm
49	อาคารเรียนมัธยม 2	900.00	2	1800.00	sqm
50	โรงยิมมัธยม	200.00	1	200.00	sqm
51	อาคารเรียนประถม	700.00	2	1400.00	sqm
52	โรงยิมประถม	100.00	1	100.00	sqm
53	กลุ่มอาคารเรียนปฐมวัย	500.00	2	1000.00	sqm
	Total	**33,456.00**		**72,049.00**	sqm

Description:

Total campus building ground area: **33,456.00** (m^2)

Total campus building area: **72,049.00** (m^2)

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[1] Setting and Infrastructure (SI)

[1.8] The Ratio of Open Space to Total Area.


Open Space (ARU, Thailand)

Description:

Formula: ((1.5-1.6/1.5) * 100%)
((267,324 (m^2) - 33,456 (m^2))/ 267,324 (m^2))*100%

The ratio of open space to total area: 87 %

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[1] Setting and Infrastructure (SI)

[1.9] Total Area on Campus Covered in Forest Vegetation (meter^2)

Example of Total Forest Vegetation Area (ARU, Thailand)

Description:

Most of the trees covering the area of the Borom Phuttaram temple are Golden Fig trees (*Ficus Benjamina* L.). The area is also shaded by some Bamboo and Fig trees (*Ficus carica*). The trees are home to a number of birds, squirrels, and insects. The trees are conserved and a canal with water all year round provides the perfect conditions for insect diversity. These trees shade the area and help reduce the heat during the day. Therefore, various annual events organized by the university are frequently held underneath these Golden Fig trees.

Total area: 10,500 m^2 (3.92%)
Total distance/circumference: 0.01 km

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[1] Setting and Infrastructure (SI)

[1.10] Total Area on Campus Covered in Planted Vegetation

Planted Vegetation (ARU, Thailand)

Description:

The vegetation in the university consists mostly of trees (5-20 meter-high) along the roadside, ornamental plants for decoration, herbs and spices for food coloring, and some vertical gardens.

Total area on campus covered in planted vegetation: 32,140 m^2 (12.00 %)

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[1] Setting and Infrastructure (SI)

[1.11] Total Area of Campus for Water Absorption besides Forest and Planted Vegetation





Water Absorption Area (ARU, Thailand)

Description:

Total area on campus for water absorption besides forest and planted vegetation is 29,000 m^2.

The ratio of open space to total area: 11 %

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[1] Setting and Infrastructure (SI)

[1.17] University's Budget for Sustainability Effort (in US Dollars)

Strategic	2018	2019	2020	2021	Strategic	2022	2023
Primary-Secondary School Teacher Development	371,634	599,989	68,690	405,546	Educational research and Innovation	1,877,595	2,166,155
Innovation, Research, Health-Science, and Environment	1,164,172	1,435,237	970,129	1,155,890	-	-	-
Eco-Tourism in the World Heritage Site	-	-	-	-	Cultural Research and innovation	89,770	135,943
Green University	26,666	64,666	56,666	50,806	Green University	34,464	22,025
Area-Based Development	395,139	502,616	1,049,362	819,264	Area-Based Sustainable Development	675,805	590,856
Management System	6,917,326	7,654,458	12,412,918	14,308,776	Management System	3,282,153	8,955,835
					Other	8,521,740	
Total	8,874,937	10,256,966	14,557,765	16,740,282	-	14,481,527	16,376,238
% Sustainable budget						18.5	17

Description:

The total university budget for the sustainability effort in 2022 is 2,166,155 + 135,943 + 22,025 + 590,856 = 2,914,979 $ from total budget of 16,376,238 $ which calculated as 17 %

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[1] Setting and Infrastructure (SI)

[1.20] Percentage of building operation and maintenance activities in a one year period

	
Building Renovation (ARU, Thailand)	Building Renovation (ARU, Thailand)

Description:

All buildings have underwent operation and maintenance in major and minor activity to keep the usage at the high performance. The operations were on energy efficiency usage and renovation to provide equal access and flexibility.

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[1] Setting and Infrastructure (SI)

[1.21] Campus facliities for the disabled, special needs and maternity care

		
Wheelchair Ramp (ARU, Thailand)	*Worship Room* (ARU, Thailand)	*Priority Parking lot* (ARU, Thailand)

Description:

All buildings in ARU are equipped with special facilities for the disabled, people with special needs, worship room, and maternity care room.

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[1] Setting and Infrastructure (SI)

[1.22] Security and Safety Facilites

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>CCTV (ARU, Thailand)</td><td>Fire Hydrant (ARU, Thailand)</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Fire Extinguisher (ARU, Thailand)</td><td>Automatic Barrier Gate (ARU, Thailand)</td></tr>
</table>

Description:

1. CCTV cameras are located at the university entrances, building entrances, inside the buildings, on the main roads of the university.
2. Fire hydrants were installed in the buildings after the year 2000, however fire extinguishers are equipped in all buildings.
3. Automatic barrier gate was used to decrease human workload.

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[1] Setting and Infrastructure (SI)

[1.23] Health Infrastructure Facilities for Students, Academics and Administrative Staff Wellbeing

	
First Aid Room (ARU, Thailand)	Indoor Gym (ARU, Thailand)

Description:

1. The first aid room supplies health services for students and lecturers. In case of severe symptoms or any accidents or injuries, the case will be transferred to the provincial hospital which is situated next to the university.
2. ARU Provided both indoor gym and outdoor exercise tools for staff and student.
3. Outdoor exercise areas are allowed for public use.

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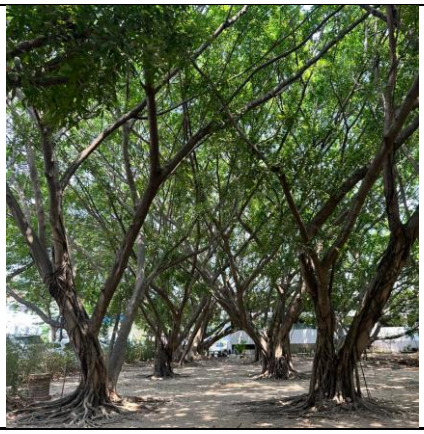
[1] Setting and Infrastructure (SI)

[1.23] Conservation: plant, animal, and wildlife, genetic resources for food and agriculture secured in either medium or long-term conservation facilities

	
Green house (ARU, Thailand)	Conservation area (ARU, Thailand)

Description:

1. Greenhouse for genetic diversity research.
2. Fig trees (*Ficus carica*) conservation area.

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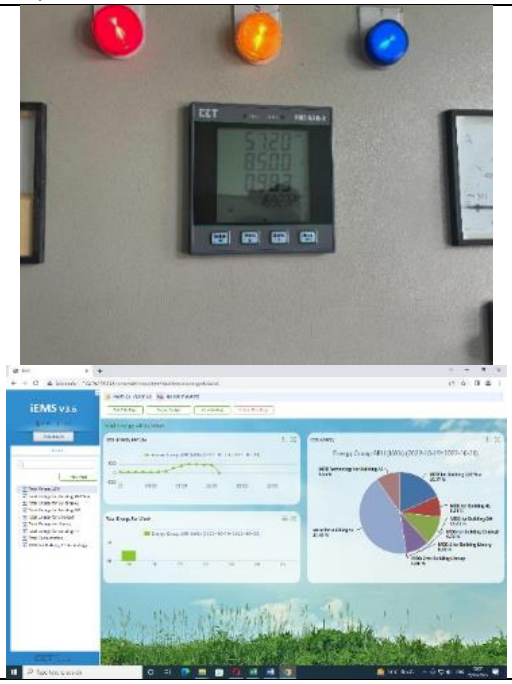
[2] Energy and Climate Change (EC)

[2.1] Energy Efficient Appliance Usage

A temperature, light, and humidity control system is in place, divided into zones.
(ARU, Thailand)

Automate Door for Air-Conditioned Building
(ARU, Thailand)

Air-Conditioned Building
(ARU, Thailand)



Realtime Energy Consumption
(ARU, Thailand)

Description:

ARU intends to realize further energy savings by paying close attention to energy management and using high-efficiency appliance, such as LED lighting and an inverter cooling system. The real-time energy consumption monitoring system would monitor the peak of energy usage which is able to be used for the energy reduction program. Each building can assess its own energy consumption and realize its own energy usage.

Number Energy Efficient Appliances

Appliance	Total Number	Total Number Energy Efficient Appliances
LED Lamp	46,000	30,000
Inverter Cooling system	400	182
total	46,400	30,182
	Percentage	**65.04**

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[2] Energy and Climate Change (EC)

[2.3] Smart Building Implementation

***Min. at least five requirements for each building**

No.	Name	Place	Automation		Safety				Energy		Water		Indoor Environment				Lighting				Building Area (m^2)
			B1	B2	S1	S2	S3	S4	E1	E2	A1	A2	I1	I2	I3	I4	L1	L2	L3	L4	
1	Building No.47 อาคารสวนหลวงค้างคาว (Lecture room and cafeteria)	Phranakhon Si Ayutthaya, Thailand	X			x	x		x							x	x			x	4,178
2	Library Building	Phranakhon Si Ayutthaya, Thailand	X			x	x		x					x	x		x	x		x	2,108
3	Building No.4 คณะวิทยาการจัดการ	Phranakhon Si Ayutthaya, Thailand				x	x										x			x	2,520
	Total																				**8,806**

Smart building implementation

(8806 m^2/x100%)/63,809.00 m^2
Smart building implementation is 13.8 %

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[2] Energy and Climate Change (EC)

[2.5] Renewable Energy Sources on Campus

	
Wind turbine for electricity generation. (ARU, Thailand)	Solar cell system for energy storage and conversion into light. (ARU, Thailand)
	
A water pumping powered by solar energy. (ARU, Thailand)	A solar cell tracking system (ARU student project).

Description:

Two solar PV power modules were installed (6773 kWh) in ARU. The modules consist of a Mono Crystalline PV module and an Amorphous PV module, which are able to generate 3999.97 kWh and 2773.2 kWh per year, respectively. Wind power is also installed at ARU to demonstrate the benefit of wind as a tool for learning experience. This wind power generates about 800 kWh per year. Furthermore, some electronic devices also use their own individual solar power.

In the university's teaching and learning process, there are student projects related to harnessing clean energy, such as solar energy, to demonstrate the importance of utilizing clean energy sources.

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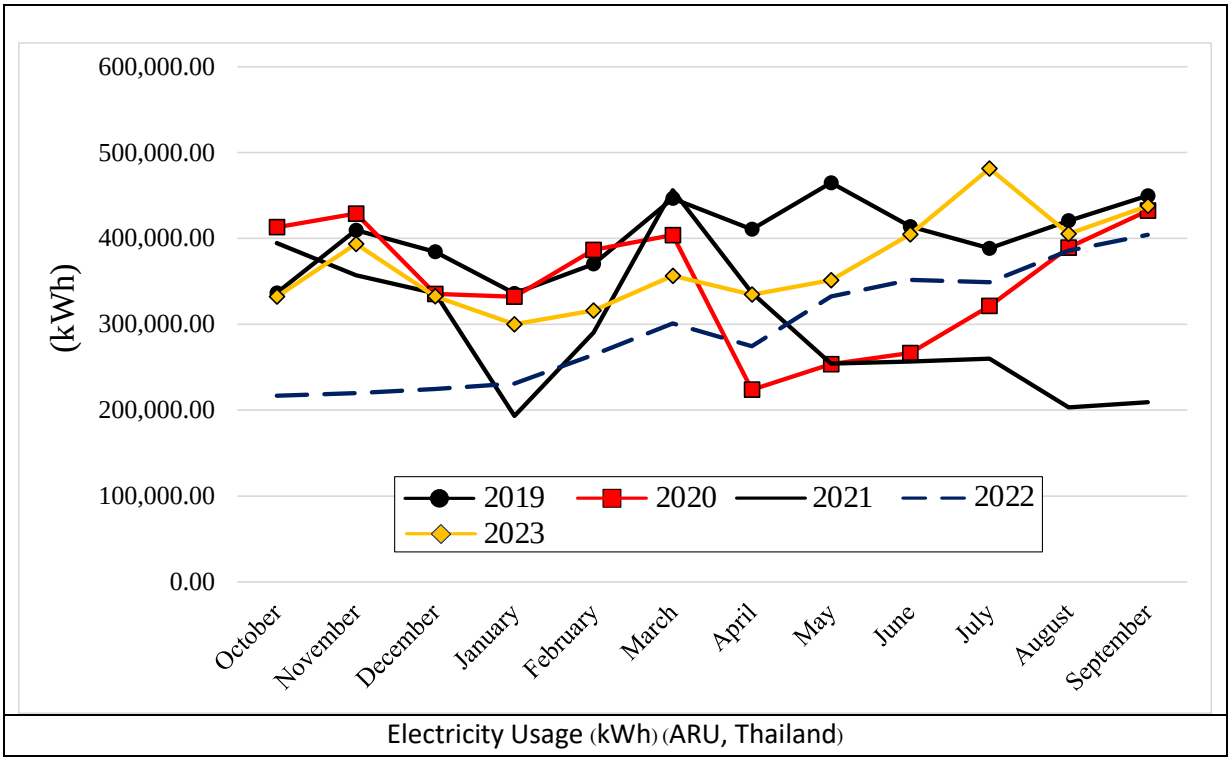
[2] Energy and Climate Change (EC)

[2.6] Electricity Usage Per Year (in Kilowatt hour)



Electricity Usage (kWh) (ARU, Thailand)

	Electricity Usage (kWh)												
Year	1	2	3	4	5	6	7	8	9	10	11	12	Total
2019	336,574.40	409,531.00	384,434.14	336,020.50	370,218.59	446,558.86	410,555.40	464,837.70	413,852.12	388,515.78	420,604.10	449,739.09	**4,831,441.68**
2020	412,988.09	428,805.66	335,303.50	332,171.53	386,595.73	403,901.01	223,938.42	253,579.03	266,607.16	321,354.61	389,287.23	432,335.39	**4,186,867.36**
2021	394,611.93	357,029.69	335,968.41	193,466.11	290,559.06	456,245.25	336,772.17	254,415.02	256,607.11	259,883.24	203,393.57	209,364.72	**3,548,316.28**
2022	216,969.66	219,762.45	224,812.31	230,974.93	264,585.23	300,915.99	274,345.95	332,344.53	351,690.39	348,964.64	385,783.66	404,306.18	**3,555,455.92**
2023	332,177.78	393,621.51	332,538.24	299,999.23	316,053.62	356,476.97	334,628.53	351,288.32	404,771.16	481,418.29	405300.89	437822.41	**4,446,096.95**

Description:

The total electricity usage of ARU in 2023 was 4,446,096.95 kWh. ARU electricity is used for lighting and cooling, mostly in the classrooms and for some laboratory appliances. In 2021, during the COVID-19 Pandemic, most classrooms were not used regularly, and the energy consumption was reduced. However, in 2022, most of the classes were launched as regular, which increased the use of higher electricity usage. The programs for the reduction of electricity usage were launched and the light bulbs were continually changed to LED bulbs and the old cooling systems were replaced with new cooling systems every year. The electricity usage slightly decreased in the last two quarters of 2021.

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[2] Energy and Climate Change (EC)

[2.7] Ratio of Renewable Energy Production Divided by Total Energy Usage Per Year

Solar PV Power Module and wind turbine module (ARU, Thailand)

Description:

There are two sources of Renewable Energy Production in ARU.

No	Renewable Energy	Production (in kWh)
1	Solar panel	6,773
2	Wind turbine	800
	Total	7,573

7500 of total usage 4,446,096.95 (Electricity usage) = 0.17 %

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[2] Energy and Climate Change (EC)

[2.9] Elements of Green Building Implementation as Reflected in All Construction and Renovation Policies

Transparent Roof and Light Control Panel (ARU, Thailand)

Visual Comfort Using Natural Light Design (ARU, Thailand)

Outdoor seating for students is adequate.

Description:

The policy of construction and renovation of the ARU Buildings Department is to (1) maximize the use of natural light by using glass windows with light control film and a light-shaded panel to control the penetration of heat from outside the buildings. (2) Using a slatted design to filter light. (3) Outdoor space design and seating were also designed to reduce electricity use. (4) Air flows in and out through building to help reduce the temperature inside the building and indirectly reduces electricity use.

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[2] Energy and Climate Change (EC)

[2.10] Greenhouse Gas Emission Reduction Program

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<tr><td>1. Renewable Energy (ARU, Thailand)</td><td>2. Waste Bank (ARU, Thailand)</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>3. Walk and Ride App (ARU, Thailand)</td><td>4. A recycling machine (ARU, Thailand)</td></tr>
</table>

Description:

1. Using renewable energy for electricity reduces the amount of electricity purchased.
2. ‘ARU workout’ app to promote walking, running, and cycling on campus instead of using cars.
3. ‘ARU waste exchange’ waste bank to promote 3Rs which reduce greenhouse gas emissions.
4. A recycling machine for used water bottles that can transform them into points.
5. Using Power Management (PM) to optimize the use of electricity in all departments.

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[2] Energy and Climate Change (EC)

[2.11] Please Provide the Total Carbon Footprint (CO_2 emission in the last 12 months, in metric tons)

Option 2: Recommended by UI GreenMetric

CO_2 (electricity)

$= (\text{electricity usage per year in kWh}/1000) \times 0.84$

$= \frac{4{,}446{,}096.95}{1000} \times 0.84$

$= 3{,}734.72$ metric tons

CO_2 (bus)

(Number of the shuttle buses at your university x total trips for shuttle bus service each day x approximate travel distance of a vehicle each day inside campus only (in kilometers) x 240/100) x 0.01

$= \frac{3 \times 15 \times 3 \times 240}{100} \times 0.01$

$= 3.24$ metric tons

CO_2 (cars)

$= \frac{\text{number of cars entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0{,}02$

$= \frac{529 \times 2 \times 3 \times 240}{100} \times 0.02$

$= 152.35$ metric tons

CO_2 (motorcycle)

$= \frac{\text{number of motorcycle entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0{,}01$

$= \frac{357 \times 2 \times 3 \times 240}{100} \times 0.01$

$= 25.34$ metric tons

CO_2 (total)

$= 3{,}734.72 + 3.24 + 152.35 + 25.34$

$= 3{,}157$ metric tons

Carbon footprint in 2020-2021 = 3,915.66 metric tons

Description:

The carbon footprint of an organization from activities within the campus in 2023 is 3,915.66 metric tons of CO2 per year. The largest emission source was from electricity consumption (3,734.72 metric tons of CO2 per year). The net carbon footprint of ARU may be less than the calculated value, as the campus has further contributed to reducing and offsetting its carbon footprint through adapting to intensify the eco-friendly activities and available natural forest and newly planted trees within the campus.

year	Carbon footprint	Carbon footprint/person	Remarks
2020	3,456	0.5	2-month Covid-19 situation
2021	2,236	0.75	8-month Covid-19 situation
2022	3,157	0.63	Fully operated after covid-19 situation
2023	3,915	0.78	Fully operated

Carbon footprint (metric tons) /Total population = 3,915.66 /6,598 = 0.59 metric tons /person

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[2] Energy and Climate Change (EC)

[2.13] Number of innovative program(s) in energy and climate change

Innovative Program for energy and climate change (ARU, Thailand)

A solar cell tracking system (ARU student project).

Testing the buoyancy for a solar cell system. (ARU student project).

Description:

1. Using energy from solar panels to improve water quality by means of a plant filtering system.
2. Producing Automate Trash collecting machine to promote the ease of recycling trash.
3. Automated door at the entrance of the buildings to reduce the loss of air conditioning.
4. Real-time energy consumption management to collect data for analyzing programs to reduce the use of energy.
5. Solar-panels tracking designing a system that allows solar panels to track the sun, with the ability to adjust the angle of the solar cells in order to follow the sun from sunrise to sunset.
6. Floating platform for solar cell was designed for wastewater treatment system or electrical appliances in the future.

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[2] Energy and Climate Change (EC)

[2.14] Impactful University Program(s) on Climate Change


Activities that support and promote Thai culture and increase income within the university's nearby community. (ARU, Thailand)

Description:

The university conducts activities to support and promote Thai culture and the sustainable income generation for the neighboring communities. These efforts aim to enhance the quality of life and establish the community as a culturally unique cultural tourism destination.
https://www.facebook.com/SiKoot.Market

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[3] Waste (WS)

[3.1] Recycling Program for the University's Waste

Recycling Program for the University's Waste (ARU, Thailand)

Description:

In 2023, waste collected from separation station 'ARU Waste Exchange'was use for 3Rs activity. The office of academic resources and information technology and green university conducts several activities for students such as competitions and 3Rs workshop.

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Country : Thailand
Web Address : https://www.aru.ac.th

[3] Waste (WS)

[3.1] Inorganic Waste Treatment

ARU Waste exchange (ARU, Thailand)

Description:

'ARU Waste Exchange', is the example program that promotes and raises awareness for the faculty, staff, and students in the university on the separation of waste before discarding and waste reduction in the university.

ARU Waste Exchange system was introduced to ARU in 2020 to create a waste separation process and create added value to the waste including plastic, paper, metal and glass. In these activities, the students with their ID card can deposit the trash then get a reward. In 2021, The ARU Waste Exchange is upgrading to an automatic point and record system which hopes to be able to collect more trash and increase number of users.

The ARU Waste Exchange combined with other efforts of separation activities aims to put recycled waste into the recycling process up to 60 percent in 2020 and 90 percent in 2025. In 2023, There are tons 5.6 tons recycled as calculated as more than 84 % treated.

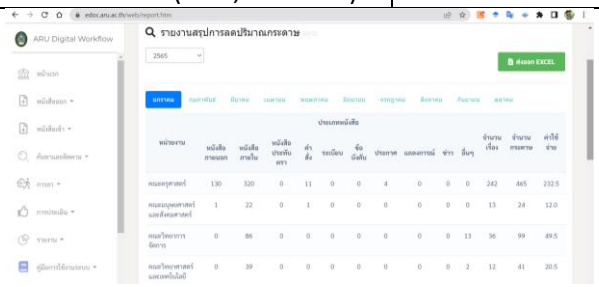
University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.2] Program to Reduce the Use of Paper and Plastic on Campus

ECOLIFE Game (ARU, Thailand)

Campaign to Reduce the Trash (ARU, Thailand)



Edocument interface (ARU, Thailand)

Topics raised in classes about reduction of paper and plastic (ARU, Thailand)

Description:

Pharnakhon Si Ayutthaya Rajabhat University has policies to control the use of Styrofoam in the cafeterias, a Green Library, and activities to reduce the use of plastic, paper and foam. These activities encourage the efficient use of resources, for example, to reuse paper or reuse plastic bags in various program as follows.

1. Spread awareness of the dangers of using plastic and foam that affect the environment and society through public relations media. It is important for students and personnel to be aware and change their behavior to reduce the use of plastic or foam. Steps encouraged by the university include: carrying a glass, tube and cloth bag to reduce the use of plastic bags from stores.
2. Encourage students to play the Eco life game to inspire them to reject plastic tubes, plastic spoons, and foam. By participating in the activities, the students will be able to collect points to exchange for prizes.
3. Teach and learn 3Rs in courses, for example, in Textile and Clothing course, the lecturer provides information about problems and raise the students' awareness to encourage them to think about how to be able to reduce the amount of waste.
4. Use E-document to reduce the use of paper. In 2021, there are 169,275 sheets of paper reduced and accounting for reduction of 84,637 THB.

Year	**2021**
Page reduced	169275
Cost (THB) reduced	84637.5

All of the above activities emphasize the importance of environmental problems and motivate people to focus on preventing the destruction of the environment to build the green community of the university through teaching and technology.

Template for Evidence(s)
UI GreenMetric Questionnaire

University : ...
Country : ...
Web Address : ...

[3] Waste (WS)

[3.2] Program to Reduce the Use of Paper and Plastic on Campus

SAMPLE

	
1	2
	
3	4
Example of Program to Reduce the Use of Paper and Plastic in Campus (Mahidol University, Thailand)	

Description:
(*Please describe the program to reduce the use of paper and plastic on your campus. The following is an example of the description. You can describe more related items if needed*.)

1. Mahidol IT supports paperless system to reduce paper in daily workplace. It can reduce a lot of paper use that mean Mahidol University can reduce CO2 emissions and save the world.
2. Solutions of reusable paper in back office, e.g. using 2-side of paper, always recheck your data before print, use online system instead of hard copy.
3. Mahidol University has a policy of “Reduce Reuse plastic bag in the last 3 years. We can reduce around 3 million bags per year or reduce 90% of plastic waste in university”.

"Mahidol Reduce & Reuse Plastic Bag" project is consistent with the campaign's key points of United Nations Environment Program (UNEP) this year focused its campaign on "Waste Plastic Pollution" (Beat Plastic Pollution) is the same direction around the world as “if you cannot reuse it, refuse it".

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

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Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.3] Total volume organic waste produced

Separating and measuring waste amount
(ARU, Thailand)

Type of organic waste	Total Produced (ton)
- food waste	22.261

Description:

22.261 ton of total organic waste produced on campus.

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

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.3] Organic Waste Treatment

Green Towers/Green Cones (ARU, Thailand)

Black soldier fly larvae used for animal feed (ARU, Thailand)

Description:

Phranakhon Si Ayutthaya Rajabhat University's project installed green cones and garden towers in front of all faculty buildings and along the bins on the main streets. The students and staff were interested and joined the program. The food scraps were put into the green cones and garden towers to decompose the waste then it was digested to form a fertilizer by earthworms.

The foods waste from canteens are reduced. Some food scraps are directly use to feed animals, but the indirect part is used to raise Black Soldier Fly larvae. After that, Black Soldier Fly larvae was then used as animal feed.

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Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.4] Total volume organic waste treated

Black soldier fly larvae used for animal feed (ARU, Thailand)

Type of waste	amuount (ton)			
	total	reduced	reused	recycled
organic				
- food waste	22.261	16	-	-

Description:

16 tons of food waste were reduced from a total of 22 tons (estimated) which equal to 72 % reduced.

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

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.4] Total volume organic waste treated

Type of waste	amuount (ton)			
	total	reduced	reused	recycled
organic				
- food waste	22.261	16	-	-

Description:

16 tons of food waste were reduced from a total of 22 tons (estimated) which equal to 72 % reduced.

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

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.4] Inorganic Waste Treatment

Electronic Waste (E-Waste) Collector Unit (ARU, Thailand)

Description:

Year	Amount (Ton)	Remarks
2021	0.017	4 collecting stations
2022	0.027	5 collecting stations
2023	0.033	5 collecting stations

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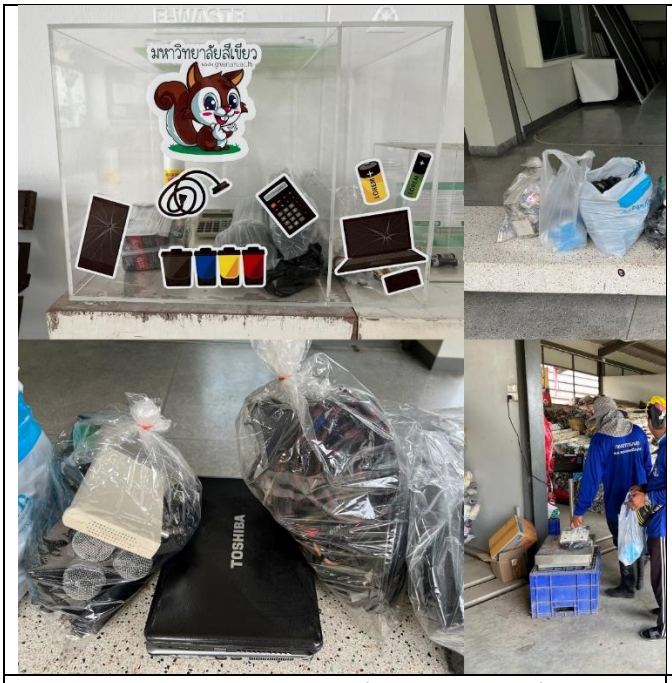
[3] Waste (WS)

[3.5] Toxic Waste Treatment



E-Waste Treatment (ARU, Thailand)

Toxic Waste Treatment (ARU, Thailand)

Description:

The toxic waste treatment has run year round. In 2023, the clear acrylic collectors for hazardous waste disposal were placed in front of the Office of the Dean of all four faculties. Electronic waste was collected monthly. The collected waste composed of flash lights and smart phone batteries, old mobile phones, laptops, used ink cartridges, HDMI and LAN cables, chemical pens, AC adapter chargers, and computer accessories. The collected hazardous waste was transferred and diminished by the Prototyping Center for Waste Management of Phranakhon Si Ayutthaya Province.

Hazardous waste from laboratory experiments were separated and organized into groups which makes disposal easier, safer and reduces the cost of waste disposal as well. It is collected into appropriate containers based on the classification of waste according to safety and hazardous regulations and then labeled to differentiate the type of waste. Moreover, the broken laboratory glassware and contaminated containers are put in disposal boxes. Afterwards, technicians from the authorized company receive and dispose the hazardous waste.

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

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.6] Total volume inorganic waste produced

Separation type of garbage bin

Type of inorganic waste	Total Produced (ton)
- paper	1.5
- clear plastic	3.1
- colored plastic	1.2
- metal	0.6
- grass	0.2
Total	6.6

Description:

6.6 tons of inorganic waste was separated into 5 types of garbage as shown in above table.

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

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.7] Total volume inorganic waste treated

Type of waste	amuount (ton) of inorganic non-toxic				
	total	reduced	reused	down-cycled	up-cycled
- paper	1.5		0.15		1.15
- clear plastic	3.1				2.8
- colored plastic	1.2				1
- metal	0.6		0.1		0.3
- grass	0.2				0.1
Total	6.6		0.25		5.35

Description:

In 2023, inorganic waste, paper and buttles, produced on your campus was collected and separated into groups according to the type of materials. After that it will be sent to the local recycling factory. However, some paper and meta were reused.

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

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.9] Total volume toxic waste produced

Collecting box for e-waste (ARU, Thailand)

Type of toxic waste	Total Produced (ton)
- electronics	0.033
- lab. Chemicals	0.044
total	0.077

Description:

There are 0.033 tons of electronic waste were collected from five collecting stations and 0.044 tons of laboratory chemicals were collected from the Faculty of Science and Technology.

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

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[3] Waste (WS)

[3.10] Total volume toxic waste treated

e-waste collecting for management company (ARU, Thailand)

Type of waste	amuount (ton)				
	total	reduced	reused	down-cycled	up-cycled
toxic	0.077	0.077	-	-	-
- electronics	0.033	0.033	-	-	-
- lab. Chemicals	0.044	0.044	-	-	-

Description:

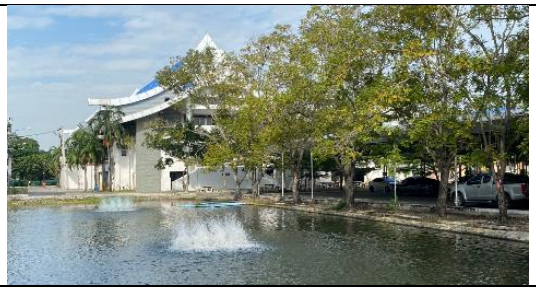
All toxic waste was sent to the waste management company.

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

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th

[3] Waste (WS)

[3.12] Sewage Disposal



Aeration Lagoon (ARU, Thailand)

Water Quality Check and Anaerobic Filter System (underground) (ARU, Thailand)

Description:

Sewage treatment in ARU was divided into two systems.

1) The wastewater with low lipids from the academic and administration buildings was filtered by an anaerobic filter system then drained into the aerated lagoon. The aerated water was used for watering lawns and plants.
2) The wastewater with high lipids from the canteen was filtered by the anaerobic filter system before being disposed to the city sewage treatment system.

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Country : Thailand
Web Address : www.aru.ac.th

[4] Water (WR)

[4.1] Water Conservation Program Implementation

	 
water saving campaign (ARU, Thailand)	Water Conservation in Ponds and Canals (ARU, Thailand)

บาส

Description:

Rain water is collected from the roofs of the buildings and is then discharged into the local ponds and canals around the buildings. The university also has buildings where all the rainwater is collected for watering the plants inside the buildings. In addition, we collect rainwater from the roofs, parking areas and discharge this in the ponds and canals at the campus.

Country : Thailand
Web Address : www.aru.ac.th

[4] Water (WR)

[4.2] Water Recycling Program Implementation

 	 
Recycled water were Used For Plant Watering System (ARU, Thailand)	Adding Oxygen to Water Using Solar Energy (ARU, Thailand)

Description:

Water was treated by plant-based system and oxygenated via a mechanical system. Treated water was used for the garden sprinkler system.

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[4] Water (WR)

[4.3] Water Efficient Appliance Usage (e.g. hand washing taps, flushing toilet, etc.)

Water Efficient Appliance Usage (ARU, Thailand)

Description:

Some examples of efficient appliances in ARU include automatic taps at the basins and urinals.

Appliance	Total Number	Total Number of Water Efficient Appliances	Percentage
Basin	609	70	5.25
Urinal	409	100	23.22
Sensor assisted	15	15	100
Total	1033	**185**	**18**

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
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[4] Water (WR)

[4.5] Water pollution control in campus area

	
Water quality sampling and monitoring (ARU, Thailand)	IoT monitoring system (ARU, Thailand)

Description:

Wastewater Treatment

Water having any hazardous or highly toxic chemical were treated by an outsourced company. The origin of the waste was collected to notify the class/person when the next gathering round is ready.

Water containing non-hazardous chemicals, such as, fertilizer, soap, and organic compound, was filtered using biomedia and then released to the lagoon. The lagoon was then treated by plant filtration.

Guideline standard

ARU has water quality standards and guidelines for water discharges. Thanks to the ARU library for sharing the guidelines with other faculties in ARU.

Monitoring and Evaluation

IoT monitoring system in main lagoon was used to report the water state every day. However, human validation was done by the students from Faculty of Science studying water condition class. Monitoring and evaluation reports were done regularly every 6 months.

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[5] Transportation (TR)

[5.4] The total number of vehicles (cars and motorcycles) divided by total campus' population

1	Car managed by the university	10
2	Cars entering the university	529
3	Motorcycles entering the university	176
	Total	705

705 / 5098 (population) = 0.138

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Country : Thailand
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[5] Transportation (TR)

[5.5] Shuttle Services



Shuttle Services in The University (ARU, Thailand)

Description:

ARU has a policy of shuttle service, since 2019 to present. Two shuttle buses are always service within the campus area. They are the important vehicles that used successfully to environmentally-friendly transportation. All of shuttle buses are the zero-emission vehicles (ZEVs). The shuttle service is free and runs about 30 – 50 trips per day throughout the working time. The passengers are a total of approximately 200 – 300 people per day, especially in the rush hour from 7.30 a.m. to 9 a.m. and 11 a.m. to 1 p.m. Additionally, the university also planned to increase the number of shuttle buses in the future.

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[5] Transportation (TR)

[5.9] Zero Emission Vehicles (ZEV) Policy on Campus

			
Rent-free bicycle (ARU, Thailand)	Bicycle parking (ARU, Thailand)	Bicycle lane (ARU, Thailand)	Shuttle service (ARU, Thailand)

Description:

ARU have many policies of zero-emission vehicles (ZEV) on campus. For instances, shuttle service and bicycle. The ZEV shuttle buses were used to transported in campus area for free. The rent-free bicycles, include the bicycle lane is a new policy. These are popular items for students and academic staffs. However, we found that the zero-emission vehicle policy at the university must be increased. Therefore, Electric vehicles such as EV cars and EV bicycles can be substituted for the internal combustion engine (ICE) vehicles in the future. Nowadays, the using of private EV car in campus were increased as about 30 cars. Therefore, ARU has planned to construct the EV charger area in the future.

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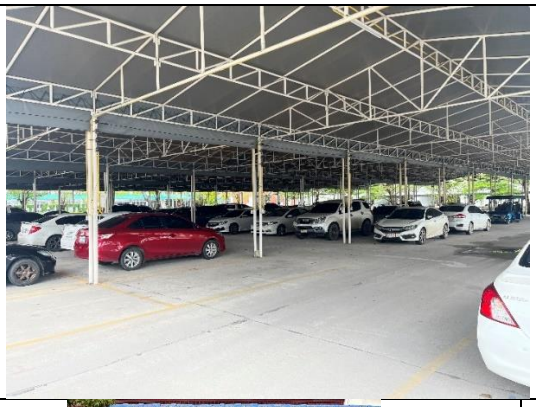
[5] Transportation (TR)

[5.13] Ratio of Parking Area to Total Campus Area




Examples of *parking facilities on campus*

Description:

Nowadays, ARU has been limited the total spaces for parking of cars and motorcycles of 400 and 350 units, respectively. Many spaces being transformed into bicycle lanes, handicapped parking areas, bicycle parking areas and green-area. Therefore, the area for parking has slightly decreased, from 2.60 to 2.56 percent of the total area of the campus. We found that the parking area is adequate for vehicles on the working days of the university, except for the flea market on saturday and sunday. Additionally, in the future, the university still focused on the EV car parking to support on the policies of environmental-friendly transportation.

Total main campus area: 267,324 m^2
Total parking area = 5,104.00 m^2
(400 spaces*11.50 m^2 per space for car and 350 spaces*1.44 m^2 per space for motorcycle).
Ratio = 5,104/267,324 = 0.019

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : www.aru.ac.th

[5] Transportation (TR)

[5.15] The transportation program is designed to limit or decrease the parking area on campus for the last 3 years (from 2021 to 2023)

			
Shuttle services on campus (ARU, Thailand)	Rent-free bicycles on campus (ARU, Thailand)	Replace parking area to bicycle lane (ARU, Thailand)	Replace parking area to green-area (ARU)

Description:

There are four transportation programs designed to limit or decrease the parking area on campus for the last 3 years (from 2021 to 2023)

1. Shuttle services on campus
2. Rent-free bicycles on campus
3. Replace the parking units to a bicycle lane
4. Replace the parking units to green-area

Due to an extremely limited parking area in ARU, less than 10% decrease during 2022.

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : www.aru.ac.th

[5] Transportation (TR)

[5.15] The Number of Transportation Initiatives to Decrease Private Vehicles on Campus

		
Shuttle services on campus (ARU, Thailand)	Rent-free bicycles on campus (ARU, Thailand)	Bicycle lane (ARU, Thailand)

Description:

In present, ARU has a new environmentally-friendly transportation initiative; a bicycle lane on campus. Consequently, the university will be increasing transportation initiatives to total 3 initiatives to decrease the number of private vehicles on campus; (i) the shuttle service; (ii) the rent-free bicycles on campus and nearby area; and (iii) the bicycle lane. Therefore, the use of bicycles in the campus area has significantly grown nowadays. However, the shuttle service and walking are still the main methods for transportation on campus. Since the university has a rather small area, the transportation for students and academic staff is effortless. Accordingly, ARU must be improving the other transportation Initiatives for supported these policies in the future for instance:

1. Increasing the number and/or operating times of free ZEV shuttle buses on campus.
2. Link of the car parking from the outside area to the inside area by the shuttle car for free.
3. Changing of the other vehicles such as bus, van, pick-up or car to ZEV vehicles.

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[5] Transportation (TR)

[5.16] Pedestrian Path Policy on Campus

	
Pedestrian path (Phra Nakhon Si Ayutthaya Rajabhat University, Thailand)	Pedestrian path (Phra Nakhon Si Ayutthaya Rajabhat University, Thailand)

Description:

The pedestrian paths in campus are built on either side of the bicycle lane and between the buildings. They are covered by the roofs. Thus, the routes were improved for safety and convenience. Furthermore, the sidewalks were provided as disabled-friendly features. In the future, it may be developed into a solar-roof top to generate electricity for the power areas. Nowadays, the attributes of the pedestrian paths on campus are as follow:

1. Slope and guiding blocks that have been designed for the path have physical disabilities.
2. LED Light for safety when walking on the sidewalk at night

University : Phranakhon Si Ayutthaya Rajabhat University
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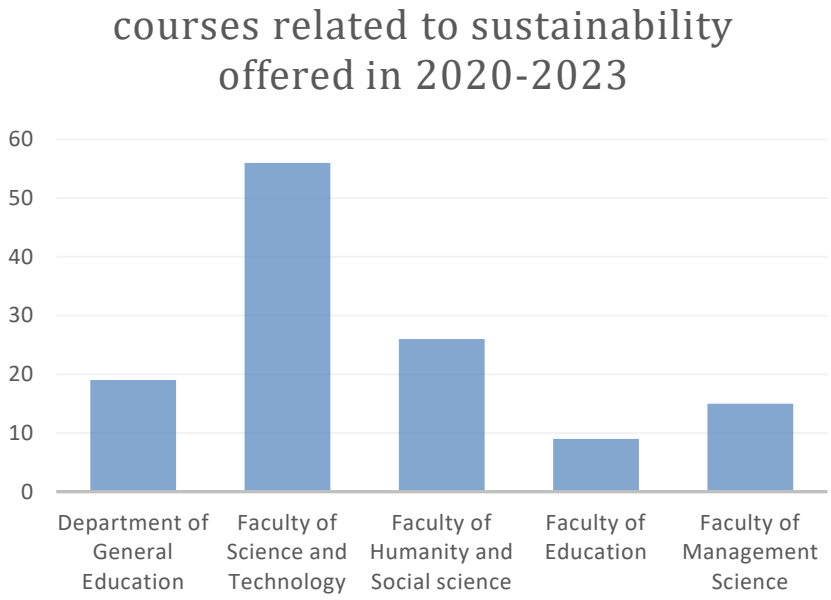
[6] Education and Research [ED]

[6.1] Number of Courses/Subjects Related to Sustainability Offered



125 courses related to sustainability offered in 2020-2023 [ARU, Thailand]

Description:

In order to achieve the sustainability goal, the university provides 125 of 2000 courses related to sustainability (6.25%). As part of the core curriculum, the related courses have been distributed among 4 faculties and 1 department. All related courses aim to encourage our students to be aware of environmental issues, sustainable development.

List of courses related to sustainability offered in Academic year 2023

	Department of General Education
1	Green citizen and sustainable development
2	The King's Philosophy for Local Development
3	Digital media and Society
4	New Normal Entrepreneur
5	Safety in Daily life
6	Sexuality Education and Reproductive Health
7	Healthy lifestyle
8	Value of Life in the Contemporary World
9	Thinking and Personal Growth for 21st Century

10	Potential citizen
11	Global ways and Cultural Diversity
12	Thailand and Asian Diversity
13	Learning and Tourism
14	Aesthetics of Life
15	Personality for New Generation
16	Thai Studies
17	Law in Dailylife
18	Saving and Investment
19	Science and Technology in Daily life

	Faculty of Science and Technology
1	Ecology and Environment
2	Energy Management and Clean Technology
3	Community Participation in Environmental Management
4	Solid and Hazardous Waste Management Technology
5	Soil Pollution Control
6	Air and Noise Pollution Control
7	Waste water Treatment Technology
8	Environmental Impact Assessment
9	Natural Resources and Environmental Management in the World Heritage Area
10	Industrial Environmental Management
11	Technologies base on Royal Initiatives Management
12	Energy Management system in Industry
13	Industrial Pollution
14	Management of Agriculture Residue and Agriculture Waste
15	Energy Field Crops
16	New Theory Farming
17	Soil and Water Conservation
18	Soil Pollution and Its Management
19	Pest Management Technology
20	Soil and Soil Fertility
21	Sufficiency Economy for Agribusiness Management
22	Innovation and Utilization of Local Plants
23	Innovation and Smart Farming
24	Vegetable Crops Production Technology
25	Smart Greenhouse Management

26	Biotechnology for Soil Improvement
27	Plant Pathology and Climate Change
28	Plant Production Technology in Organic Agriculture System
29	Clean Technology for Agricultural Waste Utilization
30	Mental Health
31	Public Health Nutrition
32	Family Health
33	Health Education and Health Behavior
34	Occupational Health and Safety
35	Environmental Health
36	First Aid
37	Ethics and Law in Public Health
38	Prevention and Disease Control
39	Practice in Primary Health Care Service
40	Public Health Administration
41	Consumer Protection
42	Communicable and Non-communicable Diseases
43	Counseling for Public Health
44	Application of Epidemiology for Public Health
45	Primary Care and Curative Medicine
46	Health Impact Assessment
47	Introduction to Pharmacology
48	School Health
49	Research Methodology for Public Health
50	Public Health Economics
51	Program Planning and Evaluation for Public Health Project
52	Community Health
53	Preparation for Professional Experience for Public Health
54	Field Experience for Public Health
55	Environmental Health
56	Energy Conservation

	Faculty of Humanity and Social science
1	Public Mindset and Social Work
2	Urban Management
3	Interdisciplinary Studies of Public Administration and
4	World Heritage Management
5	English for Eco-Tourism

6	English for Local Tour Guides
7	Theories and Principles of Community Development
8	Community Study
9	Social Development
10	Royal Project Studies for Development
11	Ayutthaya and World Heritage Development
12	Social Entrepreneurs and Community Enterprises
13	Analysis and Development for Planning
14	Volunteer for Local Development Work
15	Public Policy and Development
16	Dynamic of Rural and Urban Development
17	Seminar on Issue of Community and Social Development
18	The Sufficiency Economy and Development
19	Social Problems
20	Social Network and Social Organization Development
21	World Civil Society and Development
22	Local Resource Development
23	Sustainable Development in Thai Society
24	Knowledge Management for Development
25	Law of Environmental and Natural Resources
26	Law on World Heritage

	Faculty of Education
1	Office Application for Advance
2	ICT System Development for Education
3	Application for School Administration
4	STEM Education Learning Management
5	Occupations and Technology for Elementary Education Teachers
6	Biological Science
7	Environmental Science
8	Electricity and Energy
9	Environment and Population Studies

	Faculty of Management Science
1	Production and Operations Management
2	Quality Management
3	Innovation Management for Business Opportunity
4	Management and Corporate Social Responsibility

5	Entrepreneurship for Modern Trade Business
6	Product and Service Innovation
7	E-Retailing Business
8	Modern Trade Business Management
9	Food Product Management for Modern Trade Business
10	Transport and Environment
11	Event Marketing and Public Relations
12	Social and Environment Marketing
13	Human Resource Management
14	Sustainable Tourism
15	Sustainable Business Development

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Country : Thailand
Web Address : https://www.aru.ac.th/

[6] Education and Research [ED]

[6.2] Total Number of Courses/Subjects Offered

Total Courses Offered in academic year 2023 [ARU, Thailand]

Year	Semester 1	Semester 2	Semester 3	Total
2021 / 2564	1661	1484	300	3445
2022 / 2565	1556	1417	247	3220
2023 / 2566	1507	1170	N/A	2677 (Sem.1+2)

Description:

The total number of courses offered in the academic year 2023 is 2,677 courses [non-modules].

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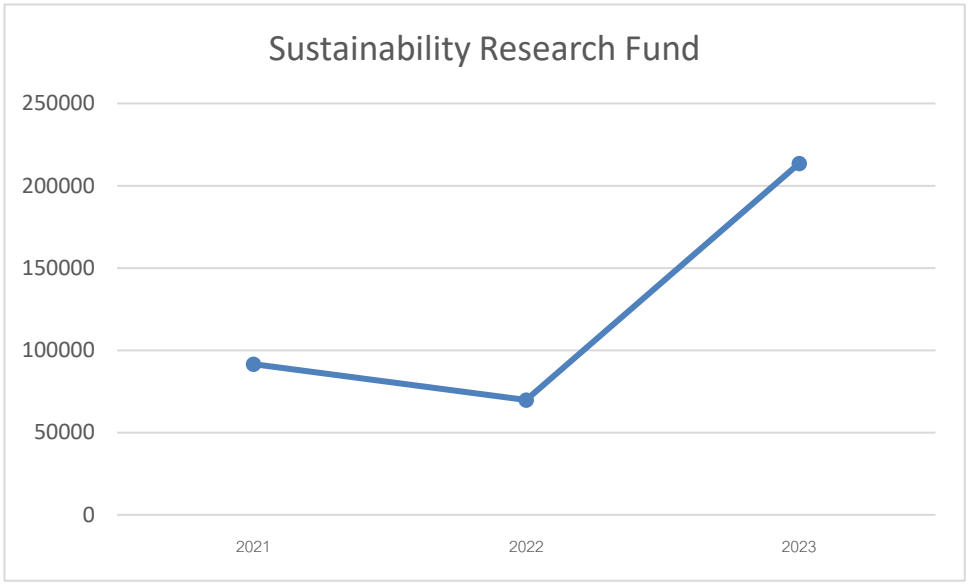
[6] Education and research (ED)

[6.4] Total research funds dedicated to sustainability research (in US Dollars)

In the budget year of 2023, sustainability research projects with a total budget of $ 213473.1 derived from internal and external research fund.



Sustainability Research Fund (ARU, Thailand)

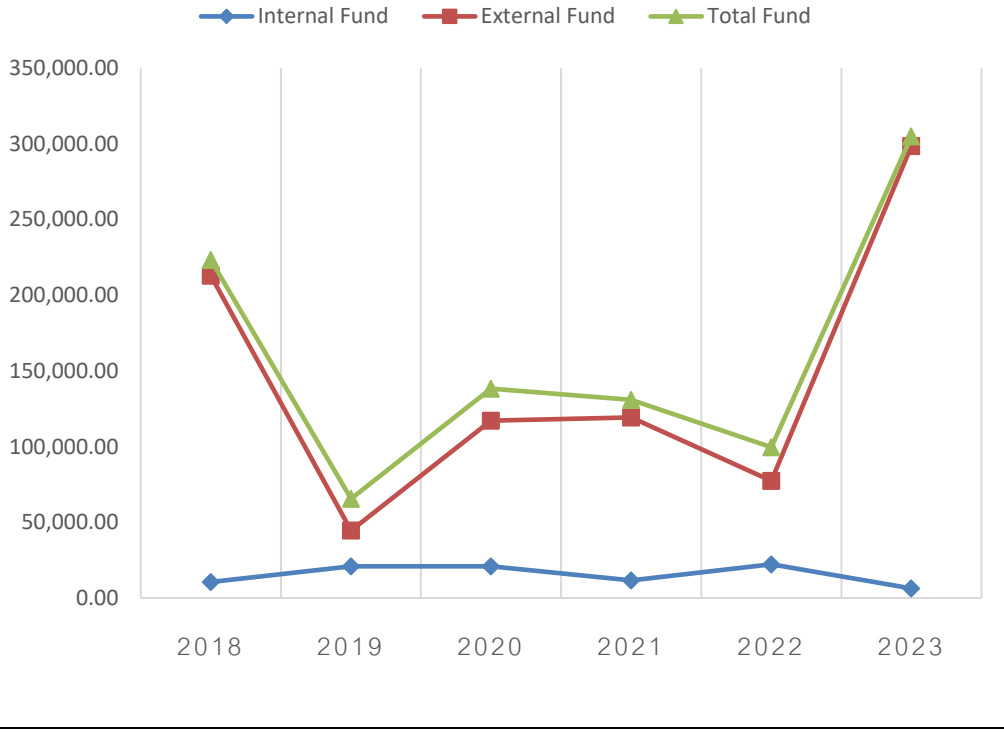
Year	Sustainability Research Fund
2021	91654.71
2022	69797
2023	213473.1

The averaged annum last 3 years of research fund dedicated to sustainability research = 124974.9 US Dollars

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[6] Education and research (ED)

[6.5] Total research funds (in US Dollars)



Research Fund during 2018-2023 (US Dollas)
(ARU, Thailand)

Budget Year	Internal Fund	External Fund	Total Fund
2018	10,491.60	212,958.63	223,450.23
2019	21,013.18	44,544.36	65,557.55
2020	20,983.21	117,236.21	138,219.42
2021	11,630.70	119,304.60	130,935.30
2022	22,230.00	77,480.00	99,710.00
2023	6,304.82	298656.79	304,961.61

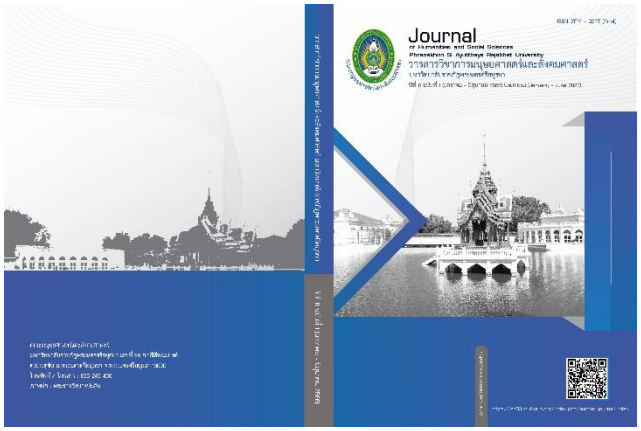
Description:
The averaged last 3 years of research fund (2021-2023) = 178,535 US Dollars

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)

Country : Thailand
Web Address : https://www.aru.ac.th/

[6] Education and Research (ED)

[6.7] Number of Scholarly Publications on Sustainability



ประวัติศาสตร์ชุมชนกับการท่องเที่ยว: กรณีศึกษา
ชุมชนสามเรือน ตำบลสามเรือน อำเภอบางปะอิน
จังหวัดพระนครศรีอยุธยา

Community History and Tourism: Case Study in
Samruern Community, Samruern Sub-District,
Bang Pa-In District, Ayutthaya Province

เอกพล วิงวอน[1]* | Ekaphon Wingwon
วีรพล น้อยคล้าย[2] | Weerapol Noiklai

Abstract

This research was purposed to study the condition and the local history of Samruern community and to study the guidelines for promoting

[1] อาจารย์, สาขาวิชาภาษาอังกฤษ คณะมนุษยศาสตร์และสังคมศาสตร์ มหาวิทยาลัยราชภัฏพระนครศรีอยุธยา; Lecturer, Program in English, Faculty of Humanities and Social Sciences, Phranakhon Si Ayutthaya Rajabhat University
[2] อาจารย์ ดร., สาขาวิชาการท่องเที่ยว คณะวิทยาการจัดการ มหาวิทยาลัยราชภัฏพระนครศรีอยุธยา; Lecturer, Program in Tourism, Faculty of Management Science, Phranakhon Si Ayutthaya Rajabhat University
*Corresponding author email: wekaphon@aru.ac.th

รับต้นฉบับ 21 สิงหาคม 2565 ปรับแก้ไขฉบับ 31 ตุลาคม 2565 รับลงตีพิมพ์: 1 พฤศจิกายน 2565
DOI: 10.14456/husoaru.2022.10

Scholarly Publications on Sustainability.
(ARU, Thailand)

Description:

In 2023, 63 scholarly publications on sustainability were written by ARU staff. These publications were involved in local development and published in international database, TCI1 or TCI2 database, or proceeding.

Year	Total	Number of Sustainability publication
2020	73	60
2021	255	71
2022	244	59
2023	In progress	In progress
average	190	63

Country : Thailand
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[6] Education and research (ED)

[6.8] Number of Events Related to Sustainability

U2T– Lecturer projects creating or improving product quality.

Social Engineer – Student projects solve local community problems.

Sustainability projects and event (ARU, Thailand)



Class Activities

Sustainability projects and event (ARU, Thailand)

Description:

There are 49 events related to sustainability in 2023. These events are counted from 3 parts as shown in the table.

No.	Project / activity	Number of Events
1	The U2T for BCG Project is in 15 areas of Phranakhon Si Ayutthaya province. These activities increase the income of U2T member.	15
2	Social Engineer, Student project which increase local product quality.	6
3	Sustainability projects from four faculties and two institutes. These activities include products quality improvement, class activity, sustainability campaign, and Institute campaign in environment.	28
	total	**49**

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Country : Thailand
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[6] Education and Research (ED)

[6.9] Number of student organizations related to sustainability

student organizations (ARU, Thailand)

Description:

There are 23 student organizations that conduct activities related to sustainability;

Organizations which have activities related to sustainability	
1. Environmental protection	13. English Club
2. We love the countryside	14. Share Smile
3. Islamic Ethics	15. SE UBI Club
4. English for Kids	16. Arts and Culture
5. How dare you	17. Love from brother to younger brother
6. Volunteers share love	18. Dance
7. ARU GREEN HEART	19. Volunteer development for children
8. Create arts in Krungsri	20. We love arts.
9. Volunteer for social development	21. Evolution Club
10. Hope Giver	22. Brothers and Sisters
11. Conservation of amulets, worshiping ARU	23. Astronomy club
12. Teacher Krung Kao	

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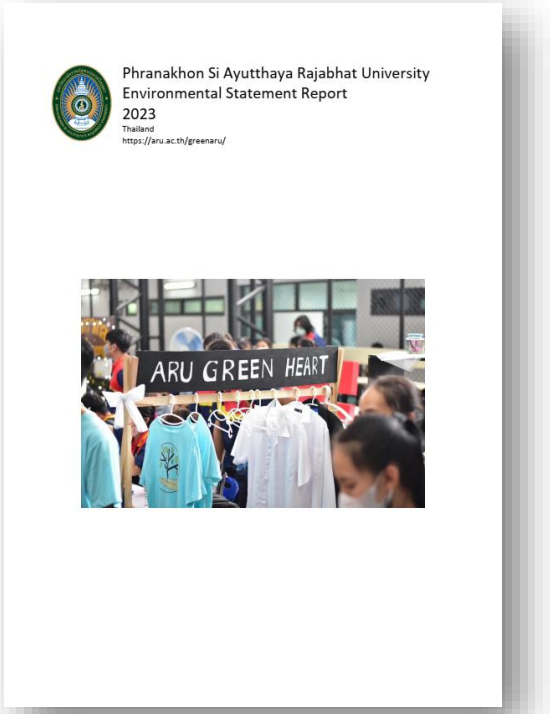
[6] Education and Research (ED)

[6.12] Sustainability Report



Sustainability Report (ARU, Thailand)

Description:
Complete text of Environmental Statement Report 2023 available on this link: https://aru.ac.th/greenaru/

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[6] Education and Research (ED)

[6.14] Number of university program(s) to improve teaching and learning.

	
Student Orientation Program (ARU, Thailand)	MOU with Universities and Organizatons (ARU, Thailand)
	
ARU Knowledge Management Day (ARU, Thailand)	Traing Program on EdPEx (ARU, Thailand)
	
Traing Program on Student Mental Care (ARU, Thailand)	Train of The Trainers for Social Engineer Activity (ARU, Thailand)
	
ARU Strategic Planning (ARU, Thailand)	Seminar on Planning Operations for Reforming and Upgrading the Management System Towards University Excellence

Description:

In 2023, ARU improve teaching and learning quality for students and staff.

Student

1. Providing counseling services and guidance on life and career entry for students.
2. Extra-curricular activities for students.
3. Development in English language skills.
4. Promoting digital competencies and skills for students and staff.

Staff

1. Information system for research management.
2. Provide facilities to support research or creative work.
3. Provide research support funds.
4. Training on teaching and curriculum development.

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
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[6] Education and Research (ED)

[6.14] Number of Cultural Activities on Campus (e.g. Cultural Festival (Including Virtual Activities (If Any)

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<tr><td colspan="3">National events and international exhibitions</td></tr>
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Description:

Cultural activities on campus were organized by the Ayutthaya Studies Institute, ARU ASI. This institute is a part of ARU, whose major role is conducting studies, publicizing knowledge about Ayutthaya, and building relationships between countries that used to trade in the Ayutthaya period, the ancient capital where local and Thai culture originated. In 2023 more than 20 national events and international exhibitions were demonstrated in ARU.

URL: https://www.aru.ac.th/asi/

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[6] Education & Research

[15] Number of Sustainability Community Service Projects Organized by or Involving Students



Projects Run by the Students (ARU, Thailand)

Project name	Faculty	Participants	Project duration	Project area
1. อบรมเชิงปฏิบัติการส่งเสริมรายได้ชุมชนทับน้ำสร้างรายได้อย่างยั่งยืนผ่านกระบวนการแนวคิดและทักษะวิศวกรสังคม 2. กิจกรรมยกระดับผลิตภัณฑ์อบรมเชิงปฏิบัติการ การพัฒนาตราสินค้าและบรรจุภัณฑ์ ผลิตภัณฑ์ส่งเสริมรายได้ชุมชนทับน้ำ 3. กิจกรรมการอบรมเชิงปฏิบัติการ การเตรียมความพร้อมเพื่อส่งเสริมการขายและบริการ ผลิตภัณฑ์ส่งเสริมรายได้ชุมชนทับน้ำ	Science and Technology	20	3 months	ED, WS
1. ส่งเสริมศักยภาพนักศึกษาเพื่อการพัฒนาท้องถิ่น “วิศวกรสังคม” (Social Engineer) สู่ชุมชนท้องถิ่น 2. กิจกรรมยกระดับบรรจุภัณฑ์ให้ผลิตภัณฑ์ชุมชนคลองตะเคียน	Management science	20	3 months	ED
1. การตลาดเชิงสร้างสรรค์ผลิตภัณฑ์ชุมชนตำบลคลองจิก 2. กระบวนการผลิตภัณฑ์ชุมชนตำบลคลองจิก 3. กระบวนการพัฒนาผลิตภัณฑ์ชุมชนตำบลคลองจิก	Education	20	3 months	ED
1. กิจกรรมพัฒนาชุมชน OTOP เกาะเรียน 2. กิจกรรมโฮมสเตย์สะพานรักษ์ริมคลอง@เกาะเรียน	Humanity and Social Science	20	3 months	ED
U2T Project in 15 area of Phranakhon Si Ayutthaya province	4 faculties and 3 Institute	75	1 year	ED

Description:

In 2023, there are 19 groups of students running 19 different projects. These projects, the students take part in building a better society. They visit local communities to create new innovations for solving problems together with people in the community.

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
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[6] Education & Research

[6.15] Number of university sustainability program(s) with international collaborations

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<td>International Exhibition</td>
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<tr>
<td colspan="3">Sustainability Program with International Collaborations
(ARU, Thailand)</td>
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</table>

Description:

International conference

1. ISTEM [The 8th International STEM Education Conference 2023]
2. ICAC 2023 [Multicultural Beyond Frontier Promoted to the National Level Created to a World-Class Scale]

International ART and Exhibition

1. Painting exhibition; 75th anniversary a portrait of Indo-Thai friendship art exhibition.
2. Golden Hemp exhibition by Mr. Yoshiki Matsuura Asakusaya

MOU

1. Center for Space Science and Geomatics Studies, Pashchimanchal Campus,Tribhuvan University, Nepal.

University : Phranakhon Si Ayutthaya Rajabhat University (ARU)
Country : Thailand
Web Address : https://www.aru.ac.th/

[6] Education & Research

[16] Number of sustainability-related startups

No.	Information
1	**Startup name:** NO NAME (herbal balm) **Startup area in UI Greenmetric questionnaire (SI, EC, WS, WR, TR, ED): ED** **URL: https://www.facebook.com/profile.php?id=**61550310716485**&mibextid=ZbWKwL** **Description:** Students form groups to sell herbal balms. **Photos**: