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Implementation of Education Category Based-Green Campus Concept Using UI GreenMetric In Universitas Kristen Satya Wacana (UKSW)

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Abstract: A green campus is one solution for realizing sustainable development. Universities as part of the global community which is a forum for the development of technology, science and innovation need to be involved in overcoming problems that arise due to the impact of climate change and sustainable development. The aims of this research are to 1) determine the implementation of the green campus in the UKSW environment in the educational aspect, 2) analyze the status of the green campus in the UKSW environment in the educational aspect, 3) recommend development improvement steps that need to be taken to achieve the fulfillment of all aspects of the Sustainable Development Goals (SDGs) according to the indicators on the GreenMetric UI. This research uses quantitative descriptive methods. Green campus indicators use UI GreenMetric 2022 in the education aspect. The highest score obtained by UKSW based on the UI GreenMetric indicator includes 1) the ratio of courses related to sustainability compared to all courses, 2) the number of campus events/activities related to sustainability, 3) the number of student organizations related to sustainability, 4) the number of cultural activities on campus. campus (e.g. Cultural Festival) including virtual activities, 5) the number of university programs to improve teaching and learning. Meanwhile, categories that still require development include sustainability websites managed by universities, the availability of sustainability reports, and the number of startups related to sustainability. UKSW already has a website about sustainability, but still needs to update information on activities related to sustainability. The sustainability report also still requires updating the sustainability aspect of the GreenMetric UI. The number of startups still needs to be increased, because they have not yet reached the maximum score.

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Introduction

In Indonesia, sustainable development has been agreed as a concept, strategy and development model that has environmental dimensions and insight, and supports the preservation of environmental functions. Higher education plays an important role in promoting environmental issues, as well as integrating education and research in order to increase knowledge, skills, awareness and values to support sustainable development. This is in line with the development concept used by almost all countries in the world, namely sustainable development with environmental perspectives (Ilyas et al., 2019). Foo (2013) stated that higher education plays a major role in society in achieving sustainability. Environmental problems that are currently has become public's concern are climate change and global warming. Global warming and climate change will directly affect sustainable environmental management (Bakaruddin et al., 2023). In addition, environmental destruction and pollution due to human activities has a serious potential to support global climate change (Suyitno, 2023). Based on research by

Su'aidi et al. (2021), various impacts of climate change that have occurred and are being felt by humans, namely rising sea levels, melting glaciers, changing rainfall patterns, and increasing earth surface temperatures.

In fact, Indonesia has an agreement to play an active role in reducing the impact of global warming. One of the efforts made involves the active role of academics in higher education (Kementerian Lingkungan Hidup dan Kehutanan RI, 2016); (Dewi & Rochyansyah, 2021). Global warming is a problem that must be resolved immediately because it causes an increase in the earth's temperature (Santoso et al., 2017). Many efforts have been made to overcome global warming, including by higher education. Sustainable development in the economic, socio-cultural and environmental fields is expected to be one of solutions to overcome the impacts of climate change. There are 17 aspects of sustainable development goals (SDGs), namely 1) no poverty; 2) zero hunger; 3) good health and well-being; 4) quality education; 5) gender equality; 6) clean water and sanitation; 7) affordable and clean energy; 8) decent work and economic growth; 9) industry, innovation and infrastructure; 10) reduced inequality; 11) sustainable cities and communities; 12) responsible consumption and production; 13) climate action; 14) life below water; 15) life on land; 16) peace, justice and strong institutions; 17) partnerships for the goals (Kementerian perencanaan pembangunan nasional, 2017). To help reduce the increasingly worrying problem of global warming, campus environment is one of places that has the potential to give significant environmental impacts (Santoso et al., 2017). Universities as part of the global community need to participate to overcome problems related to the impacts of sustainable development and climate change. Campus should be the forum to enforce technology, science and innovation regarding sustainability principles that can be implemented in its environment (Su'aidi et al., 2021). Implementing the green campus concept is one of the actions or strategies carried out in the campus environment. The green campus program is one of the movements carried out by various campuses in developed and developing countries to help reduce the impact of climate change and global warming.

The implementation of the green campus concept in higher education is carried out through integrating environmental knowledge into higher education policy, management and *tridharma* activities. Green campus is a concept that supports sustainable development goals. The green campus concept is in line with the concept of sustainable development by applying environmentally friendly principles to all components of activities at universities. This principle is carried out in academic activities, policy formulation, planning and structuring of campus infrastructure by paying attention to environmentally friendly transportation, saving electrical energy, waste management and processing, water recycling, and saving water use (Hakim & Endangsih, 2021). Green campus is a program that implements environmental insight into campus area (Alfiyyana et al., 2021). In Indonesia, this concept has begun to be widely implemented on various campuses. The basis for implementing the green campus program is in accordance with the standards of the National Accreditation Board for Higher Education, MBKM (Merdeka Belajar dan Kampus Merdeka), and Sustainable Development Goals (SDGs) (Suyitno, 2023). Although universities' awareness of the importance of environmental sustainability in the future has increased, less than 1% of more than 4,000 Public Universities and Private Universities that are committed to implementing the SDGs (Suyitno, 2023).

There are six categories used in the concept of green campus, namely 1) setting and infrastructure, 2) energy and climate change, 3) waste, 4) water, 5) transportation, 6) education and research. UKSW is one of the campuses that has various types of resources that are very strategic and significant in supporting environmental management and sustainable development. Various activities take place at UKSW which contribute to environmental sustainability through its facilities, infrastructures and curriculum.

The success of the green campus program can be determined through the lectures designed in the curriculum. Curriculum is one of the indicators for assessing a green campus in the education and research category. According to Louw (2014), implementing a green curriculum at university level is an approach in responding to global environmental issues. The green curriculum was formulated as a form of forming students' mindset as part of society to live sustainably. Therefore, curriculum studies need to be carried out so that environmental awareness arises from colleges.

Green campus indicators for fulfilling the education and research categories are determined using UI GreenMetric 2022 indicators (Universitas Indonesia, 2022) which include 1) the ratio sustainability courses to total courses/subjects; 2) the ratio of sustainability research funding to total research funding; 3) number of scholarly publications on sustainability; 4) number of campus events/activities related to sustainability (average per year for the last 3 years); 5) number of student organizations related to sustainability; 6) university-run sustainability websites; 7) sustainability reports; 8) number of cultural activities on campus including virtual activities; 9) number of university programs that improve teaching and learning; 10) number of sustainability community service projects organized and/or involving students and 11) number of sustainability-related startups.

Based on the problems and policy directions that have been announced by the UKSW leadership, it is necessary to carry out an in-depth study of various indicators listed in the categories contained in the UI GreenMetric standard. One of the important aspects that will be studied is education and research. This research is limited to the education category in UI GreenMetric which includes the following indicators, namely 1) the ratio sustainability courses to total courses/subjects; 2) the number of campus events/activities related to sustainability (average per year for the last 3 years); 3) the number of student organizations related to sustainability; 4) university-run sustainability websites; 5) sustainability reports; 6) the number of cultural activities on campus including virtual activities; 7) the number of university programs that improve teaching and learning; and 8) Number of sustainability-related startups. Therefore, the aims of this research are 1) determine the implementation of the green campus in the UKSW environment in the education category, 2) analyze the status of the green campus in the UKSW environment in the education category according to the UI GreenMetric World Ranking 2022 assessment, 3) recommend development improvement steps that need to be taken in achieving the fulfillment of all aspects of the Sustainable Development Goals (SDGs) in the education category.

Method

This research uses a mixed method to obtain a general overview of educational aspects that support the Sustainable Development Goals (SDGs). The general picture was used as an evaluation material for the implementation of green campus concepts in UKSW to further improve it in the future. The research was conducted for eight months from October 2023 to June 2024 in the UKSW area, Salatiga.

Data were collected from various sustainability-related university documentations such as 1) curriculum of all academic programs offered in UKSW, 2) campus activities, 3) student organization, 4) UKSW's website, 5) sustainability report, 6) cultural activity on campus including virtual activities, 7) teaching and learning improvement program, and 8) startup. Interview activities were carried out through questions and answers to informants or to related units (Marsudi et al., 2021).

The UI GreenMetric 2022 indicators (Universitas Indonesia, 2022) were used in the educational aspect include 1) the ratio sustainability courses to total courses/subjects; 2) the number of campus events/activities related to sustainability (average per year for the last 3 years); 3) the number of student organizations related to sustainability; 4) university-run sustainability websites; 5) sustainability reports; 6) the number of cultural activities on campus including virtual activities; 7) the number of university programs that improve teaching and learning; and 8) the number of sustainability-related startups. Table 1 presents the indicators used to assess the Education category based on UI GreenMetric.

Table 1. Indicators used for assessment in the education category

No	Indicators
1	Number of courses/subjects related to sustainability offered Number of courses =
2	Total number of courses/subjects offered Total number of courses =
3	The ratio sustainability courses to total courses/subjects [1] <= 1% 0 [2] > 1 - 5% [3] > 5 - 10% [4] > 10 - 20% [5] > 20%
4	Number of campus events/activities related to sustainability [1] 0 [2] 1 - 4 [3] 5 - 17 [4] 18 - 47 [5] > 47
5	Number of student organizations related to sustainability [1] 0 [2] 1 - 2 [3] 3 - 4 [4] 5 - 10 [5] > 10
6	University-run sustainability websites [1] Not available [2] Website in progress or under construction [3] Website is available and accessible [4] Website is available, accessible, and update occasionally [5] Website is available, accessible, and regularly
7	Sustainability website address (URL) if available. Please provide your university sustainability link/website (URL) = ...
8	Sustainability report [1] Not available [2] Sustainability reports is in preparation [3] Available but not publicly accessible [4] Sustainability report is accessible and published occasionally [5] Sustainability report is accessible and published annually
9	Number of cultural activities on campus including virtual activities [1] None [2] 1 event per year [3] 2 event per year [4] 3 even per year [5] More than 3 events per year

No	Indicators
10	Number of university programs that improve teaching and learning [1] None [2] 1 Program [3] 2 Programs [4] 3 Programs [5] More than 3 programs per year
11	Number of sustainability-related startups [1] None [2] 1 - 5 startups [3] 5-10 startups [4] 10 - 15 startups [5] More than 15 startups

(Universitas Indonesia, 2022)

Data analysis on the indicator of the ratio of courses related to sustainability compared to all courses uses the calculation of the percentage of scores obtained using the following formula.

$$\text{Percentage of scoring} = \frac{\text{Obtained amount}}{\text{Total}} \times 100\%$$

Data analysis on indicators of number of campus events/activities related to sustainability (average per year for the last 3 years), number of student organizations related to sustainability, sustainability reports, number of cultural activities on campus including virtual activities, number of university programs that improve teaching and learning, and the number of sustainability-related startups was carried out by counting the number of each implementation of sustainability-related activities and comparing them based on the assessment rubric listed in Table 1. Analysis of university-run sustainability websites was carried out by checking the availability of sustainability websites, ease of web access, and update or completeness of the sustainability website. The stages of data analysis are shown in Figure 1.

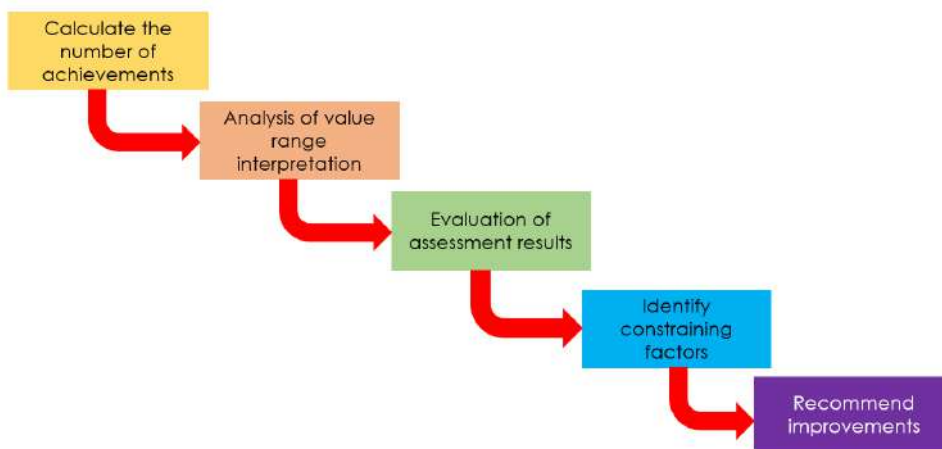


Figure 1. Stages of data analysis

Result and Discussion

Based on the results of the analysis of the first indicator, namely the ratio sustainability courses to total courses/subjects, the number of courses related to SDGs is outlined in the context of implementing a green campus as seen in Figure 2.

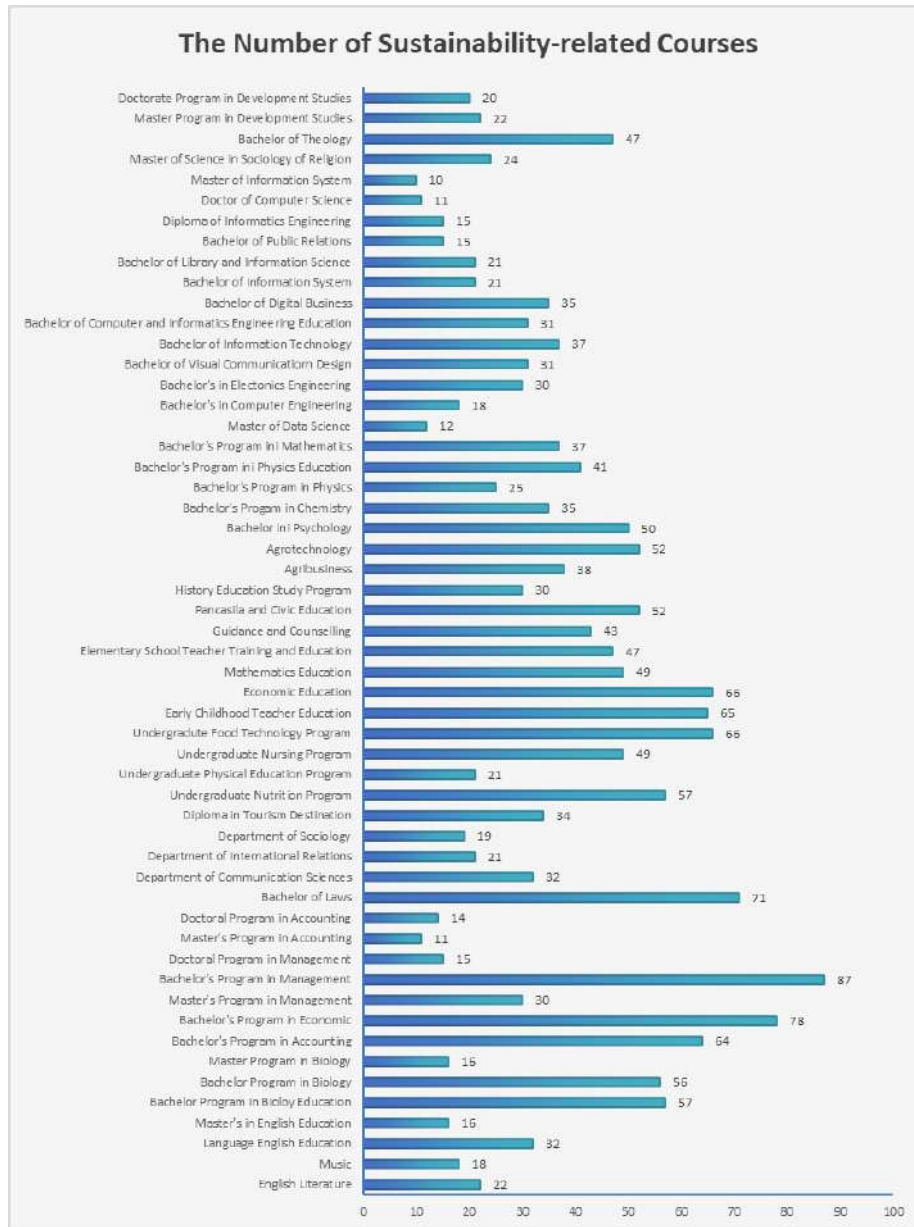


Figure 2. Number of courses related to SDGs

To support the efforts of the global community in achieving a better life, Universitas Kristen Satya Wacana (UKSW) also participated as an educational institution. UKSW carried out a comprehensive curriculum update in 2023 by considering sustainability principles as one of the main pillars. The academic programs that incorporated SDGs concepts in their curriculum were not only sciences-based academic programs, but also social humanities-based academic programs. Of the total 63 academic programs at UKSW, 54 academic programs have integrated sustainability principles. This principle is integrated comprehensively so that there is a close unity between the knowledge studied and its usefulness in supporting sustainable development goals (SDGs) according to the nature of each academic program.

Table 2 presents the percentage of courses that support sustainable development goals (SDGs). SDGs consists of 1) no poverty; 2) zero hunger; 3) good health and well-being; 4) quality education; 5) gender equality; 6) clean water and sanitation; 7) affordable and clean energy; 8) decent work and economic growth; 9) industry, innovation and infrastructure; 10) reduced inequality; 11) sustainable cities and communities; 12) responsible consumption and production; 13) climate action; 14) life below water; 15) life on land; 16) peace, justice and strong institutions; 17) partnerships for the goals (Kementerian perencanaan pembangunan nasional, 2017).

Table 2 shows the average percentage (66.76%) of the number of courses related to the SDGs. There are 1916 sustainability-related courses being offered from the total of 2870 available courses. Overall, this average has far exceeded the standards set by UI GreenMetric which requires 20% of the courses presented to have paid attention to the SDGs (Universitas Indonesia, 2022). This shows UKSW's real commitment to participating in supporting sustainable development. Academic programs that have the largest percentage of courses related to SDGs on the UKSW campus with an achievement of over 90% include Master Program in Biology, Master of Data Science, Undergraduate Nutrition Program, Master Program in Management, Bachelor Program in Biology Education, Agrotechnology (Undergraduate Program), Elementary School Teacher Training Education, Bachelor

Program in Biology, Master Program in Accounting, and Early Childhood Teacher Education, as well as Masters of Information Systems.

Table 2. Percentage of the number of courses related to sustainable development goals

No.	Academic program	Number of courses/subjects		Percentage (%)
		Related with SDGs	Offered	
1	Master Program in Biology	16	16	100.00
2	Master of Data Science	12	12	100.00
3	Undergraduate Nutrition Program	57	59	96.61
4	Master's Program in Management	30	32	93.75
5	Bachelor Program in Biology Education	57	61	93.44
6	Agrotechnology	52	56	92.86
7	Elementary School Teacher Training and Education	47	51	92.16
8	Bachelor Program in Biology	56	61	91.80
9	Master's Program in Accounting	11	12	91.67
10	Early Childhood Teacher Education	65	71	91.55
11	Master of Information System	10	11	90.91
12	Bachelor's Program in Economic	78	87	89.66
13	Undergraduate Nursing Program	49	55	89.09
14	Master's in English Education	16	18	88.89
15	Master Program in Development Studies	22	25	88.00
16	Doctoral Program in Accounting	14	16	87.50
17	Bachelor's Program in Management	87	100	87.00
18	Economic Education	66	77	85.71
19	Doctor of Computer Science	11	13	84.62
20	Pancasila and Civic Education	52	62	83.87
21	Doctorate Program in Development Studies	20	24	83.33
22	Guidance and Counseling	43	54	79.63
23	Undergraduate Food Technology Program	66	83	79.52
24	Agribusiness	38	48	79.17
25	Doctoral Program in Management	15	19	78.95
26	Bachelor of Digital Business	35	50	70.00
27	Bachelor's Program in Mathematics	37	53	69.81
28	Bachelor's Program in Accounting	64	93	68.82
29	Language English Education	32	47	68.09
30	Diploma in Tourism Destination	34	50	68.00
31	Bachelor of Laws	71	105	67.62
32	Mathematics Education	49	73	67.12
33	Bachelor's Program in Chemistry	35	54	64.81
34	Bachelor in Psychology	50	79	63.29
35	Master of Science in Sociology of Religion	24	39	61.54
36	Bachelor of Computer and Informatics Engineering Education	31	53	58.49
37	Bachelor's Program in Physics Education	41	72	56.94
38	History Education Academic program	30	53	56.60
39	Bachelor's in Electronics Engineering	30	55	54.55
40	Bachelor of Visual Communication Design	31	57	54.39
41	Bachelor of Theology	47	92	51.09

No.	Academic program	Number of courses/subjects		Percentage (%)
		Related with SDGs	Offered	
42	Department of Communication Sciences	32	64	50.00
43	Bachelor of Information System	21	42	50.00
44	Bachelor of Information Technology	37	76	48.68
45	Bachelor's in Computer Engineering	18	39	46.15
46	Bachelor of Library and Information Science	21	46	45.65
47	Diploma of Informatics Engineering	15	38	39.47
48	Bachelor's Program in Physics	25	64	39.06
49	Department of Sociology	19	50	38.00
50	Undergraduate Physical Education Program	21	56	37.50
51	English Literature	22	61	36.07
52	Department of International Relations	21	59	35.59
53	Bachelor of Public Relations	15	48	31.25
54	Music	18	79	22.78
Average				66.76

Universities play an important role in encouraging and implementing sustainability. In higher education, sustainability is integrated into teaching, research, innovation, and social learning processes inside or outside academic activities. Pardal et al., (2020) and Choi et al., (2017) explained that students who have taken courses related to sustainability or play an active role in activities related to sustainability have more experience and knowledge about green campuses. One of strategies for developing a sustainable campus is to develop an environmentally friendly curriculum (Sugiarto et al., 2022).

Menon & Suresh, (2020) in their research suggest the importance of integrating sustainability into aspects of teaching and learning as well as other aspects of education. Students' learning experiences determine in the application of environmentally friendly concepts in the learning process and curriculum. (Hays & Reinders, 2020) emphasized the importance of ecological thinking and system and independence as tool and goal of education and sustainable learning. Successful integration of sustainable principles and methods into technical curricula requires systemic changes in current educational approaches. Education is a sustainability concept that includes a social dimension. The average percentage of courses at UKSW is 66.76% that are related to the SDGs, which is a form of the university's commitment to implementing the green campus program for students (Bakaruddin et al., 2023).

Furthermore, by analyzing the second indicator, namely number of campus events/activities related to sustainability (average per year for the last 3 years), it was found that the number of campus activities related to the SDGs in 2021 was 30 activities, in 2022 there were 64 activities related to the SDGs, and in 2023 there were 86 activities related to the SDGs. Thus, the average number of activities per year reaches 60 activities which are presented in Figure 3. The average number of campus activities related to SDGs in the UKSW environment has met the standard for the number of campus activities set in UI GreenMetric, namely 40 activities related to sustainability.

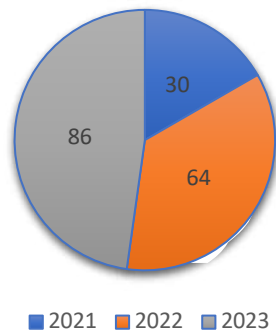


Figure 3. Number of campus activities related to SDGs

The results of the analysis of all campus activities reveal the fact that in one event of campus activities reaches more than one SDGs. Table 3 presents a recap of the number of campus activities in the last three years as well as the achieved SDGs. From Table 3, it shows that the most frequently held campus activities are related to SDG 4 (quality education), SDG 17 (partnerships for the goals) and SDG 9 (industry, innovation and

infrastructure). The least frequently held campus activities are related to SDG 7 (affordable and clean energy), SDG 14 (life below water), SDG 6 (clean water and sanitation), SDG 5 (gender equality), SDGs 15 (life on land).

An example of campus activities related to SDG 6 (clean water and sanitation) is the introduction of eco enzyme products to high school students. This activity supports the government's program that by 2030, it aims to support and strengthen local community participation in improving water and sanitation management (Kementerian perencanaan pembangunan nasional, 2017). An example of campus activities related to SDG 13 (climate action) is the Go Green campaign by Faculty of Information Technology of UKSW. An example of campus activities related to SDG 12 (responsible consumption and production) and SDG 13 (climate action) is training activity for UKSW students to make sustainable packaging. An example of a campus activity related to SDG 2 (zero hunger) is the UKSW activity training upstream and downstream production in Cukilan Village. This activity can also achieve SDG 8 (decent work and economic growth). An example of campus activities related to SDGs 4 (quality education) is an information and technology training program for high school teachers and students in East Nusa Tenggara. Examples of campus activities related to SDG 2 (zero hunger) are activities with the theme of supporting the food self-sufficiency program of UKSW collaborating with Kadirejo to plant soybeans. This activity is in line with the government's target of fulfilling SDG 2 (zero hunger), namely by 2020 managing the genetic diversity of seeds, cultivated plants and livestock, and by 2030, ensuring a sustainable food production system and implementing resilient agricultural practices that increase production and productivity (Kementerian perencanaan pembangunan nasional, 2017).

Table 3. Number of campus events/activities related to SDGs (during the last three years)

Code	Sustainable and Development Goals	Number of campus events/activities related to SDGs			
		2021	2022	2023	Average
SDGs1	No poverty	4	5	2	3,67
SDGs2	Zero hunger	3	5	2	3,33
SDGs3	Good health and well-being	3	8	5	5,33
SDGs4	Quality education	13	36	43	30,67
SDGs5	Gender equality	0	3	3	2,00
SDGs6	Clean water and sanitation	0	1	3	1,33
SDGs7	Affordable and clean energy	0	0	1	0,33
SDGs8	Decent work and economic growth	5	4	10	6,33
SDGs9	Industry, innovation, and infrastructure	6	12	15	11,00
SDGs10	Reduced inequalities	5	2	11	6,00
SDGs11	Sustainable cities and communities	5	5	16	8,67
SDGs12	Responsible consumption and production	1	3	4	2,67
SDGs13	Climate action	5	2	8	5,00
SDGs14	Life below water	0	0	1	0,33
SDGs15	Life on land	1	2	5	2,67
SDGs16	Peace, justice, and strong institutions	3	2	4	3,00
SDGs17	Partnership for the goals	18	35	61	38,00

According to (Fachrudin et al., 2019), in implementing the green campus concept there are three factors in educational activities that can be carried out, namely first, educational practical activities and seminars, which can be organized by students or universities. Second, it is related to the green campus campaign which can be managed by universities and students. Campaigns can be carried out in the form of placing billboards, posters, stickers, and through the campus website. Third, green campus activities, for example reducing paper use, and providing short courses on the environment to the community around campus. Through activities related to green campuses and SDGs, it is hoped that people inside and outside the campus environment can increase their awareness about sustainability and change the behavior and mindset of residents inside and outside the campus (Bakaruddin et al., 2023).

The results of the analysis of the third green campus indicator, namely number of student organizations related to sustainability are shown in Table 4. Based on the results of the analysis, data of 19 student organizations related to the SDGs is obtained.

Table 4. Student organizations in the UKSW environment related to SDGs

No	Organization	Faculty/unit
1	Interest talent group "Karawitan wacana budaya"	University Student Organization
2	Interest talent group "Dance of Satya Wacana (DOS)"	University Student Organization
3	Interest talent group "Fiskom Music Club (FMC)	Faculty of Social and Communication
4	Festforatika	Faculty of Information Technology
5	Interest talent group "commedia"	Faculty of Information Technology
6	Mapala anis gading (pecinta alam)	Faculty of Information Technology
7	Interest talent group "Indonesian dance"	Faculty of Teacher Training and Education
8	Interest talent group "Street dance"	Faculty of Teacher Training and Education
9	Interest talent group "Traditional dance"	Faculty of Teacher Training and Education
10	Musical interest talent group	Faculty of Teacher Training and Education
11	Interest talent group "Voice of theology"	Faculty of Theology
12	Interest talent group "Pragina nusantara"	Faculty of Psychology
13	Interest talent group "Golden dance"	Faculty of Psychology
14	Musical interest talent group "Holic"	Faculty of Psychology
15	Musical interest talent group "Pelatihan seni musik bagi mahasiswa FPB"	Faculty of Agriculture and Business
16	Musical interest talent group "Agric music"	Faculty of Agriculture and Business
17	Interest talent group "Fire dance"	Faculty of Agriculture and Business
18	Interest talent group "Teater tilar"	Faculty of Economics and Business
19	Voice of UKSW	UKSW

Table 4 presents data for 19 student organizations dominated by the goal of cultural preservation through SDG 4 (quality education) which is realized through lifelong learning opportunities. Most of the groups are interested in music and dance. Besides, there is a student organization called Mapala group (students who love nature) which is involved in environmental conservation. Mapala group is related to SDG 13 (climate action). The Mapala group's activities support the government's targets in SDG 13, namely increasing education, growing awareness, as well as improving human and institutional capacity related to mitigation, adaptation, impact reduction and early warning of climate change. In addition, this organization's activities also support the achievement of the target of promoting mechanisms to increase effective planning and management capacity related to climate change in least developed countries, small island developing countries, including focus on women, youth, and local and marginalized communities (Kementerian perencanaan pembangunan nasional, 2017). The number of student organizations related to the SDGs within UKSW has met the standards set in UI GreenMetric, namely >10 student organizations related to the SDGs.

Furthermore, based on the analysis of the 4th green campus indicator, namely university-run sustainability websites. UKSW has a sustainability website managed by the university. The website which is about sustainability within the UKSW environment can be accessed at <https://www.uksw.edu/pembangunan-berkebesaran/>, Figure 4 shows the display of the sustainability website managed by the university. According to Fachrudin et al., (2019) regarding the implementation of the green campus concept, it is known that the second factor is related to green campus campaigns that can be carried out by universities and students, such as campaigns using banners, posters, stickers and campus website promoting the green campus concept. Through campaigns on the sustainability website managed by the university, information on all activities related to sustainability can be obtained by residents outside and on campus.



Figure 4. Appearance of the Sustainability Website managed by UKSW

Based on the analysis of the 5th green campus indicator, namely the sustainability reports, it is known that there are reports related to green campuses in the field of setting and infrastructure. In 2023, research will also be carried out regarding green campuses in the field of waste and water. However, the sustainability report does not yet contain a complete evaluation of green campuses based on six categories.

Analysis of indicators cultural activities on campus including virtual activities is presented in Table 5. There are 21 cultural-related activities held at UKSW.

Tabel 5. Cultural activities in UKSW

No	Activities	Organizers
1	Indonesian International Culture Festival (IICF)	University Student Organization
2	Concordi culture	Faculty of Social and Communication
3	Fermented food & product innovation	Faculty of Biology
4	Theology Cultural Show	Faculty of Theology
5	Musik tradisional nusantara	Faculty of Theology
6	Pesta olahraga dan seni fakultas teologi (peran kreasi)	Faculty of Theology
7	Culture cinema & share	Faculty of Law
8	Iustitia Caring Love (ICL)	Faculty of Law
9	Night of performing arts	Faculty of Language and Arts
10	Freshman concert	Faculty of Language and Arts
11	Young talent	Faculty of Language and Arts
12	English department and arts dance (EDANCE)	Faculty of Language and Arts
13	Faculty of language and arts' annual drama	Faculty of Language and Arts
14	Faculty of language and arts for english readers' theater	Faculty of Language and Arts
15	Culture identity in the age of globalization	Faculty of Medicine and Health Sciences

No	Activities	Organizers
16	Cakra budaya	Faculty of Medicine and Health Sciences
17	Cintai budaya Indonesia	Faculty of Interdisciplinary
18	Lomba mengenal budayamu	Faculty of Interdisciplinary
19	Cotton bud kompetisi olahraga dan seni budaya	Faculty of Science and Mathematics
20	Maba wajib LK teater tilar	Faculty of Economic and Business
21	Economians yuan festival (eyufest)	Faculty of Economic and Business

Table 5 displays that culture-related activities in UKSW are more than three activities per year. The activities are dominated by culturally based activities related to SDG 4 (quality education). This cultural activity supports the government's target, namely by 2030, to ensure that all students receive the education needed to improve sustainable development, including, among other things, respect for cultural diversity and cultural contributions to sustainable development as well as promoting local culture and products (Kementerian perencanaan pembangunan nasional, 2017). Apart from that, there are also activities related to SDG 2 (zero hunger or food security and improving sustainable agriculture) organized by the Faculty of Biology, namely innovation in fermented food products. Based on the UI GreenMetric rubric, the standard number of campus activities related to culture is more than three activities per year. Based on this, it can be concluded that campus activities related to culture held within the UKSW environment have met the standards for this indicator.

Figure 5 presents photos of batik activities carried out by students. Figure 5 shows several activities related to culture, one of which is the activity of making batik which is related to sustainable development. Apart from that, UKSW and the UKSW student body also regularly hold cultural activities.



The data in Table 6 represents six university programs to improve teaching and learning.

Table 6. University programs to improve teaching and learning

No	University programs to improve teaching and learning
1	Curriculum Updating “Kurikulum Talenta Merdeka”
2	Merdeka Belajar-Kampus Merdeka (MBKM) Bela Negara Program
3	Technology based innovative learning and teaching training.
4	F-learn workshop
5	Program kompetisi kampus Merdeka (PKKM)
6	Your Proud Program

Based on the results of the analysis of the green campus indicator, the 6th indicator, namely, university programs to improve teaching and learning, it is known that the program that has been organized by UKSW is related to SDG 4 (quality education, quality education through lifelong learning opportunities) in 2020, obtaining an affordable and quality education (Kementerian perencanaan pembangunan nasional, 2017). The number of university programs to improve teaching and learning within the UKSW environment has met the UI GreenMetric standards for indicators of university programs to improve teaching and learning that require more than three programs.

UKSW has “Your Proud” program which gives students the opportunity to develop an entrepreneurial spirit and gain entrepreneurial experience with full support from UKSW in funding and mentoring. For one semester, students receive training and assistance for entrepreneurship. This supports the government's target of 2030 of being able to significantly increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent work and entrepreneurship (Kementerian perencanaan pembangunan nasional, 2017).

Based on the results of the analysis of the 7th green campus indicator, namely, startups related to sustainability, seven startups are found related to sustainable development goals (SDGs). The seven startups owned by UKSW use environmentally friendly materials. Table 7 shows startup data related to the SDGs at UKSW.

Table 7. Startups related to SDGs in UKSW

No	Startups	Field	Description
1	Gan's Furniture	Furniture	Using used materials, wooden furniture
2	<i>Bahiti Gift and Craft</i>	Craft accessories, flower bouquets	Using recycled leaves, paper, and plastics
3	Flowleri board game company	Interactive digital	Using recycled paper and wood dust
4	Mancala board game company	Interactive digital	Using recycled paper and wood dust
5	Rabbit Colony board game company	Interactive digital	Using recycled paper and wood dust
6	Saged soft digital game company	Interactive digital	Using recycled paper and wood dust
7	CV. Garisma	Batik convection	Using batik motifs resulting from mathematical research discoveries

This also supports the government's target of 2030 of being able to significantly increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent work and entrepreneurship (Kementerian perencanaan pembangunan nasional, 2017).

Table 8 presents data on UKSW's score results for educational aspects based on the UI GreenMetric indicators. From this data, it is known that the highest score is achieved in indicators 1) the ratio of courses related to sustainability compared to all courses, 2) the number of campus events/activities related to sustainability, 3) number of student organizations related to sustainability, 4) number of cultural activities on campus (e.g.cultural festival) including virtual activities, 5) number of university programs to improve teaching and learning. Meanwhile, categories that still require development include sustainability websites managed by the university, the availability of sustainability reports, and number of startups related to sustainability. UKSW already has a website about sustainability, but it still needs development in terms of updating information on activities related to sustainability. The sustainability report also still requires updates to the sustainability aspects of the UI GreenMetric. The number of startups still needs to be increased because they have not yet reached the maximum score.

Table 8. UKSW's score obtained in the Education aspect based on UI GreenMetric indicators

No	Indicator	Score
1	The ratio sustainability courses to total courses/subjects 1] <= 1% 0 [2] > 1 - 5% [3] > 5 - 10% [4] > 10 - 20% [5] > 20%	[5] > 20%
2	Number of campus events/activities related to sustainability [1] 0 [2] 1 - 4 [3] 5 - 17 [4] 18 - 47 [5] > 47	[5] > 47
3	Number of student organizations related to sustainability [1] 0 [2] 1 - 2 [3] 3 - 4 [4] 5 - 10 [5] > 10	[5] > 10

No	Indicator	Score
4	University-run sustainability websites [1] Not available [2] Website in progress or under construction [3] Website is available and accessible [4] Website is available, accessible, and update occasionally [5] Website is available, accessible, and regularly	[3] Website is available and accessible
5	Sustainability website address (URL) if available. Please provide your university sustainability link/website (URL) = ...	https://www.uksw.edu/pembangunan-berkelanjutan/
6	Sustainability report [1] Not available [2] Sustainability reports is in preparation [3] Available but not publicly accessible [4] Sustainability report is accessible and published occasionally [5] Sustainability report is accessible and published annually	Sustainability reports is in preparation (2)
7	Number of cultural activities on campus including virtual activities [1] None [2] 1 event per year [3] 2 event per year [4] 3 even per year [5] More than 3 events per year	More than 3 events per year (5)
8	Number of university programs that improve teaching and learning [1] None [2] 1 Program [3] 2 Programs [4] 3 Programs [5] More than 3 programs per year	More than 3 programs per year (5)
9	Number of sustainability-related startups [1] None [2] 1 - 5 startups [3] 5-10 startups [4] 10 - 15 startups [5] More than 15 startups	[3] 5-10 startup

Conclusion

The efforts to improve the quality of life through 17 SDGs launched by the United Nation have been positively responded by UKSW. The highest score obtained by UKSW based on the UI GreenMetric indicator includes 1) The ratio sustainability courses to total courses/subjects, 2) Number of campus events/activities related to sustainability, 3) number of student organizations related to sustainability, 4) number of cultural activities on campus. campus (e.g., cultural festival) including virtual activities, 5) number of university programs to improve teaching and learning. Curriculum updates in 2023 have considered SDGs principles in their design. More than half of the courses presented have integrated SDGs principles. In addition, not only exact sciences programs that aggressively implement SDGs in their courses, but also non-exacts academic programs. Meanwhile, categories that require further development include sustainability websites managed by the university, the availability of sustainability reports, and the number of startups related to sustainability. UKSW already has a website about sustainability, but it still needs development in terms of updating information on sustainability-related activities. The sustainability report also still requires some updates to include sustainability aspects of the UI GreenMetric. The number of startups still needs to be increased, because they have not yet reached the maximum score.

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