



UUM
Universiti Utara Malaysia

SUSTAINABILITY REPORT 2021

**PUBLISHED BY
RESEARCH AND INNOVATION MANAGEMENT CENTRE
FOR
CENTRE FOR TESTING, MEASUREMENT & APPRAISAL**

UNIVERSITI UTARA MALAYSIA

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CENTRE UNIVERSITI UTARA MALAYSIA

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SUSTAINABILITY REPORT 2021

SUSTAINABILITY REPORT 2021: UNIVERSITI UTARA MALAYSIA

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UNIVERSITI UTARA MALAYSIA
06010 UUM SINTOK
KEDAH DARUL AMAN
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UNIVERSITI UTARA MALAYSIA
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*"The most patriotic thing you can do is to
take care of the environment and try to live
sustainability*

Robert F. Kenn

WORD FROM THE VICE CHANCELLOR

We need to reengineer the way we take care of our university, upgrading what we have in recent decades, and this is a social obligation shared by governments, corporations, and individuals. Few logical individuals would argue that sustainability is one of the most serious concerns confronting the world today. To meet the aim of the global sustainable development goals (SDGs), our university must offer meaningful and enduring changes.

Sustainability has been entrenched as part of an overall corporate social responsibility (CSR) strategy at certain international universities, while others have formed sustainability teams - both are great and should be promoted. However, in order for an organization to truly achieve its sustainability goals, it requires the collective ideas and input of a variety of stakeholders, including those who are most familiar with the business and know where sustainability can be most effectively deployed to have the greatest impact.

In general, sustainability aims to safeguard the natural environment, human and ecological health, and our way of life without jeopardizing it.



It may seem conscientious to solicit views on how to implement sustainable business models from partners, staff, suppliers, clients, and others. The bachelor's degree courses in this university should be integrated with sustainability elements (courses that incorporate social science, environmental science, and future technologies) which will create a new wave of graduates and workers who are more sensitive towards their environment. The 'brains' of the university must create an atmosphere and demonstrate that they are prepared to take chances and learn from bad practices. In terms of what is supposed to be accomplished with sustainability, more openness and collaboration from the outset is critical.

PROF. DR. HAIM HILMAN ABDULLAH
Vice Chancellor

WORD FROM THE DEPUTY VICE CHANCELLOR

The University's Sustainability Framework governs sustainability at UUM, which combines sustainability action across all areas of institutional operation and coincides with the university's strategic aims as an internationally linked higher institution centre of excellence (HICoE).

Students, employees, and the wider community need to be actively involved in opportunities to learn and cooperate on sustainability concerns through on-campus activities, programmes, and operations to support sustainability on campus. This implies that, via our campus operations, surroundings, and engagement activities, Universiti Utara Malaysia (UUM) should offer an international exemplar of a sustainable, equitable community.

The landscapes on which our campuses stand, as well as the network of local and global communities that our campuses and precincts serve, are profoundly connected to our commitment to sustainability.



Looking ahead, it is clear that sustainability will be a significant strategic emphasis for the university in many ways. As the globe grapples with environmental and other sustainability issues, our teaching and research will become increasingly focused on satisfying this burgeoning need. This will be a common thread that runs across all of our colleges and schools, uniting our people—students and staff. We will lead and act to shape a sustainable future for the state and country we serve, collaborating in the development of Kedah as a vibrant, sustainable global city and the advancement of Malaysia as a forward-thinking nation.

PROF. DR. RUSSAYANI ISMAIL
Deputy Vice Chancellor
(Research and Innovation)

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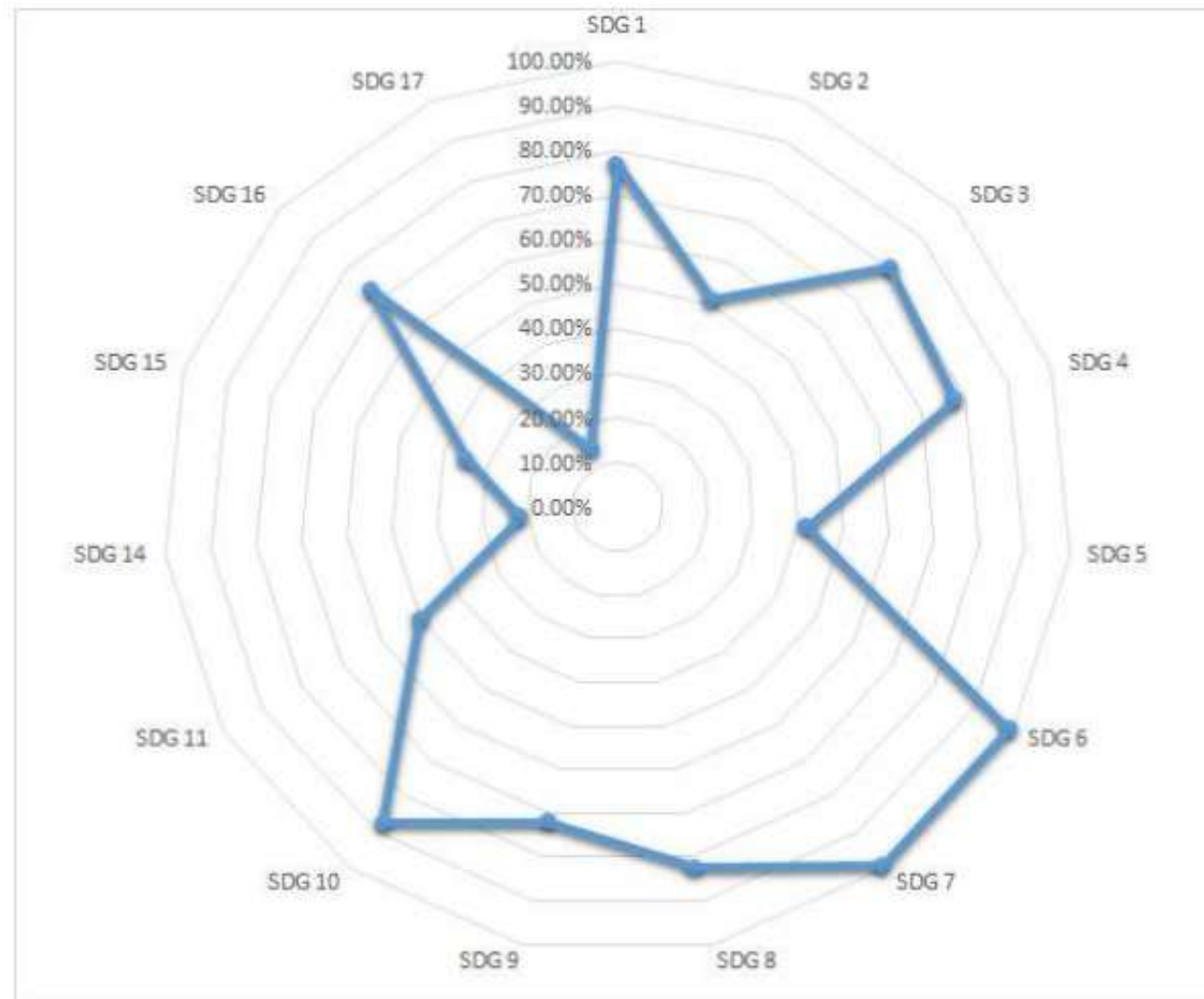
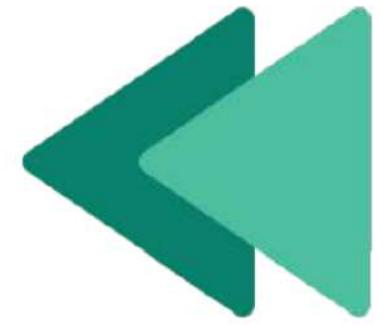
17 GEARING TOWARDS 2022
Dr. Saadi Ahmad Kamaruddin



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SDG ACHIEVEMENT IN KEDAH



Source of data: SDGs for Malaysian States by UNSDSN
 Link: <https://sdg-for-malaysian-states-sdsn.hub.arcgis.com/>

Based on the dashboards of SDGs for Malaysian States by UNSDSN, the performance of the SDGs at the state level in Malaysia can be monitored efficiently. In general, new paradigm changes are required in Kedah for SDG 1, SDG 2, SDG 3, SDG 4, SDG 5, SDG 8, SDG 9, SDG 11, SDG 14, SDG 15, SDG 16, and SDG 17.

The following are the indicators (for UN SDG Indicators and SDR SDG Indicators) where Kedah State faces serious challenges:

Stunted growth (low height for age) presence below the age of five

Wasting (low weight for height) presence below the age of five

Rates of traffic fatalities

Lower secondary mathematics competency gender disparity in smartphone ownership

The percentage of women serving in state legislatures

The average percentage of a city's built-up area that is open space for general public usage (based on local council limits)

Coverage of maritime areas in respect to completely and partially protected areas

Average protected area in freshwater habitats vital to biodiversity

The average amount of protected land in terrestrial ecosystems

Government income, excluding grants

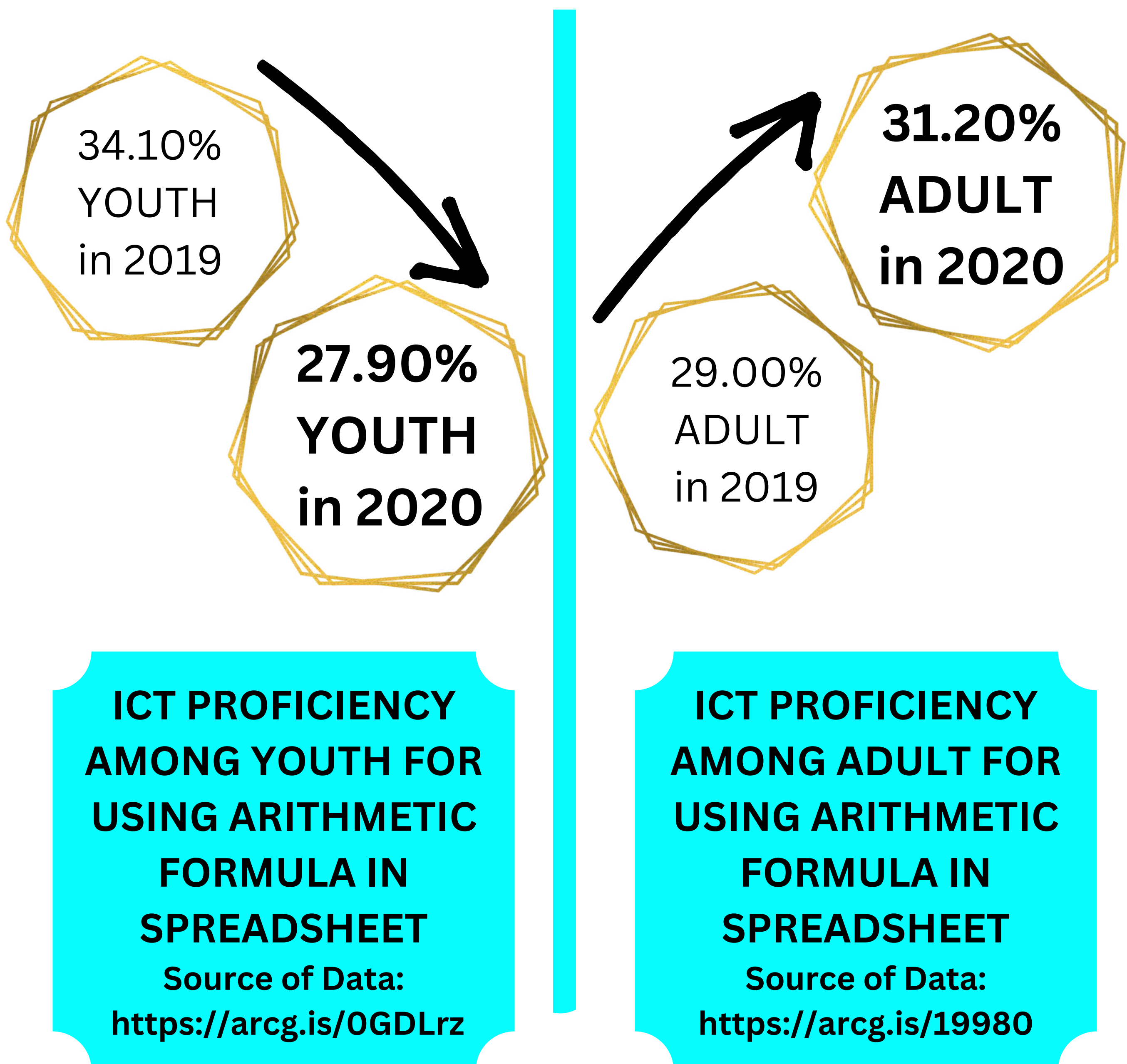


SDG 4 IN KEDAH DURING COVID-19

The onset of COVID-19 pandemic in 2020 constituted one of the biggest challenges or impediments for Kedah to attain desired SDG thresholds.

Source of data: SDGs for Malaysian States by UNSDSN

Link: <https://arcg.is/1K45zn0>



SUCCESS STORY IN A GLIMPSE



When the Times Higher Education (THE) Impact Rankings 2022 fourth edition was revealed on April 28, 2022, Universiti Utara Malaysia (UUM) created history. For the first time, UUM's contribution was recognised when it was placed in the 401-600 position out of 1,524 institutions from 110 nations across the world.

THE Impact Rankings 2022 is the first global performance organization that yearly analyses universities throughout the world in accordance with the United Nations' Sustainable Development Goals (SDGs) (UN). Prof. Dr. Haim Hilman Abdullah, Vice Chancellor, said the achievement is a major success for everybody in the endeavor to support the SDGs so that the world may continue to thrive.

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Five of the 17 SDG goals in which UUM has excelled are SDG 4 (Education Quality), SDG 10 (Reducing Inequality), SDG 11 (Urban and Community Sustainability), SDG 16 (Peace, Justice, and Strong Institutions), and SDG 17 (Partnership for the Goals). UUM was shown to be effective in providing quality education when it was ranked 42nd for SDG 4 out of the five objectives attained. UUM also excelled in four additional targets, including SDG 10 (position 101-200), SDG 11 (101-200), SDG 16 (401-600), and SDG 17 (401-600).

The accomplishment also demonstrates UUM's desire to be a part of the world's story that may be preserved for future generations. UUM will join the global effort to improve sustainability and everything linked to the entire globe so that future generations are in the best possible position.

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UUM aims to empower students as agents of change towards global sustainability.

SDG COMMITMENT IN 2021

2021 STAR SEARCH PROGRAM







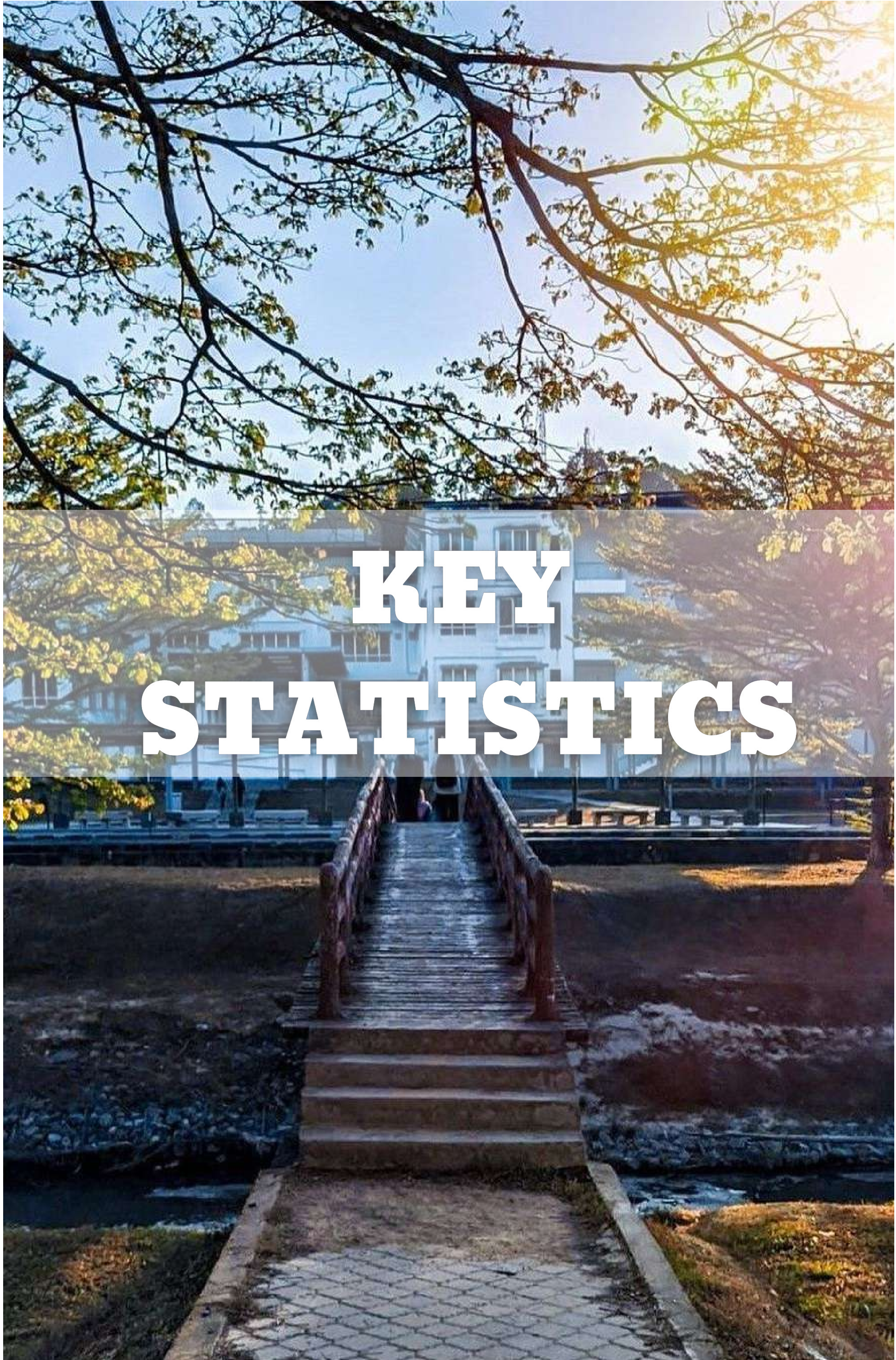
The 2021 Star Search Program was part of the GAGAH UUM 2021-2025 agenda, which aims to drive the direction of research, publishing, consulting, commercialization, industry and community relations, physical infrastructure, and services.

The idea was inspired by the Deputy Vice Chancellor (Research and Innovation), Prof. Dr. Haim Hilman Abdullah, to support the Univibe Initiative (University Visibility Enhancement), which emphasizes the appreciation of the efforts of academics, administration, and support involved.

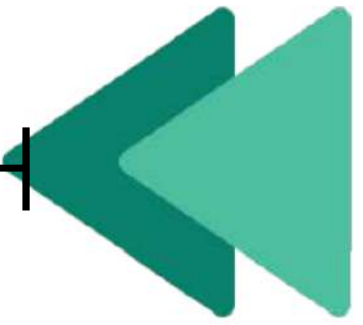
UUM greatly appreciates campus residents among staff and students who inspire and implement projects that succeed in the campus sustainability agenda in line with the SDG2030 agenda.

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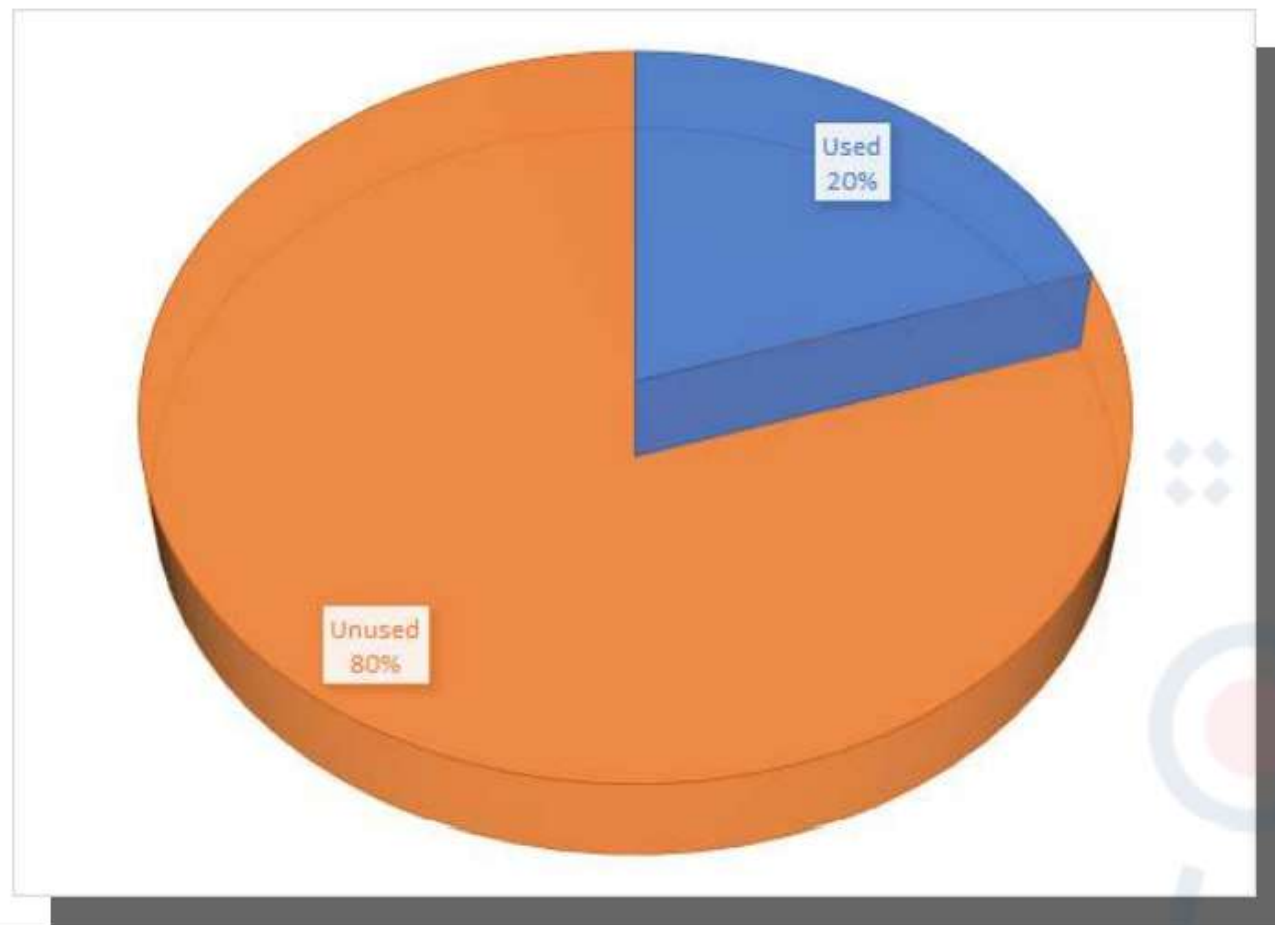
No	SDG	Star Search Programme	Title of Project
1		Zero Hunger	1) Food Assistance Mission to Students during the MCO1.0 period 2) Member of the Cabinet Committee Accessibility Cluster Working Group
2		Quality Education	1) Explore, Discover, Develop: Design Thinking and Creativity 2) Remote Learning at Universiti Utara Malaysia - Instructors' and Students' Perspectives & the Effective of Online at UUM - Students' Perspectives
3		Reduced Inequalities	1) Project Y -21 -SP0101: Empowering and Mentoring Youth for Academic Success in District of Sik 2) Management of People with Disabilities on Campus
4		Sustainable Cities and Communities	1) Improvement of UUM Solid Waste Management System 2) Portable Outdoor Domestic Drying Cabinet



WIRELESS BROADBAND BANDWIDTH



The infrastructure for internet connectivity is primed for successful connected campus initiatives.



Only 20% of paid wireless broadband bandwidth was used throughout UUM campus in year 2021. The was no internet traffic in year 2021 due to the 2020–21 Malaysia Government Movement Control Order.

ONLINE LEARNING

In UUM, video conferencing is mostly done using Cisco Webex meetings, and a robust UUM Online Learning platform is used for teaching and learning tools. The WebEx platform has no defined limitations.

There was a huge gap between users that only view page versus active users in UUM Online Learning platform. Out of 436K page view, only 3.9% were active user in year 2021.

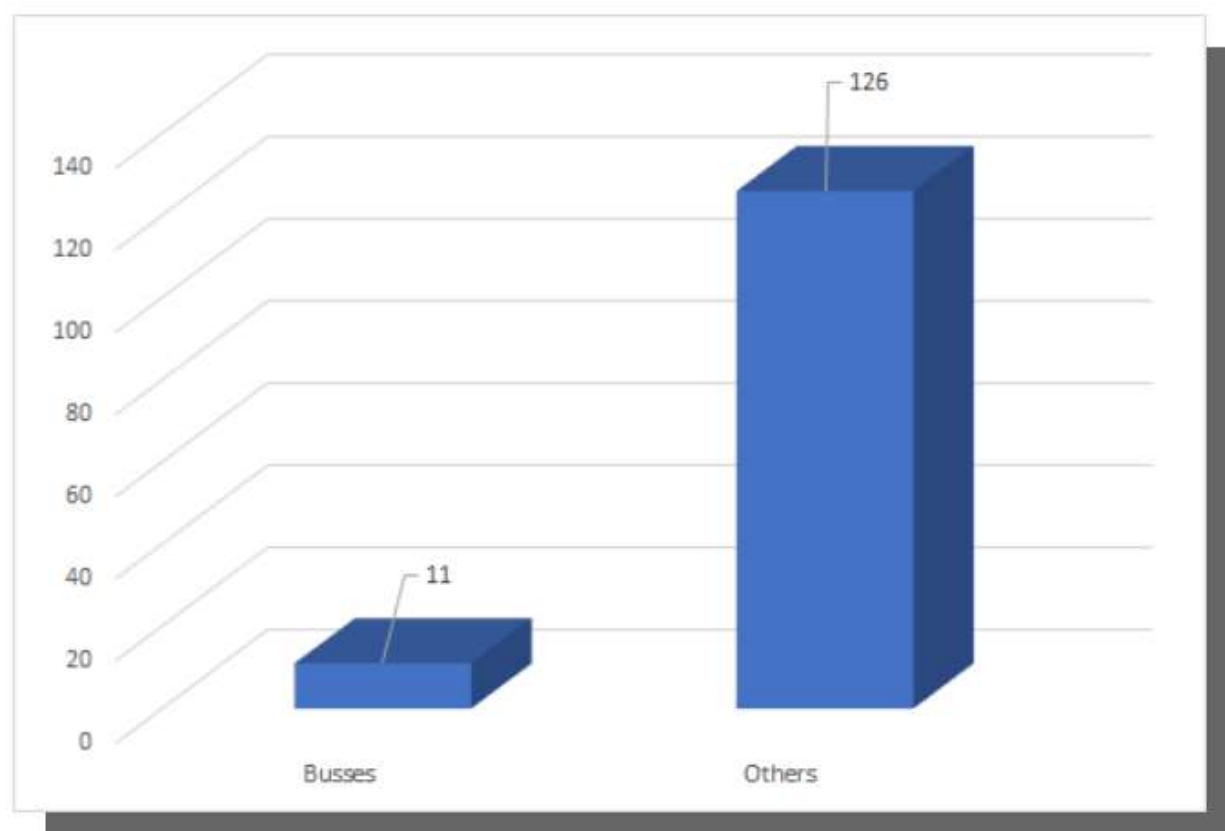
Only 50Mbps (0.5%) was the bandwidth used for video conferencing for teaching and learning in 2021.



TRANSPORTATION



The infrastructure for internet connectivity is primed for successful connected campus initiatives.

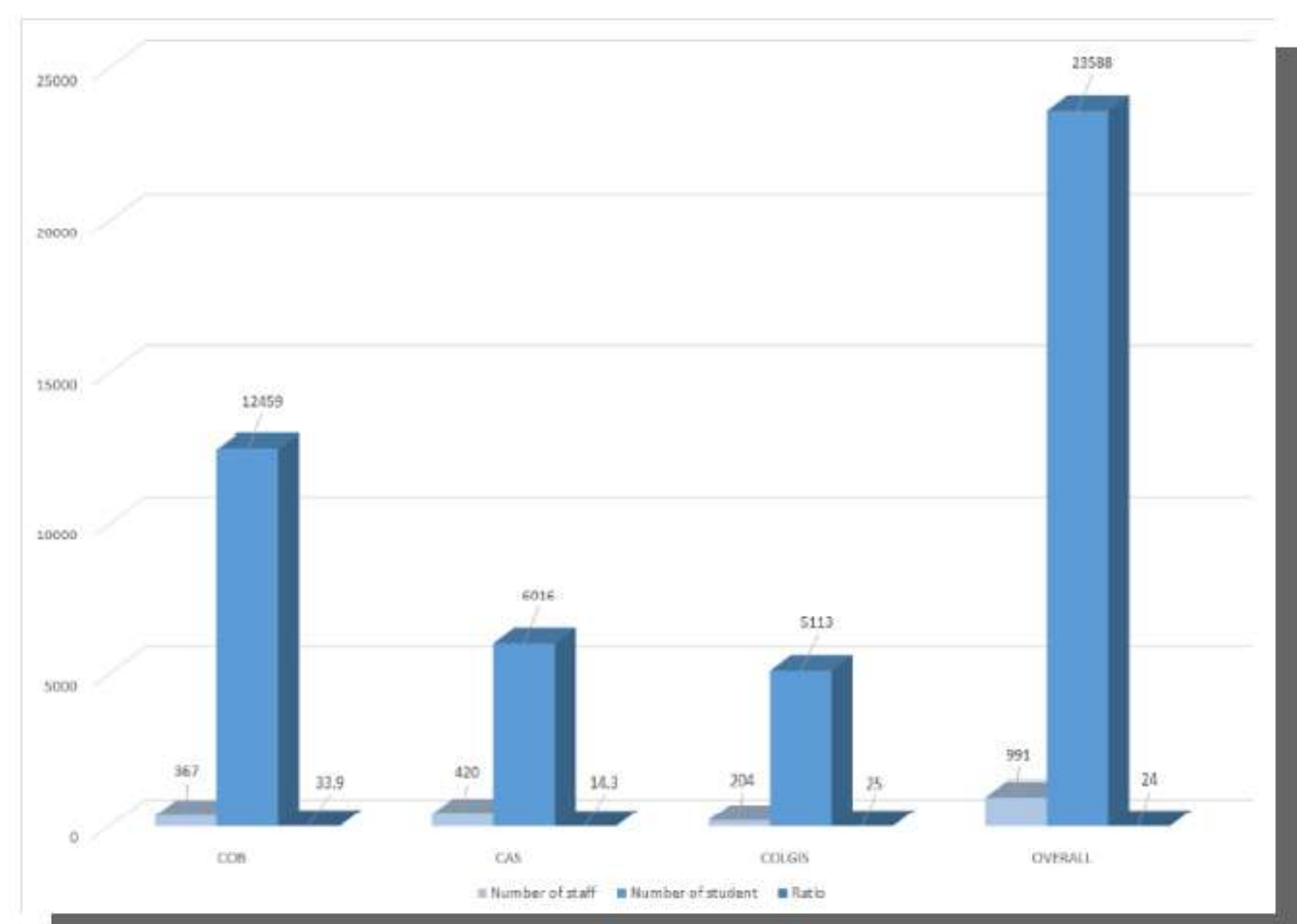


UUM provided efficient mobility in the campus even during the 2020–21 Malaysia Government Movement Control Order.

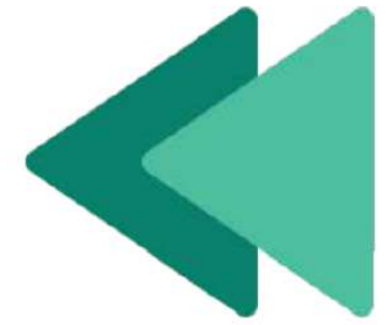
TEACHING AND LEARNING

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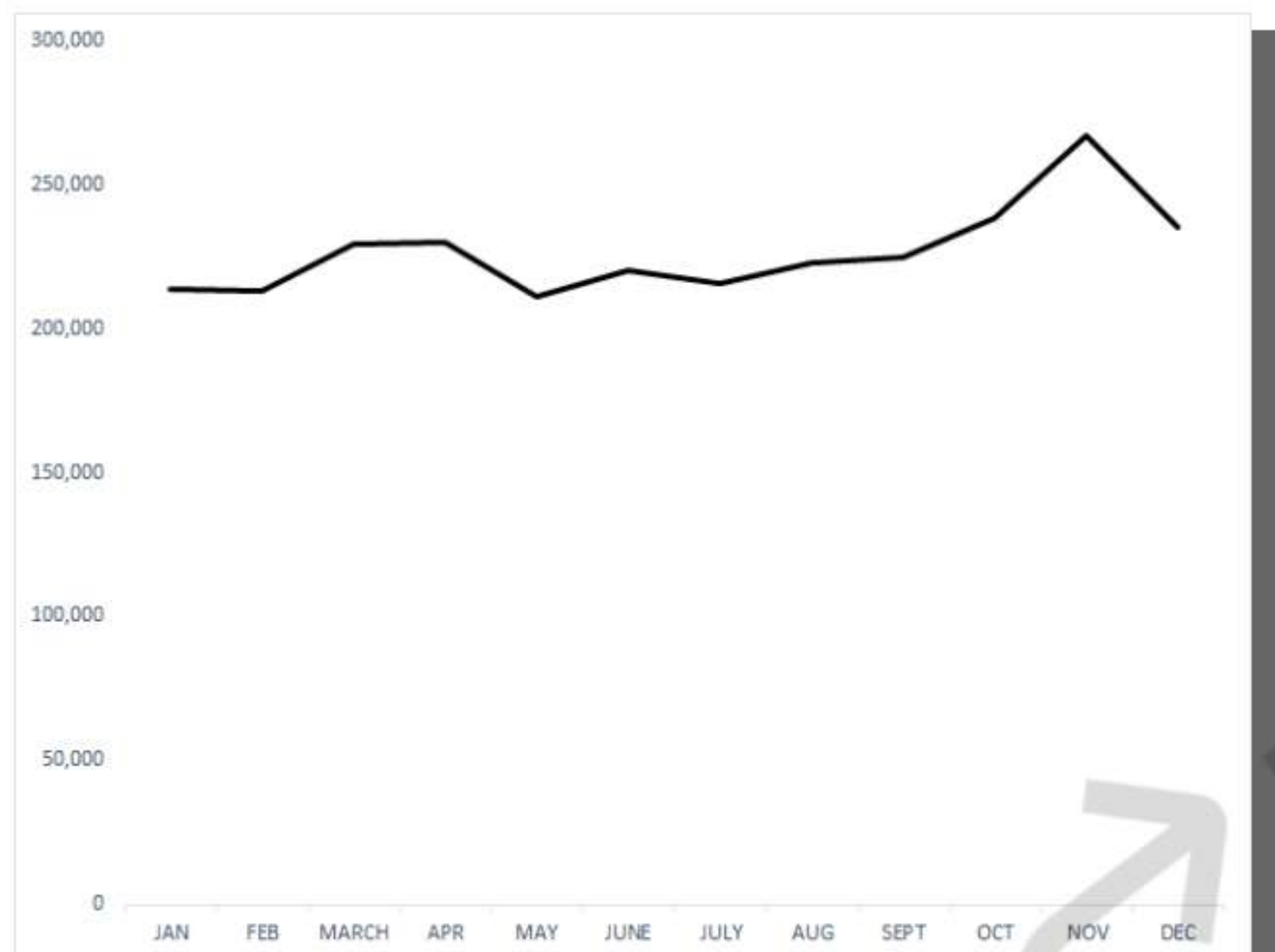
UUM consists of four academic colleges which housed 16 schools of various disciplines. The colleges include Colleges of Business (COB), College of Arts and Science (CAS) and College of Law Government and International Studies (COLGIS).



WATER CONSUMPTION (M³)



The consumption of energy and water on campus shows increasing trend towards the end of the year 2021 since the students were allowed to come back to campus.



There was a slight increase in water consumption from May to December 2021.

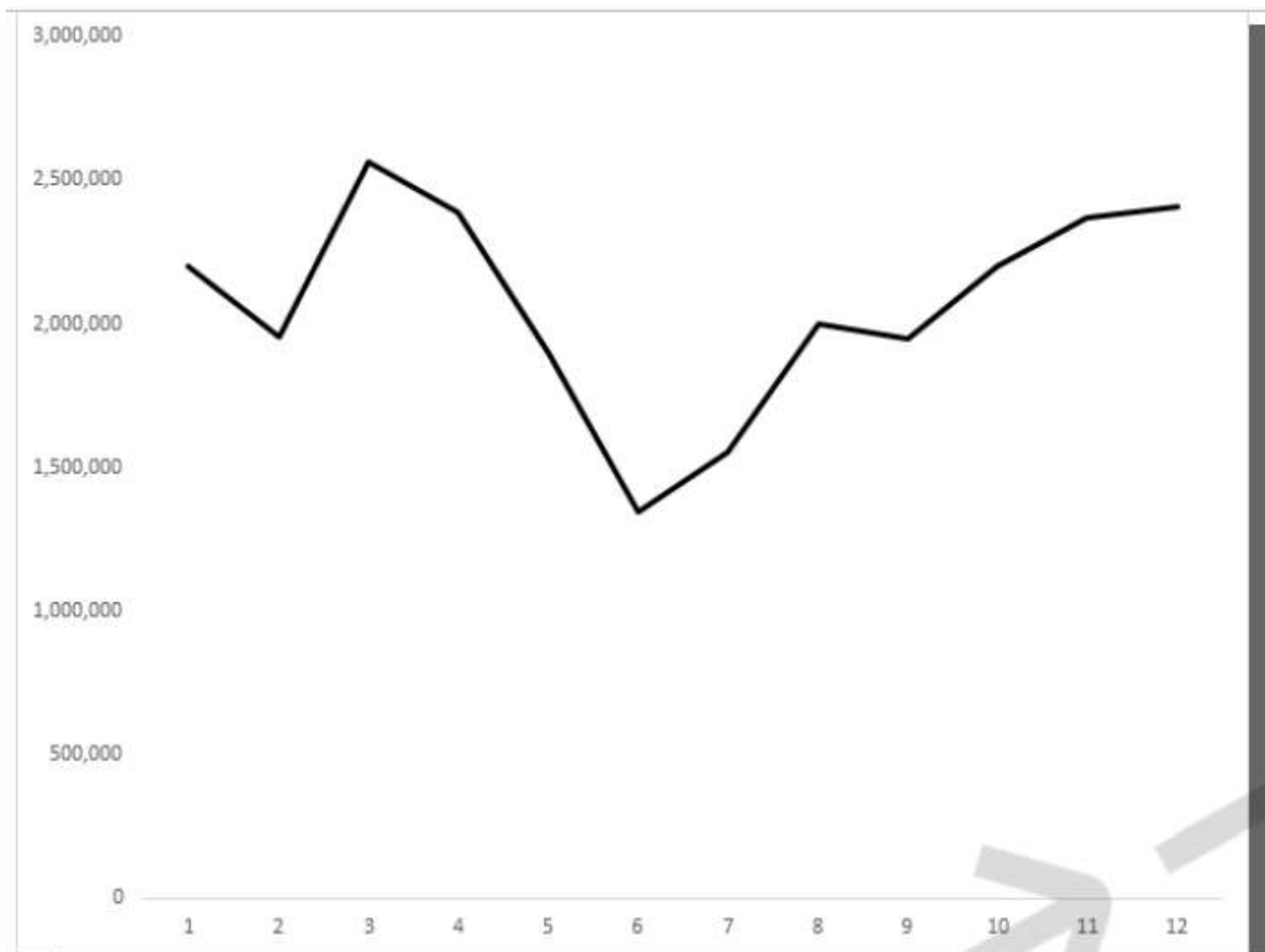


The total amount of water usage in UUM for the year 2021 is RM 3,539,495.00 for 2,723,293.00 cubic meter.

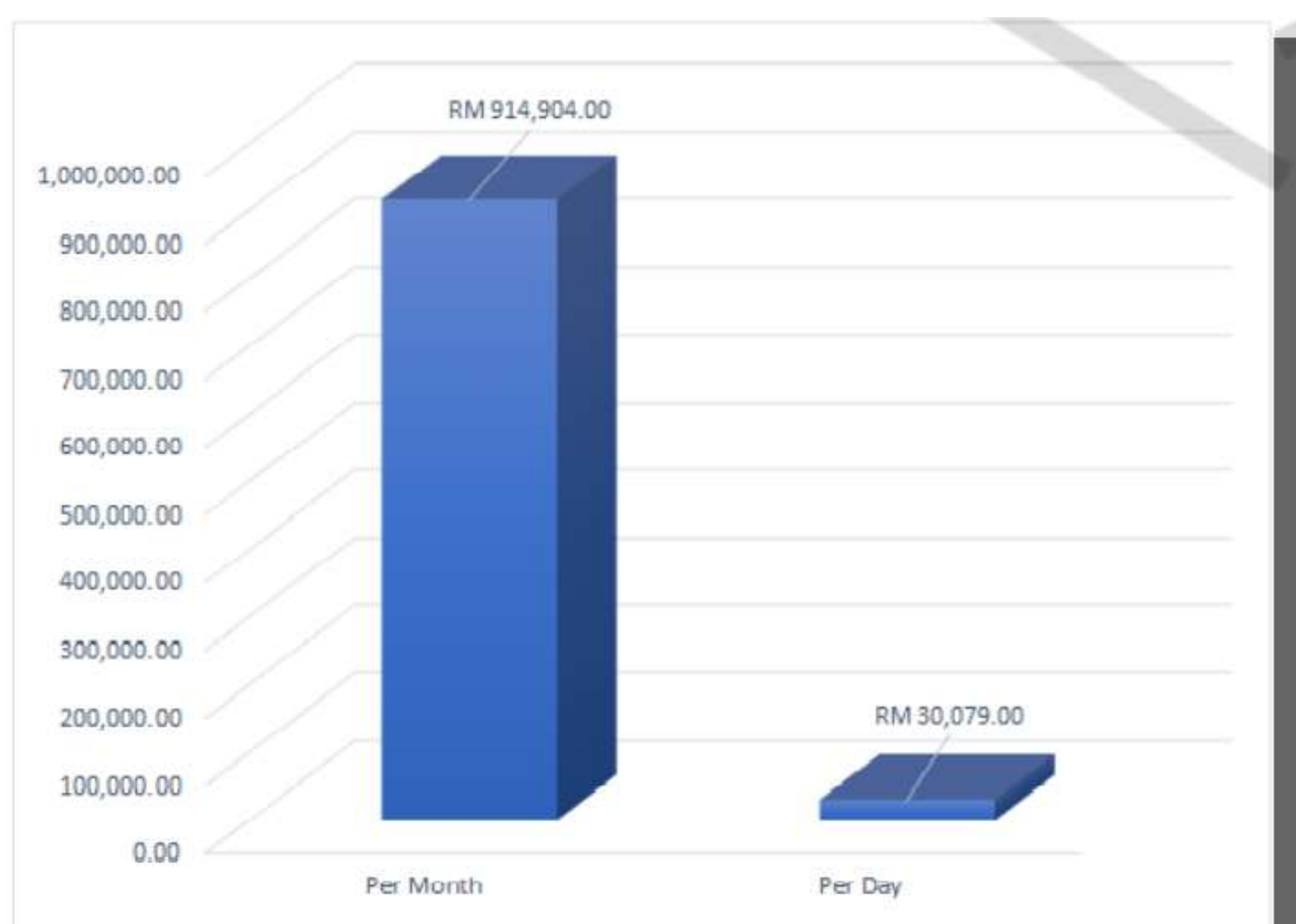
ELECTRICITY CONSUMPTION (kWh)



The consumption of energy and water on campus shows increasing trend towards the end of the year 2021 since the students were allowed to come back to campus.

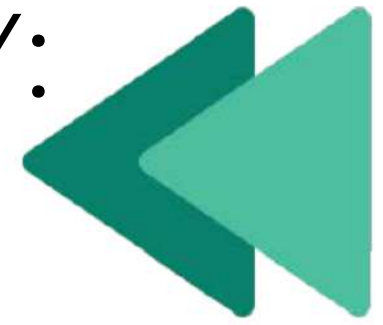


There was a rapid increase in electricity consumption from July to December 2021.



The average monthly electricity usage is RM914,904.00 with daily usage of RM 30079.00.

A TRULY ECO-FRIENDLY UNIVERSITY: THE STRENGTH AS A SUSTAINABLE CAMPUS



The University in a Green Forest is the intriguing slogan that Universiti Utara Malaysia (UUM) introduced. This phrase perfectly encapsulated the tranquil and lovely atmosphere created by the fascinating flora and animals that surround the UUM campus. The Sungai Badak Forest Reserve (SBF) once included the Universiti Utara Malaysia Forest Reserve (UFR). Particularly in the State of Kedah Darul Aman, the forest has evolved into the nation's beating heart. The woodland was designated as Bukit Kachi Forest Reserve in 1988 in order to preserve its biodiversity.

A strategy plan for UUM 2030's sustainability is called Living Campus. The plan contains UUM's overarching vision and establishes university-wide objectives and priorities in the areas of waste management, campus operations, environment and ecosystems, emissions and energy, and culture and learning.

Living Campus encourages students, teachers, and staff to keep working hard to develop solutions for numerous sustainability concerns across the university. These would support the university's efforts to implement wise cost-saving measures and solve campus concerns that are relevant to the current world.

To guarantee that best practises offered may be adopted outside of UUM for the mutual benefit of various stakeholders and parties, Living Campus conducts a quadruple helix of cooperation with communities, industry, and government.

Since UUM was founded in 1984, this territory has been known as the UUM Forest Reserve (UFR). The fact that UUM chose not to explore either of these forests in order to develop them as agricultural or industrial areas is strong evidence of the organization's commitment to reiterating the government's and the international community's concerns about the significance of each individual's role in maintaining the environment.

UUM - MYSUN Campus



The Malaysian government has recognised the need to keep sustainable development goals in mind, particularly the need to encourage good energy and environmental practices, in line with global ambitions for sustainability. Education and imparting these principles at all levels of the educational system are important factors in attaining this. Due to this,

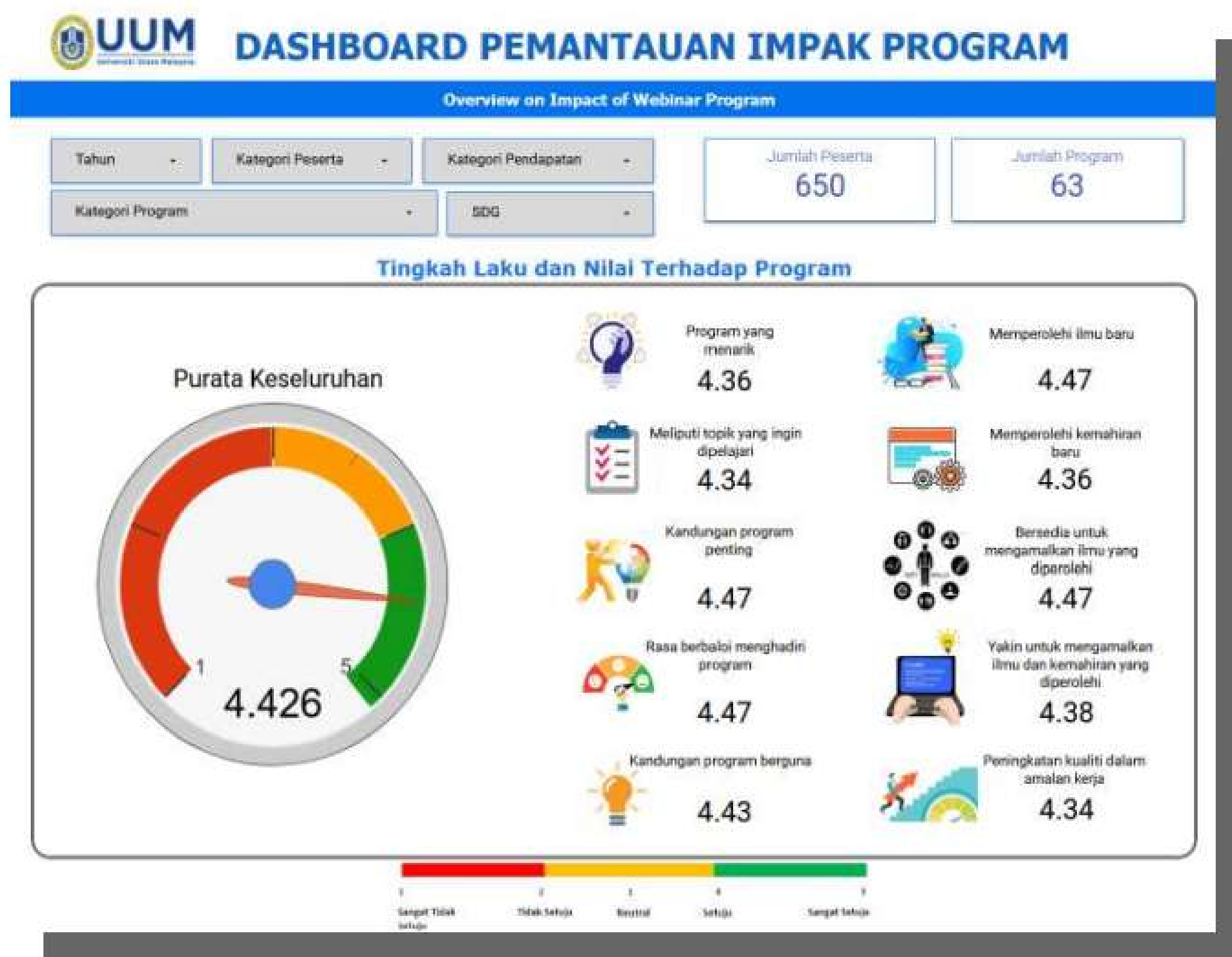
the Malaysian Ministry of Education has taken the helm of a worldwide education initiative aimed at fostering attitudes, beliefs, and behaviours that are in line with sustainable development.

The Erasmus+ CBHE project "Malaysia Sustainable University Campus Network, or MYSUN," was created in response to a genuine need identified to assist the Malaysian higher education system in enhancing the knowledge and skills of their staff, having access to good practices developed in other institutions, and strengthening their ability to cooperate in this matter both locally and on a national level.

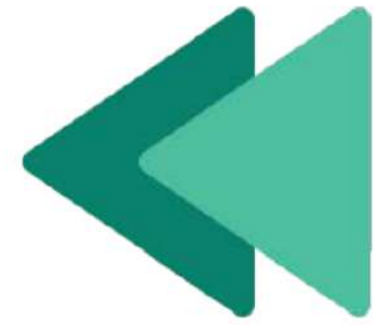


IMPACT MONITORING OF SUSTAINABILITY INITIATIVES, HELP THE FRONT LINE TO BE RELEVANT & EFFICIENT

Sustainability and environmental stewardship are worthy goals that require ongoing support and attention from our communities. Therefore, assessing the effect of any community outreach programmes on the participants is one of the most important aspects of it. The impact of a stand-alone programme with a spontaneous method of conduct is difficult to quantify and analyze since effect monitoring is diffused, making it impossible for organizers to modify the existing programme.



In UUM, it is suggested that the impact of every sustainability-related programme should be monitored using dashboard. At CeTMA, UUM, trainings, workshops and services on dashboard development are provided. Here, the impact of every successful programme in and outside the university can be monitored before as well as after (in the long run).



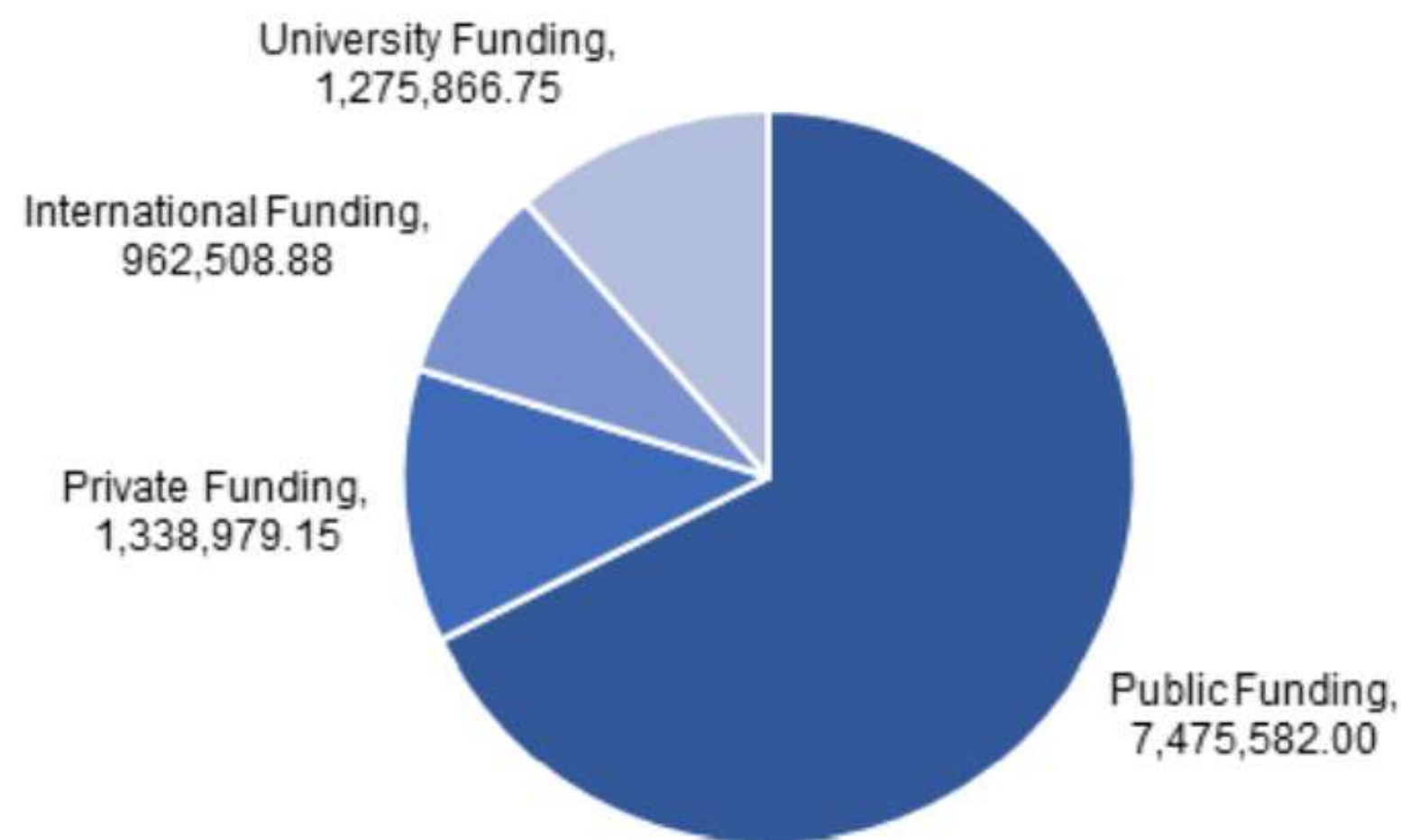
CULTURING EXCELLENCE IN RESEARCH, PUBLICATIONS AND INNOVATION

Research and publication activities at UUM are running as usual despite some hurdles due to the spread of the Covid-19 pandemic globally. However, it is a reality that university performance in research and publication activities has slightly decreased compared to the previous years. This was largely contributed by the reduction in the supply of external funds by agencies and institutions as well as internal funds compared to the period of the pandemic. Besides, a large number of researchers had already received new grant commitments in late 2020, hindering them from applying for new grants in 2021.

Research Achievements

In general, UUM receives research funds either internally or externally. Every year, some amount of the university's operating expenses is allocated to support research and development (R&D) activities. This R&D fund is distributed among researchers to assist UUM in enhancing teaching and learning, intensifying students' development, sustaining campus development in both physical and virtual, and supporting the development of new knowledge in the subjects of specialty available at the University. Meanwhile, external research funds are mainly contributed by Malaysia Ministry of Higher Education, other government ministries or agencies, private sectors and foundations both local and global. UUM managed to secure about RM11.05mil of research funds in 2021. From such an amount, the largest fund (67.6%) was contributed by public funding of which the funds were awarded by government or government related agencies.

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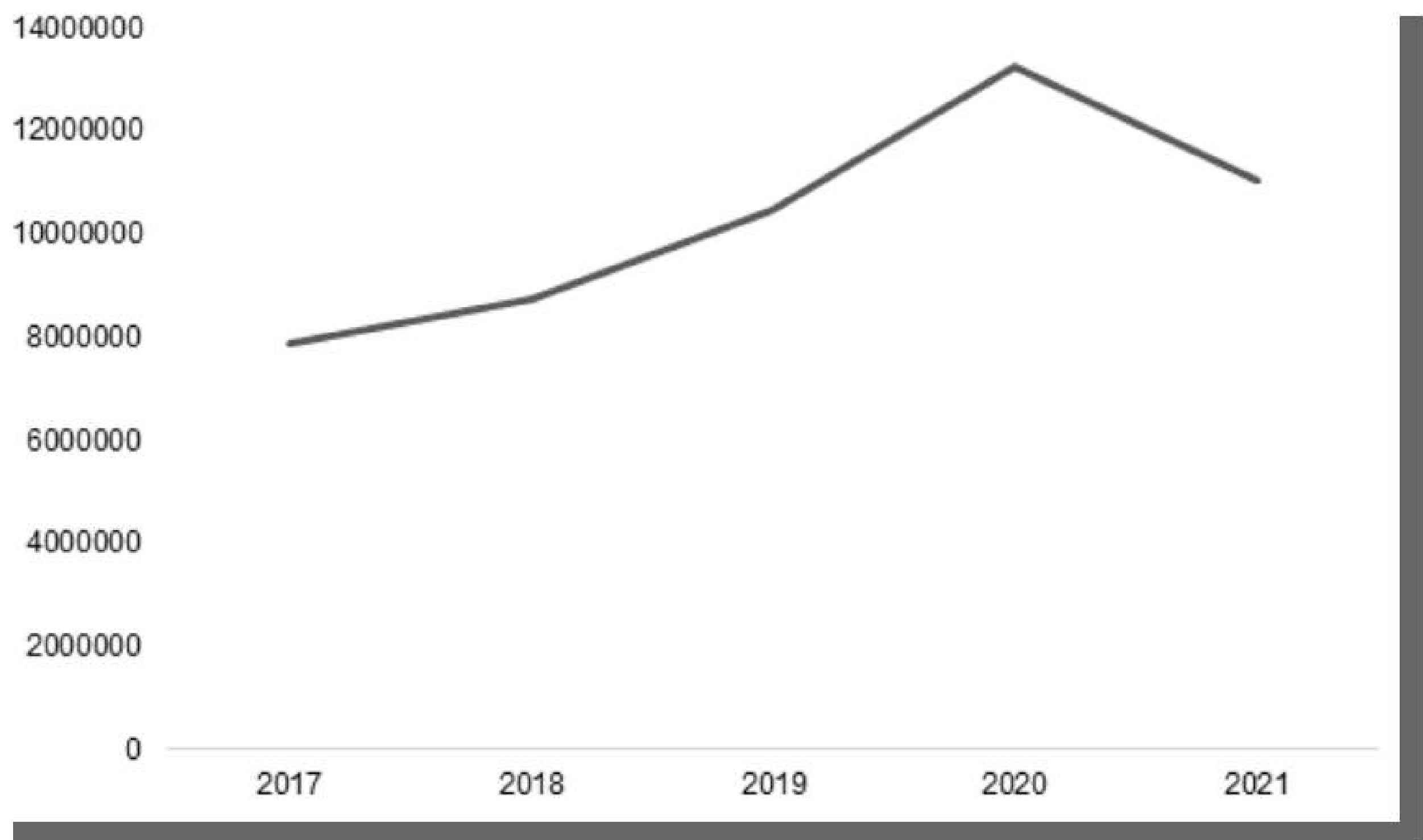
Distribution of research fund for year 2021

Overall, 88.5% funds were from external funds, i.e. public, private and international funding, as compared to only 11.5% funds were from internal sources.

The increment of funds in 2020 was largely contributed by the provision of special funds in fighting against Covid-19. Besides, most research grants were endorsed almost at the Quarter 4 in 2020 has slightly affected the number of academic staff who are eligible to submit for research proposal for year 2021.

The amount of research funds recorded from 2017 to 2020 increased from 11% to 26%, before the amount decreases by 16% in 2021.

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Trend of received research funds by UUM

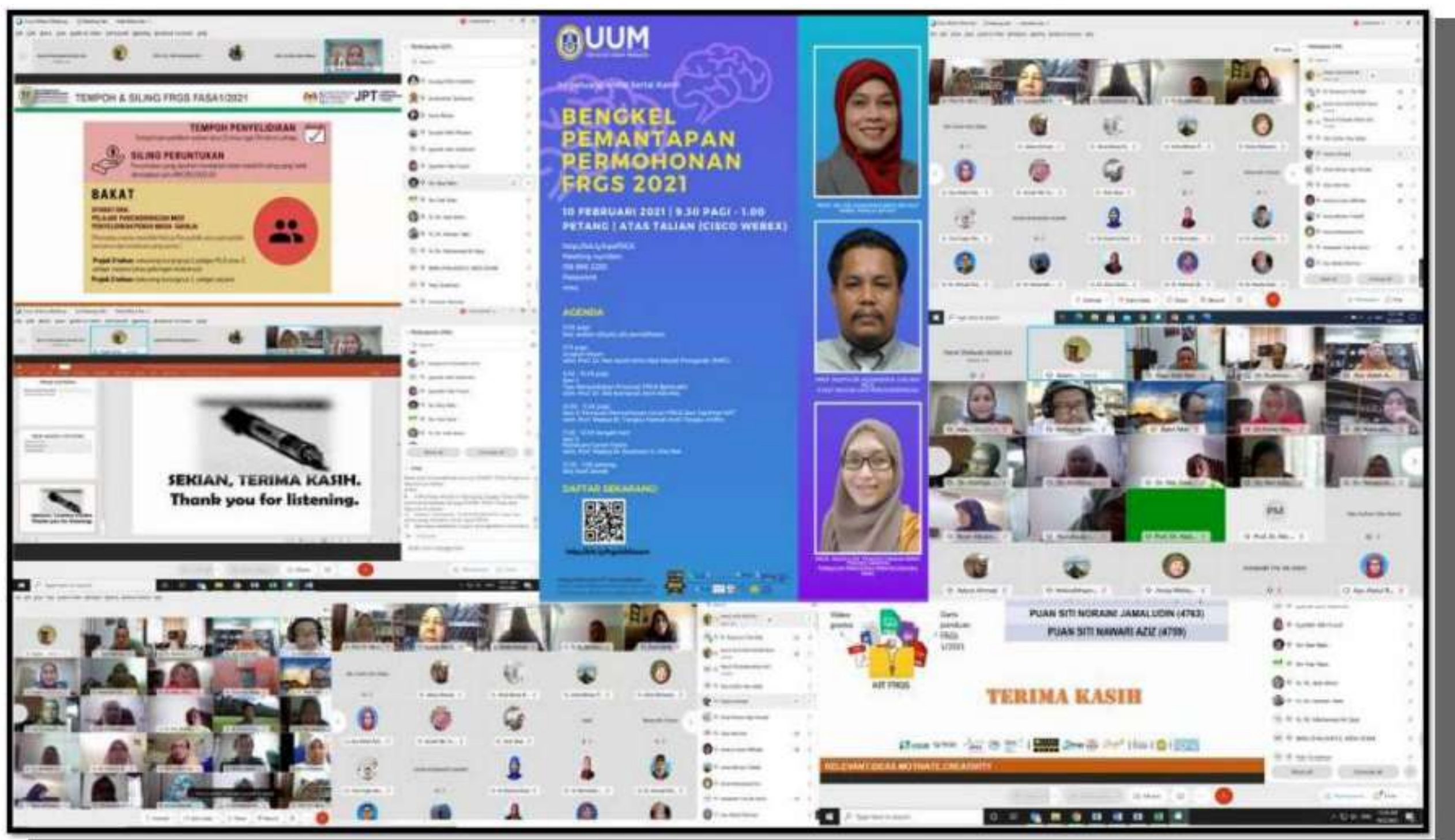
Until 2019, R&D activities in UUM are not fully SDG2030 oriented. However, the launch of Living Campus in early 2019 has forced UUM to align its internal research funds with sustainability agenda in accordance with the core business of the University. To that end, RIMC has begun introducing a strategy requiring that all research projects must contribute to one of 17 goals.

In addition, a special yearly sustainability fund amounting to RM100k is allocated to further encourage academicians in contributing knowledge and ideas towards sustainable living in campus. Whilst more than RM1 million is offered to encourage researchers in studying various issues and search for solutions in any of 17 SDG goals.

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Obviously, R&D in campus is vital to ensure University core business can be sustained for the long term. As such, Research and Innovation Management Centre (RIMC) as well as other Schools and related departments including Innovation and Commercialization Centre (ICC) and UUMPRESS continuously organize workshops, seminars, clinics and consultation sessions to equip academic staff with necessary knowledge or skills and assist them in bidding for grants.

As a pandemic in concern, on-line platforms were used for running activities for a large number of people while physical meeting is available for small group activities.




Impactful research activities geared by RIMC, UUM


Research Publication

Research and development activities that are socio-economic growth need to be emphasized and the results need to be utilized by the whole society. This goal can be achieved if all R&D results are published and disseminated to all walks of life. In 2021, the number of publications showed an increase, especially in the achievement of Scopus indexed publications in line with UUM's desire to achieve QS Rankings and QS Ratings. More proactive steps have been taken by providing space and opportunities to academic staff in stimulating ideas for writing. The publication programs or activities implemented are arranged to provide exposure and guidance to academic staff in publishing their research findings responsibly and ethically.

Similar to alignment of R&D and sustainability agenda, UUM has taken great effort to encourage our academicians to contribute their writing towards sustainability agenda. Besides journal articles, efforts were taken to produce various types of publications in disseminating awareness and sharing innovation in water, environmental, new energy as well as talent development through creative works, book, monograph and digital contents. In the year 2021, a total of 174 number of research publications have been registered.

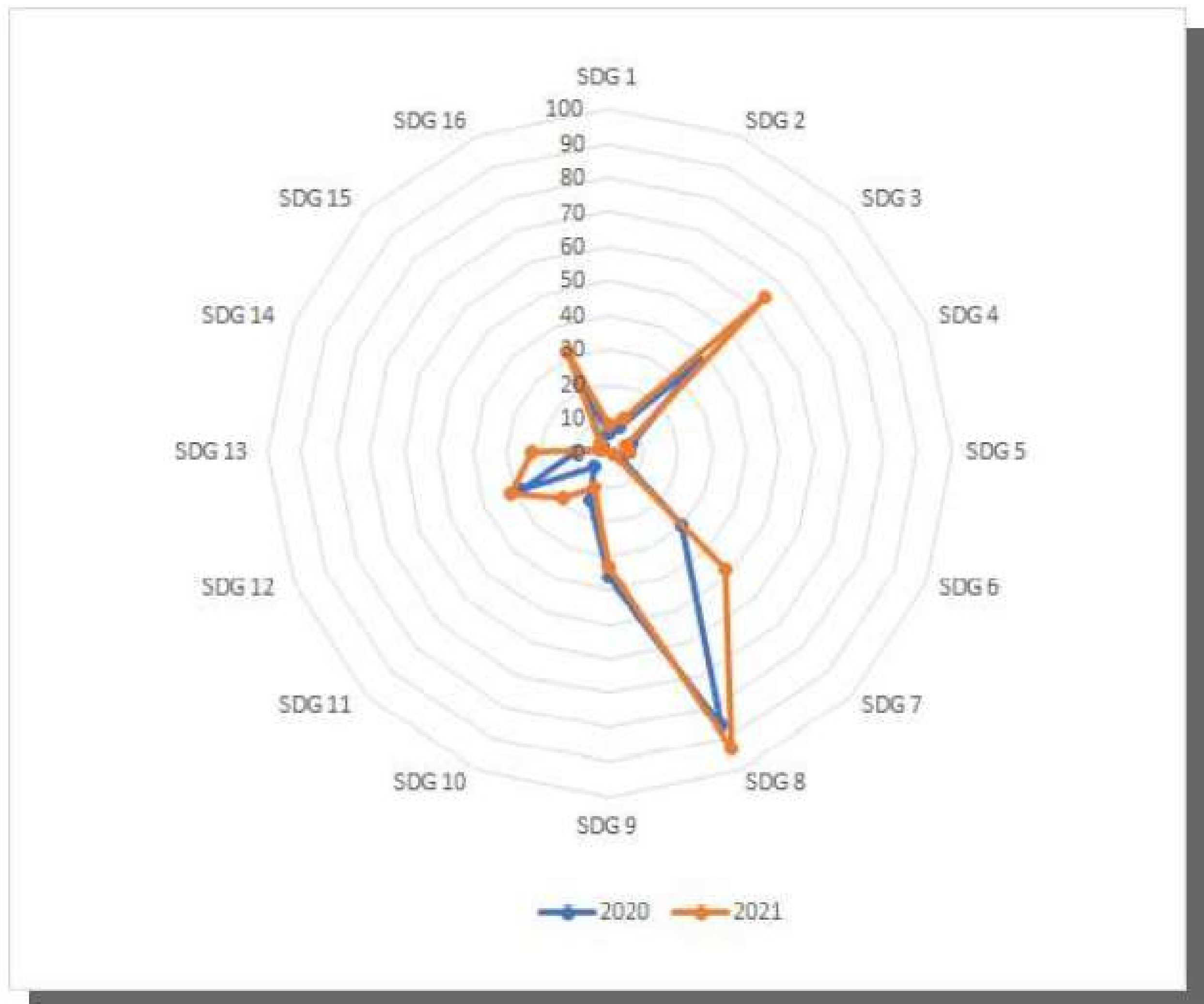
Two incentives are available to encourage publication activities among UUM staff:

 Publication Incentive Scheme (Journal Articles, Books and Chapters in Books) This incentive is rewarded to UUM staff who successfully publish journal articles, books or chapters in books. The incentive has had a positive impact in increasing the publication statistics of university academic staff during the supply period from 2011 to date. In 2021, a total of 400 applications have successfully received publication incentives amounting to RM385,016.23.

 Journal Publication Fee Financing Scheme (SPYPJ) This incentive is open to permanent academic staff with a maximum funding of up to USD500 according to the conditions that have been set. The main objective of the incentive is to boost motivation and encouragement to academic staff as well as a token of appreciation for their initiative to publish articles in high impact journals. During the year 2021, a total of 78 applications were approved amounting to RM133,392.02.

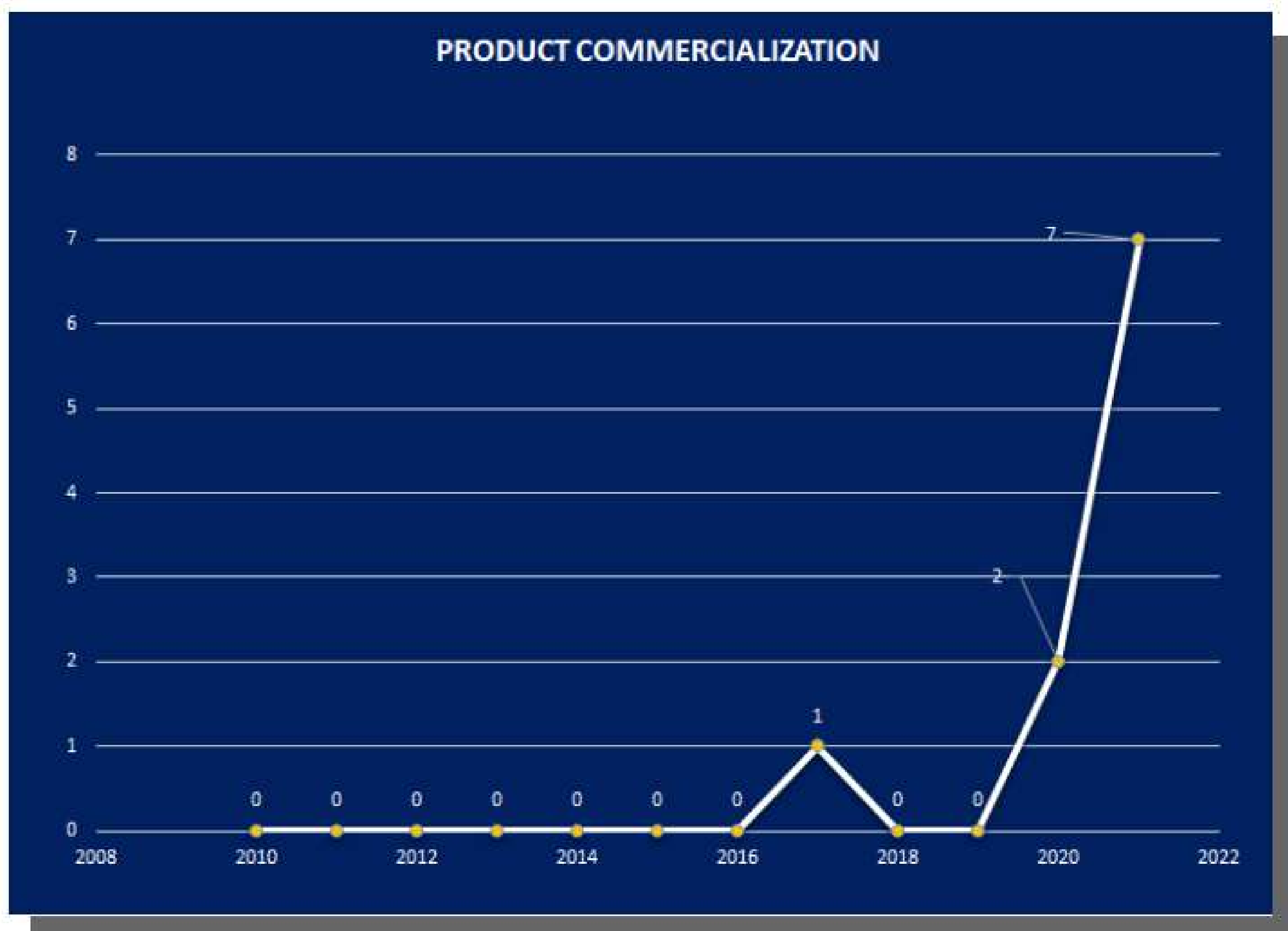


UUM'S 2021 PUBLICATIONS RELATED TO SDG



According to the Scopus database, research publications in UUM in 2020 and 2021 were primarily focused on SDG 3 and SDG 8.

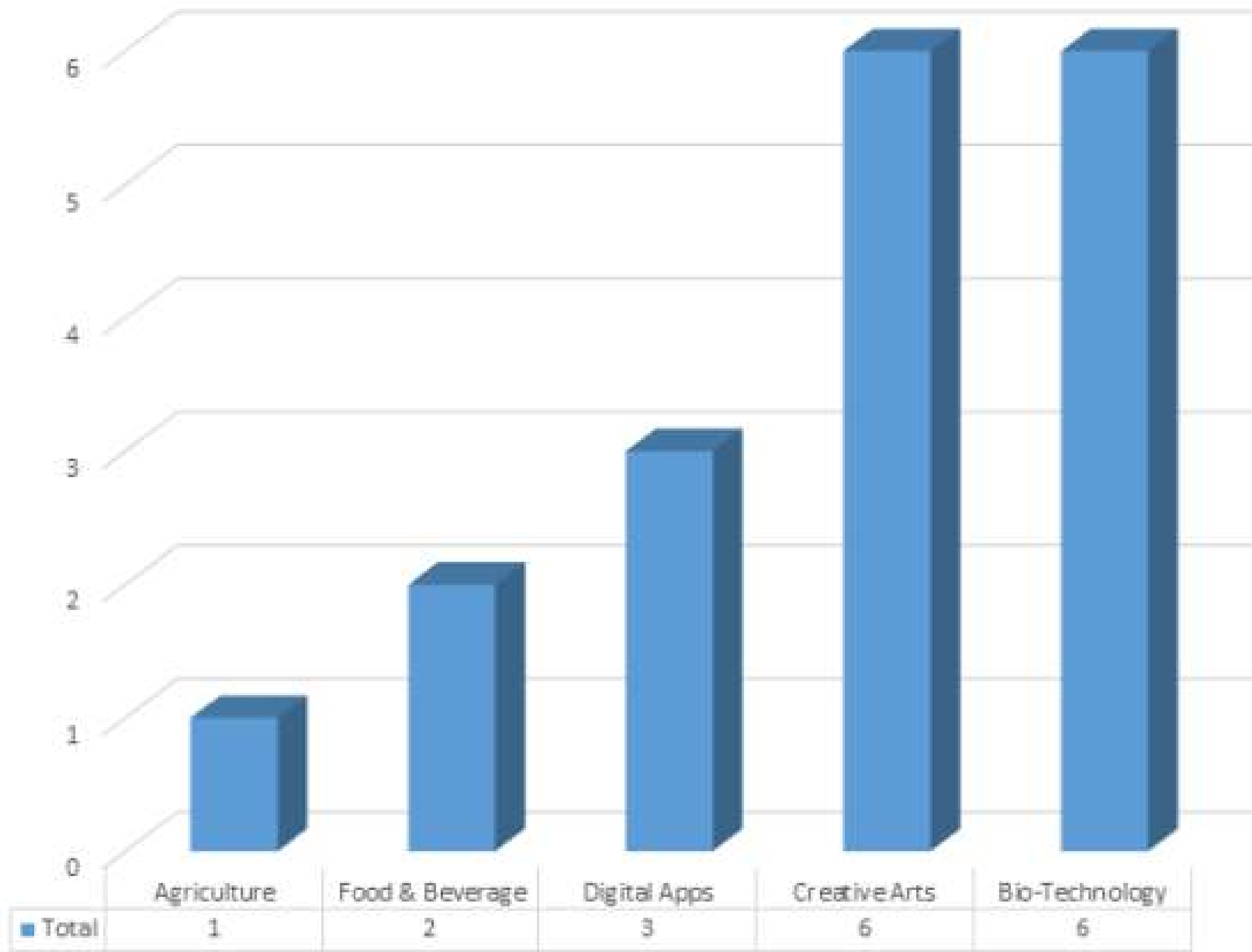
DEVELOPING SOCIETY & ESTABLISHING PARTNERSHIP THROUGH INTELLECTUAL PROPERTY COMMERCIALIZATION



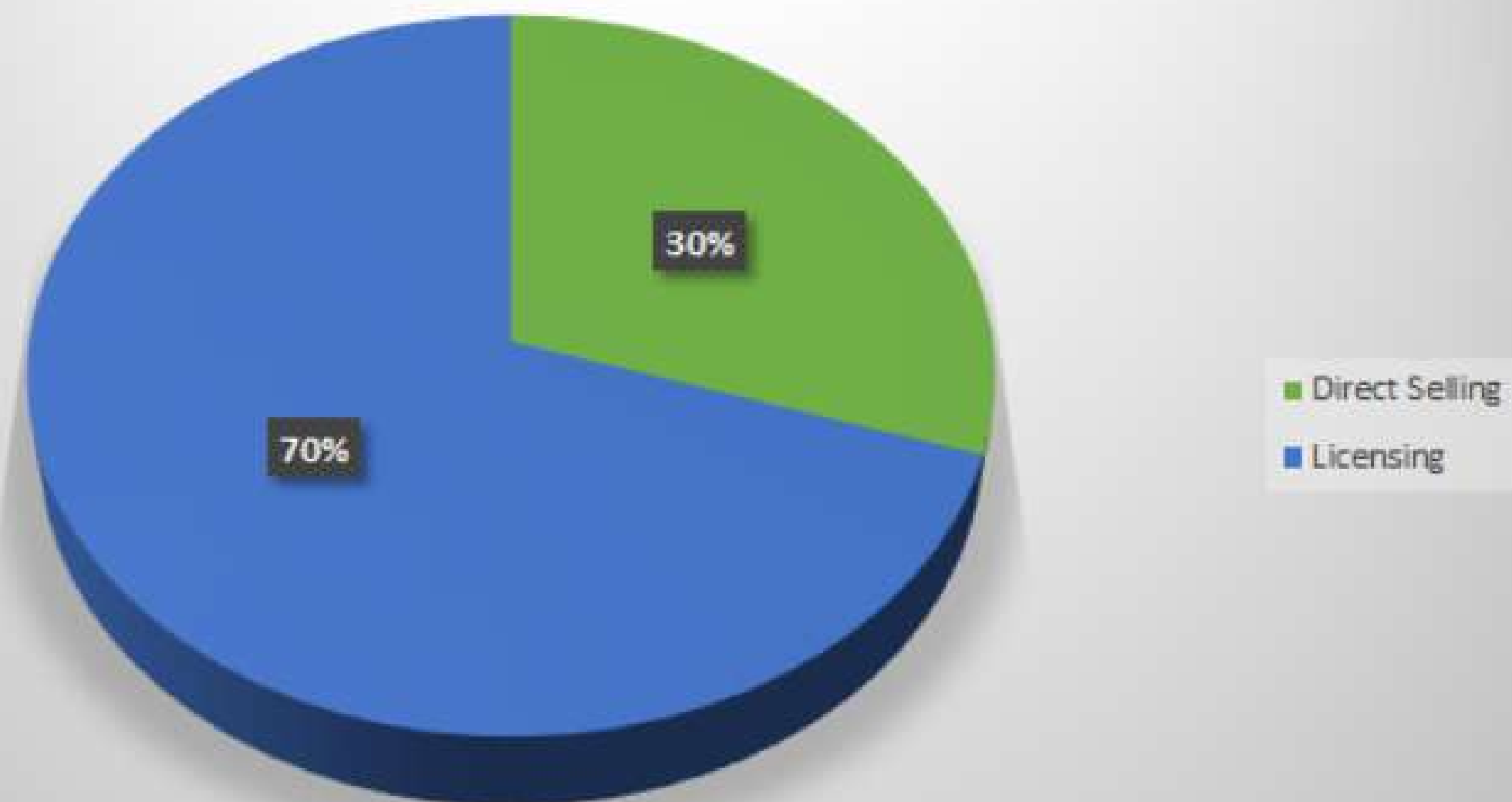
The highest product commercialization in UUM was in 2021.

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THE NUMBER OF INTELLECTUAL PROPERTY THAT HAS BEEN COMMERCIALIZED



COMMERCIAL METHODS



Most of the commercialized intellectual properties in year 2021 were in the areas of Creative Arts and Bio-technology.

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SCHOOLS	COMMERCIALIZATION VALUE
SCIMPA	RM 40,000.00
SEFB	RM 4,000.00
SOC	RM 15,000.00
STML	RM 30,000.00
TOTAL	RM 89,000.00

With a value of RM40k for the year 2021, the School of Creative Industry Management and Performing Arts (SCIMPA) contributed the most to UUM's commercialization value, followed by the School of Technology Management & Logistic (STML) (RM30k), the School of Computing (SOC) (RM15k), and School of Economics, Finance and Banking (SEFB) (RM4k).

GRANT TYPE	NUMBER OF GRANTS	GRANT VALUE
PATENT	4	RM 20,000.00
PRE-COMMERCIALIZATION	2	RM 10,000.00
OVERALL TOTAL	6	RM 89,000.00

The total grant value for six patents in 2021 was RM30,000.00.

COMMERCIALIZATION IMPACT

4 PATENT
FILING in
2021



PROF. MADYA DR. RUZINOOR CHE MAT

Product: Model Aplikasi Mudah Alih Realiti Luasan Jubah Graduasi Secara Maya
Kaedah pengkomersialan: Jualan Terus
Company: Uniutama Management Holdings Sdn Bhd (UMHSB)

PROF. MADYA DR. RUZINOOR CHE MAT

Product: Model Aplikasi Permainan Mudah Alih Berbentuk Papan Permainan Digital
Kaedah pengkomersialan: Jualan Terus
Company: Cenfotec Sdn. Bhd.



PROF. MADYA DR. SHRI DEWI A/P APPLANAIDU

Product: produk EZnomic Kit-Hip: Easy & Economic Hydroponic Kit
Kaedah pengkomersialan: Pelesenan
Company: PakMansor Agromodern Sdn. Bhd.



PROF. MADYA DR. RISYAWATI MOHAMED ISMAIL

Product: Sintok Syampoo, Sintok Solid Soap dan Sintok Liquid Soap
Kaedah pengkomersialan: Pelesenan
Company: Tabir Omega Sdn. Bhd.



PROF. MADYA DR. SHAHRUL AZMI MOHD YUSOF

Product: Basic Source Code for Delivery Mobile Apps
Kaedah pengkomersialan: Jualan Terus
Company: Tut Tut Delivery

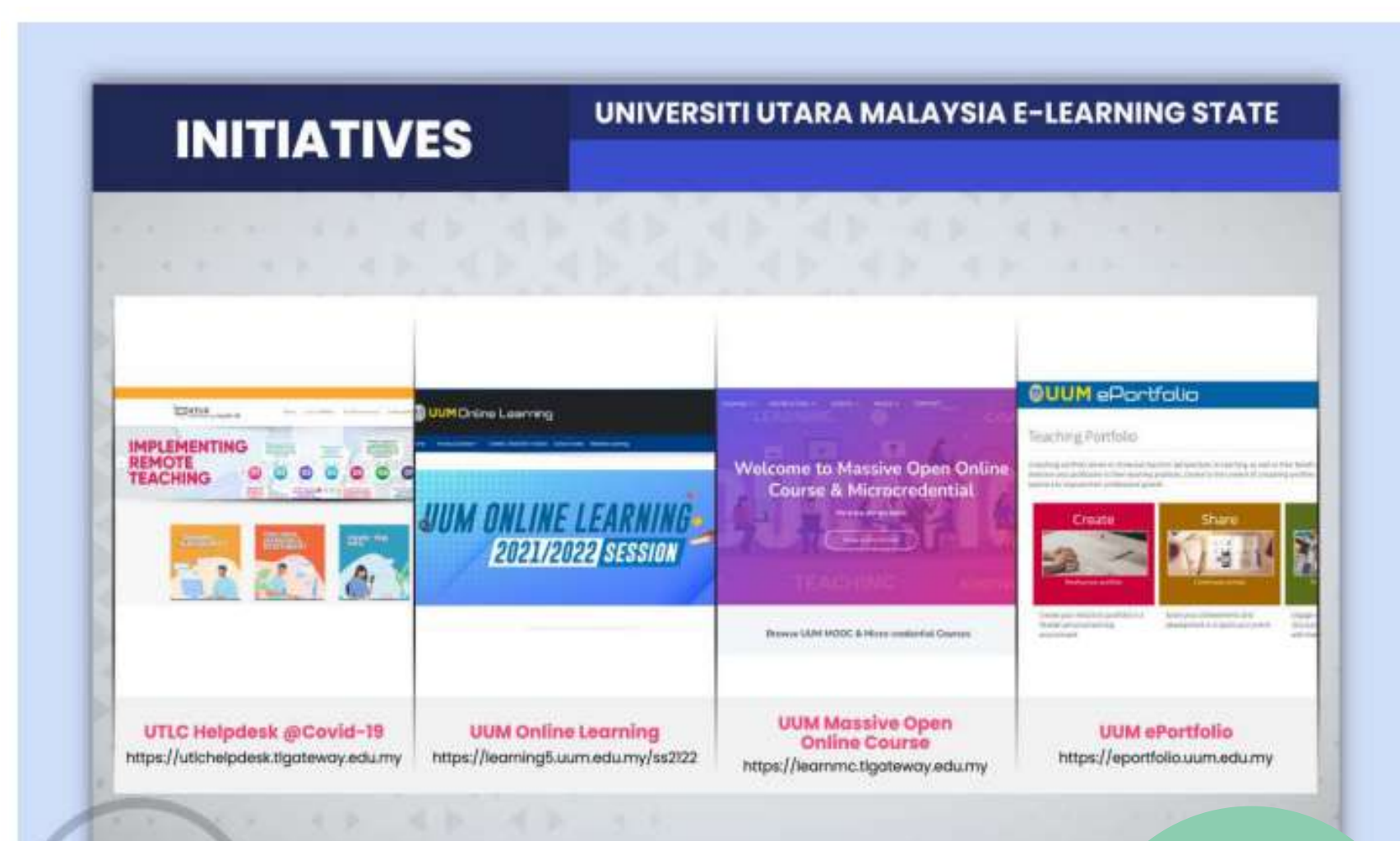
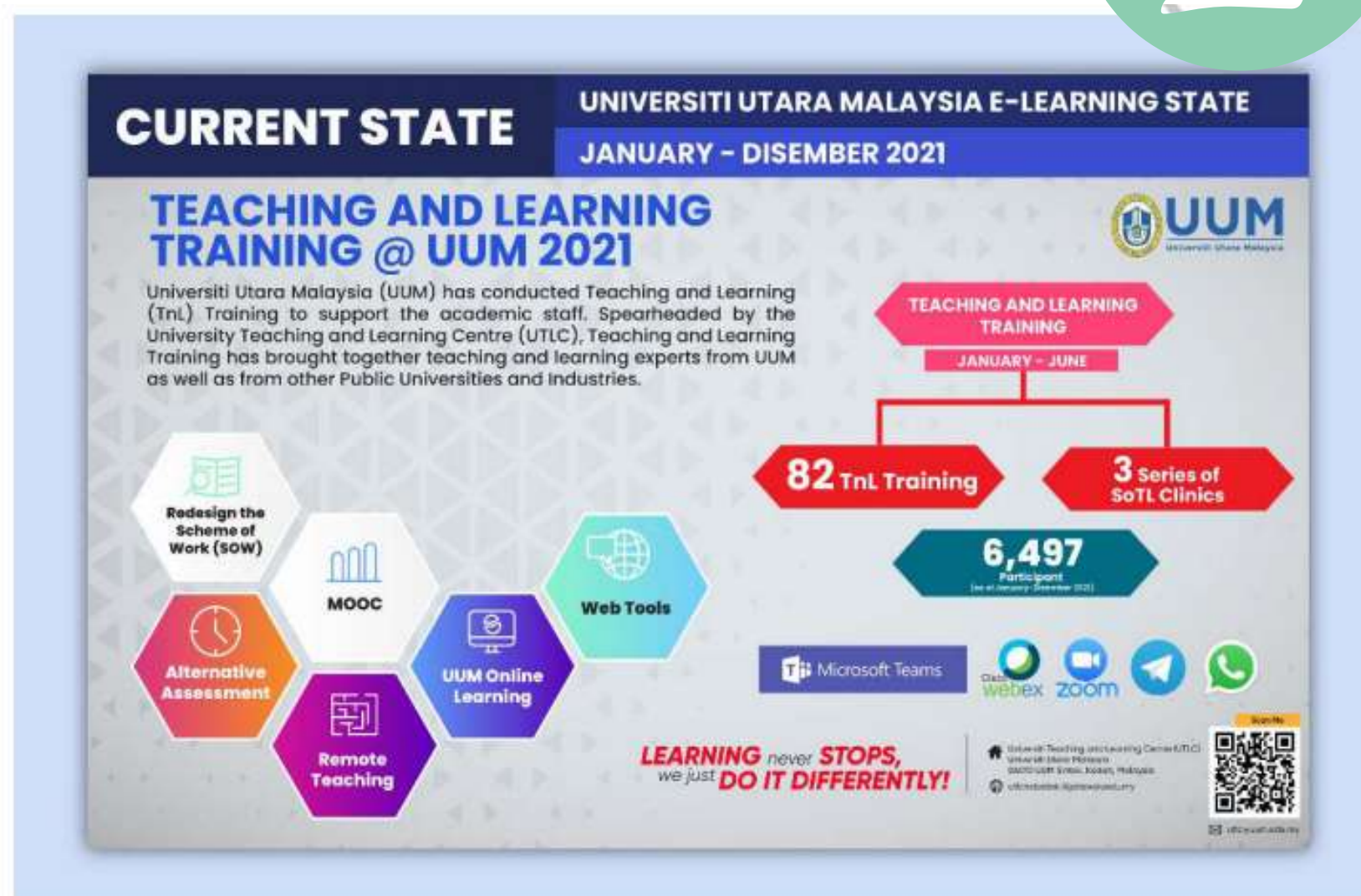




EMPOWERING COMMUNITY THROUGH T&L ACTIVITY

University Teaching and Learning Centre (UTLC) of UUM is a centre of excellence for training of learning and teaching in higher education. UTLC aims to develop academics who are professional, skillful and competent in the use of effective teaching approaches and instructional technology.

1



2

The functions of UTLC are as follows:

- 1. Plan, implement and evaluate workshops, lectures, courses, roadshows, and seminars that focus on teaching and learning for academic staff in line with the requirements of the Malaysian Education Development Plan (Higher Education).**
- 2. Introduce course evaluation (e-CEvaS) in university academic programmes and report on course evaluation achievement.**
- 3. Report on the UUM Strategic Plan's accomplishments, specifically Blended Learning, Open CourseWare (OCW), and Massive Open Online Courses (MOOCs).**
- 4. Manage research grants for Scholarship of Teaching and Learning (SoTL) among UUM academic staff.**
- 5. Manage teaching portfolios and academic staff recognition in teaching and learning, such as the UUM Distinguished Educator Award (DTA), MOOCs Development Award, Academic Talent Development Excellence Award, and Creative Methods Learning Award.**
- 6. Cultivate the use of technology in learning and teaching in line with the National e-Learning Policy (DePAN), implemented at the university.**

UNIVERSITY HEALTH CENTRE UUM



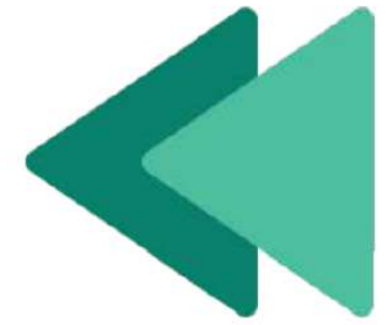
2021 have been a challenging year for UUM especially for the University Health Centre. The aim was to minimize the impact of COVID-19 while maintaining usual business. It was further complicated with the changing policies locally and internationally.

The university focused on collaborating with Ministry of Health (MOH) Malaysia for mass vaccination against COVID-19. The largest vaccination centre in the district was opened in campus. University staffs and MOH staffs vaccinated a total of 15,271 adults. The recipients were among the university staff, university students and the local community. This exercise enabled the university to ensure that 99.9% of staff completed the vaccination by October 2022. As most of the students were not in campus, they received their vaccination in their hometown. 99% of students were fully vaccinated by December 2022.



The university understands that importance of health. UUM has a yearly program to assess the health of staff. It is mandatory for staff aged 40 years and above. Among test that are carried out are mental health assessment, BMI, blood pressure monitoring, fasting blood glucose, fasting lipid profile, renal functions, liver enzymes and ECG if indicated. The program has been successful in detecting Non Communicable Diseases early and also as a prevention mechanism. The University have showed commitment to ensure this program to be carried yearly out since 2019.

TOWARDS THE GREEN, SAFE AND SUSTAINABLE ICT



On December 14th, 2021, Institute for Advanced and Smart Digital Opportunities (IASDO) through its fellow representatives has been invited by Erasmus+ to organize the Awareness Raising Event, which aimed to inform the society and respective authorities about the significance of building resilient communities, taking into consideration the regional vulnerability context. This all-day event presented geomatics and disaster risk definitions and concepts in simple terms, materializing on acquired knowledge and capacity building implemented within the Geomatics for Disaster Risk Reduction (GeoDRR) project.

The main goals of the GeoDRR Awareness Raising Event 2021 could be defined as follows:

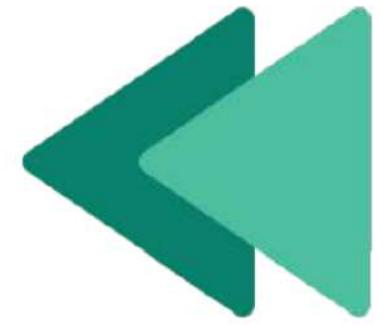
- 1. To share experience in disaster risk management using GIS in Malaysia.**
- 2. To promote MSc (GeoDRR) that will be launched by the School of Computing (SOC), Universiti Utara Malaysia (UUM) in September 2022.**
- 3. To increase the public and state authorities' awareness of the significance of the geomatics disaster risk reduction management in reducing risk disasters.**

This event has successfully attracted 159 participants from higher education institutions across Malaysia. Besides engaging talks by the speakers, several other activities were also conducted such as a pop quiz, group discussions, and Q&A during the event.



To ensure the event produces maximum impact on the participants, IASDO invited two renowned speakers, an academician and an industrial practitioner.

TOWARDS ZERO HUNGER COMMUNITY: SMART FOOD BANK



Most countries have created a network of organizations to deal with food insecurity challenges. The most common approach is to establish a food bank, which is a non-profit charitable organisation that provides food to those who cannot afford to buy enough to avoid hunger. The world's first food bank is the St. Mary's Food Bank which was founded by John Van Hengel in Phoenix, Arizona, in 1967. Around the world, food banks have sprouted up.

Universities have adopted a similar strategy to support students who lack access to food on campus. They developed campus gardens in addition to food banks, allowing students to share meal plans, recover food, and learn about federal food assistance programmes. However, it has not yet been determined whether any of these treatments are effective in reducing food insecurity among students. By creating food banks on campus that provide emergency food aid, some institutions have started to address the issue of student food poverty.

Students in higher education institutions come from a variety of socioeconomic backgrounds, with the majority being from middle and low-income families or falling into the B40 category.

This condition will make it difficult for them to survive as students to some extent. They require living expenses in addition to education-related expenses for food and drink. Recognizing the issue, the Ministry of Domestic Trade and Consumer Affairs (KPDNHEP) launched a foodbank programme that will serve 20,000 students throughout 20 IPTs. KPDNHEP has tasked Yayasan Foodbank Malaysia (YFBM) with managing the supply chain, which includes locating food sources and delivering them to the universities.

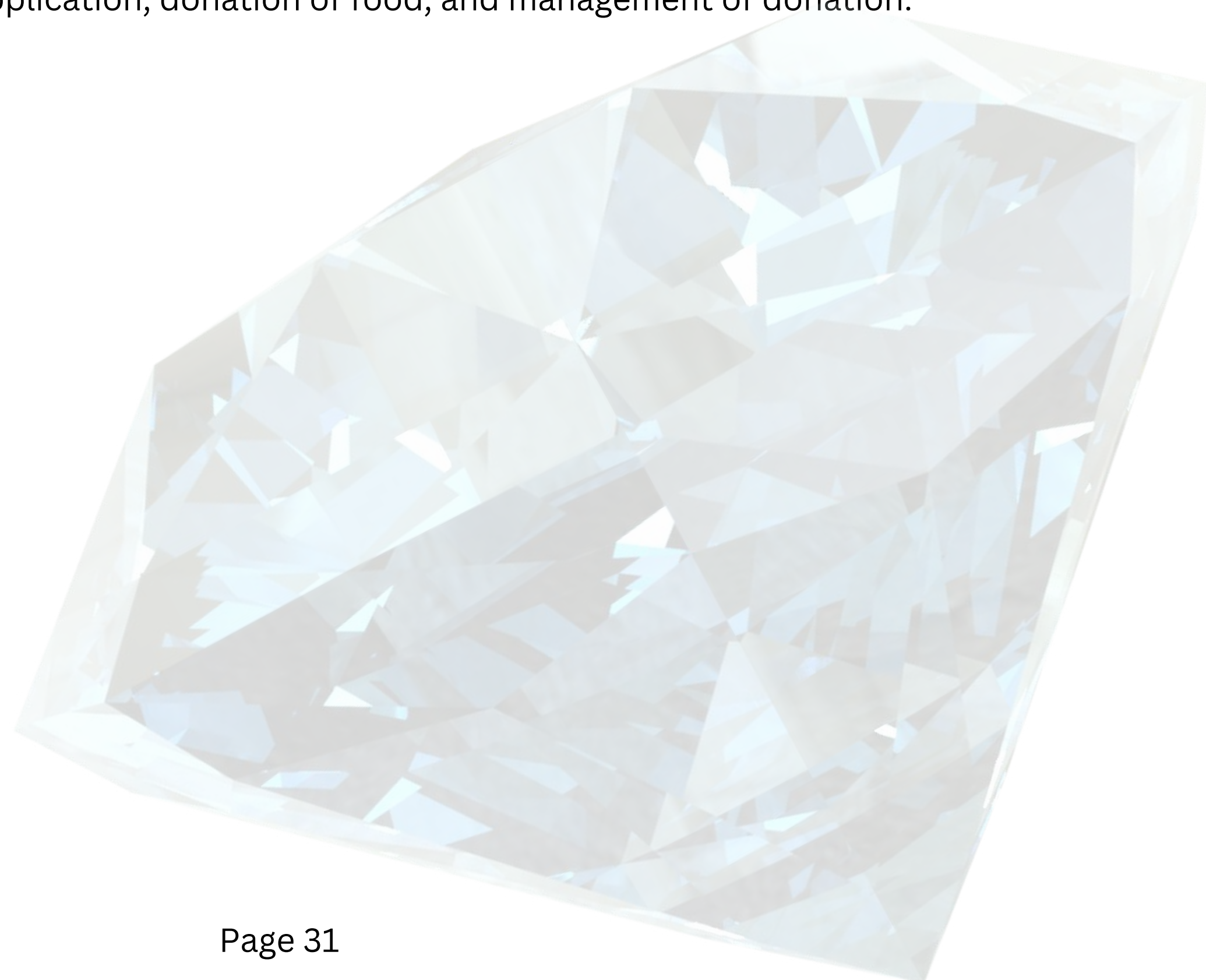
His Majesty the Sultan of Kedah officiated the inauguration of students' food bank in Universiti Utara Malaysia (UUM), Malaysia's fourth university to build a food bank for its students, on September 15, 2019. At this early stage, the establishment of a student foodbank project can help 200 students from low-income families (B40). In operating the food bank, UUM has received dried food from Econsave Cash & Carry Sdn Bhd, Gardenia Bakeries (KL) Sdn Bhd, 99 Speedmart, Legacy Z Sufi Group, AEON Sdn Bhd, Hasani Group company, and UNIC Leisure. In UUM, the donations are managed by the Students Support and Services Division, Student Affairs Department (SSSD, HEP). Due to an influx of donations from a variety of sources, SSSD is having difficulty organising the donations, notably the Food Bank. The manual technique to managing donations has caused SSSD many problems.

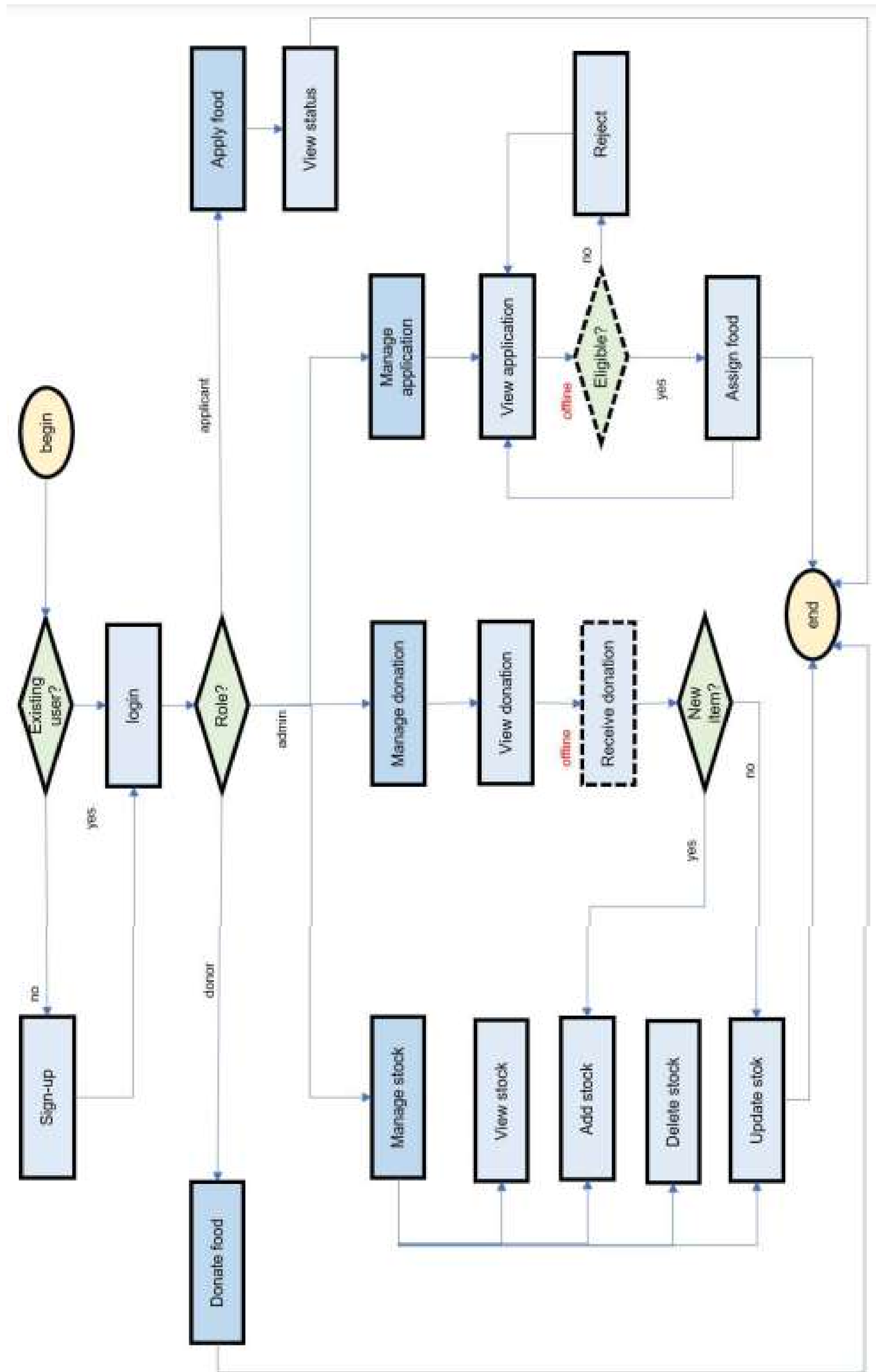
Due to many drawbacks, the management of UUM's Food Bank must be automated in order to address the challenges. With better management, the FoodBank at UUM should be able to track donations and keep better records (type of goods, date of donation, date for the goods to be shipped out, date of distribution to students). Students who are in need can use the Food Bank mobile application to obtain food or other forms of assistance. Systematic reporting will make refilling the UUM Food Bank and responding to donor requests easier. Furthermore, if donations aren't by a certain date, the smart system notifies management, allowing them to make arrangements for the acquisition of missing items.

UUM Smart Food Bank Application

A Smart Food Bank application is developed in mobile environment, specifically to cater UUM community. The proposed application consists of five main functions which will be operated by three main users; admin (SSSD staff), applicant, and donor.

Five main functions of UUM's Smart Food Bank are the management of stock, application of food, management of food application, donation of food, and management of donation.





Main users and functions of the proposed UUM Smart Food Bank application

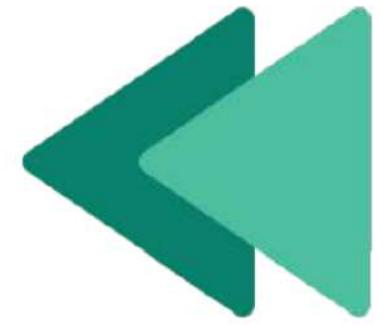
Foodbank application can help SSSD in managing stock more efficiently. Expiry dates of stock are differentiated with alarming colours, so that stock can be allocated accordingly. The same features are also applied for donor's menu. This will welcome more donors as the process of offering donation is easier and accurate. For the time being, the process of receiving donations will be done offline.



UUM Smart Food Bank application is the main outcome of Graduate Development Research Grant (GraD) with the objective to provide a platform in improving students assistance towards achieving zero hunger for UUM community.

A smart Food Bank application has been successfully designed, developed, and tested. It is a collaboration effort between SOC and SAPSP towards providing a platform in facilitating students and staff of SSSD in assisting those in need. This effort is significant towards achieving SDG Goals 2 (Zero hunger) and Goal 3 (Good health and well-being).

SUSTAINABLE MUSEUM OF UUM



On August 16, 2018, Tan Sri Siti Sa'diah Sheikh Bakir declared the UUM Management Museum open to the public with the mission of gathering, preserving, and displaying historical objects related to Universiti Utara Malaysia and its environs.



The UUM Management Museum's goal is to gather and display artifacts that are related to Malaysia's management discipline for educational and historical purposes.





THE ARRAY OF SUSTAINABLE BEHAVIOUR WITHIN THE UUM COMMUNITY

Universiti Utara Malaysia's (UUM) community including its staff and students are committed to realising the university's aspiration to become a distinguished green campus amongst the public universities of Malaysia. One of the roles include actively demonstrating sustainable behaviours that are aligned to UUM's green campus agenda. On that account, a survey was conducted in 2021 to gauge the status and extent of sustainable behaviour currently practised by UUM's community members. Apart from that, the survey also aimed to identify which dimensions of sustainable behaviour were most commonly practised in campus. Insights gained from this survey are expected to assist the UUM Green Campus Committee in planning and enhancing future green campus agendas.

Question 1: What is the status or extent of sustainable behaviour among UUM's community members?

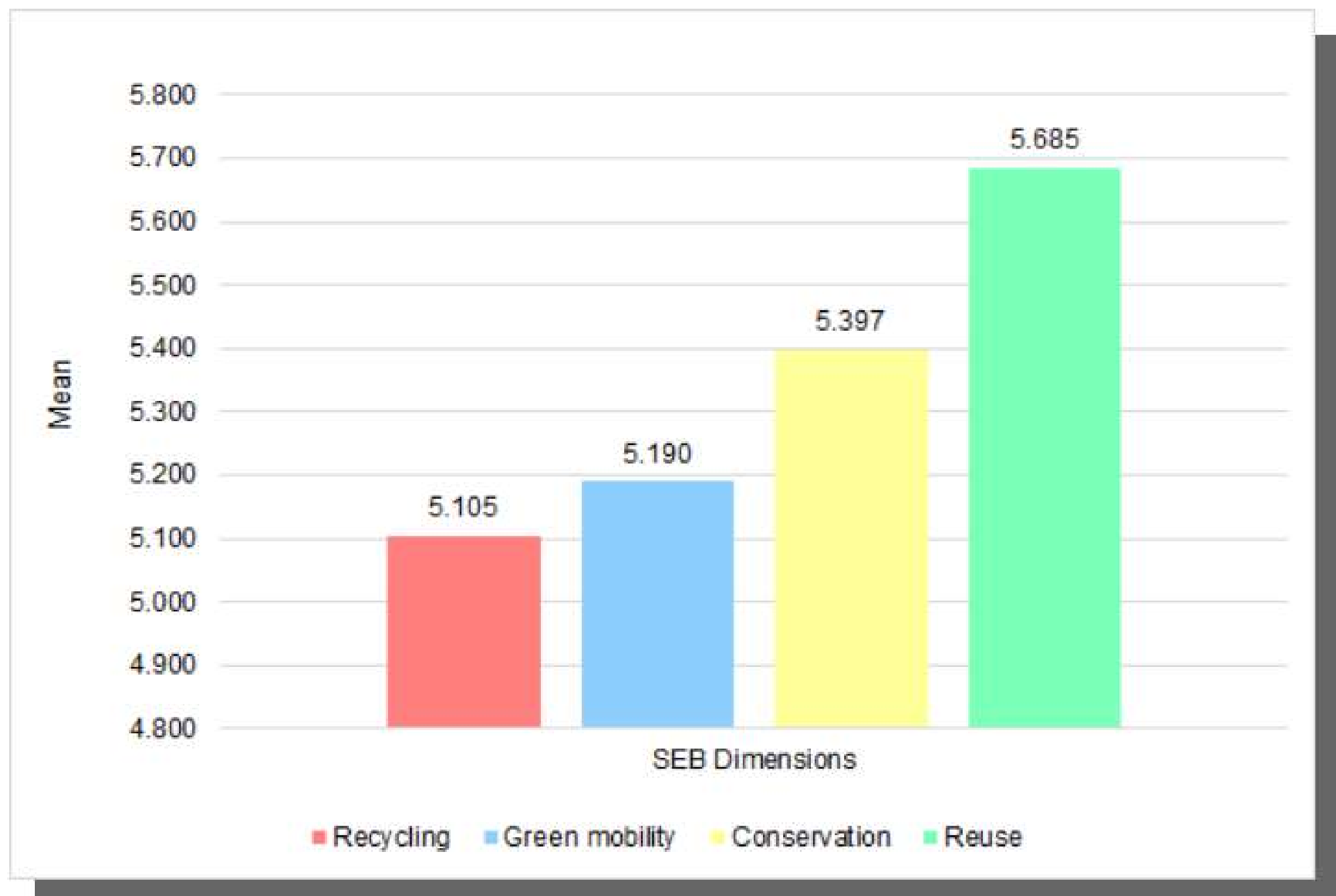
To answer the first research question, mean scores from the ratings given by respondents for all survey items related to sustainable behaviour were computed. The computed mean scores were further classified into three levels: low (1.00 to 3.00), moderate (3.10 to 5.00), and high (5.10 to 7.00) based on the class interval formula used in Bobbitt's (2021) work. The results yielded a mean score of 5.202 ($M = 5.202$) for sustainable behaviour, which could be classified as "high".

This suggests that the UUM community is actively engaged in sustainable behaviour in campus.

SUSTAINABILITY REPORT 2021

Question 2: Which dimension of sustainable behaviour is most commonly practised in the UUM campus?

Next, the authors examined the extent of sustainable behaviour practised, based on four unique dimensions as highlighted in the literature. These dimensions include: 1. Recycling, 2. Reusing, 3. Conservation (Water and Energy), and 4. Green Mobility



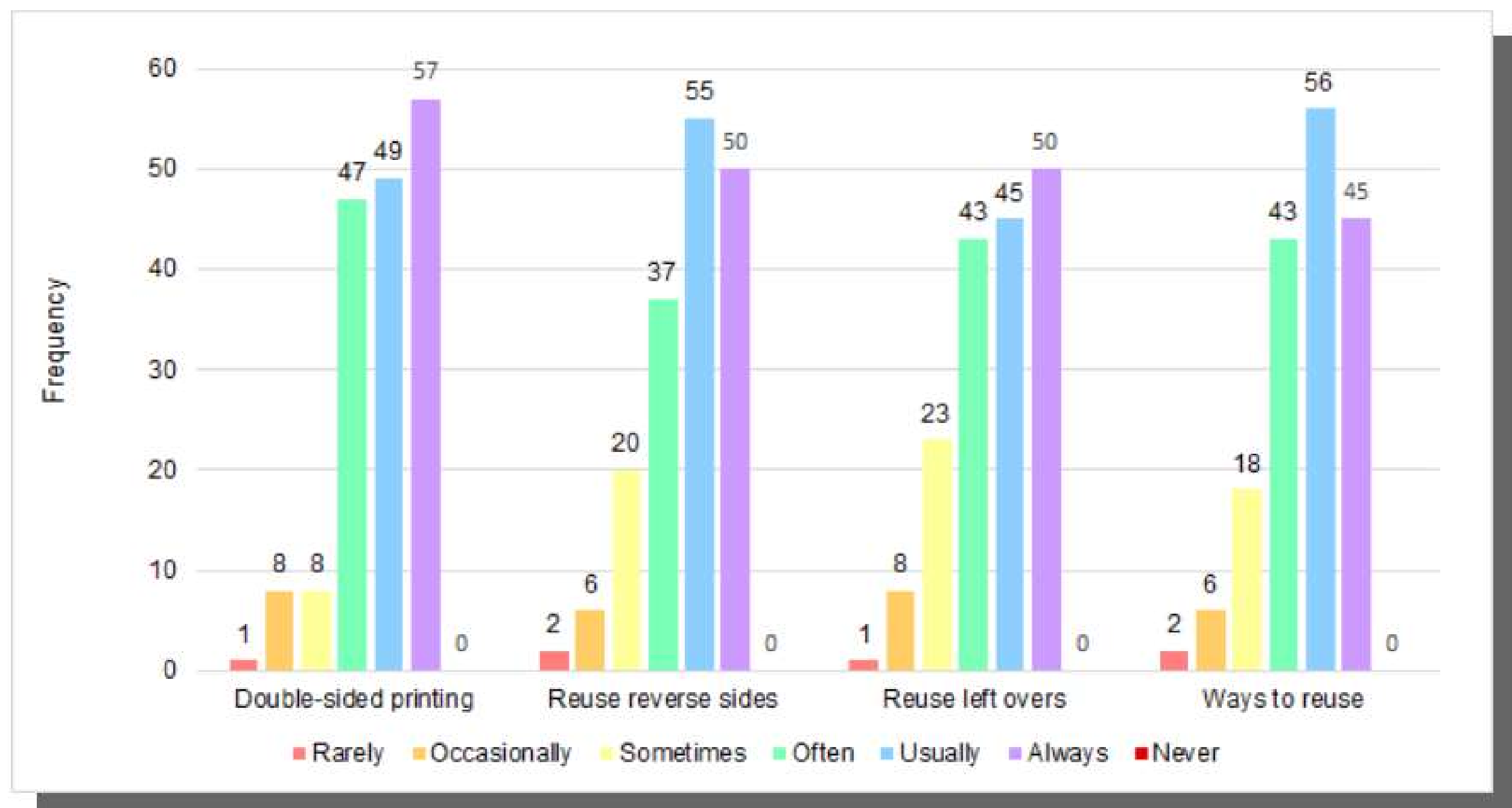
Extent of sustainable behaviour by dimension

All the dimensions recorded a high mean score ranging from 5.105 to 5.685. The “reuse” dimension received the highest mean score followed by conservation, green mobility and lastly, recycling.

Question 3: What are the practices that the UUM community members commonly engage in for each sustainable behavior dimension?

Practices

In comparing the four reuse practices, double-sided printing was the most frequent practice. This is followed by reusing the unused side of used papers, reusing containers and boxes as well as reusing left over papers from previous semesters.

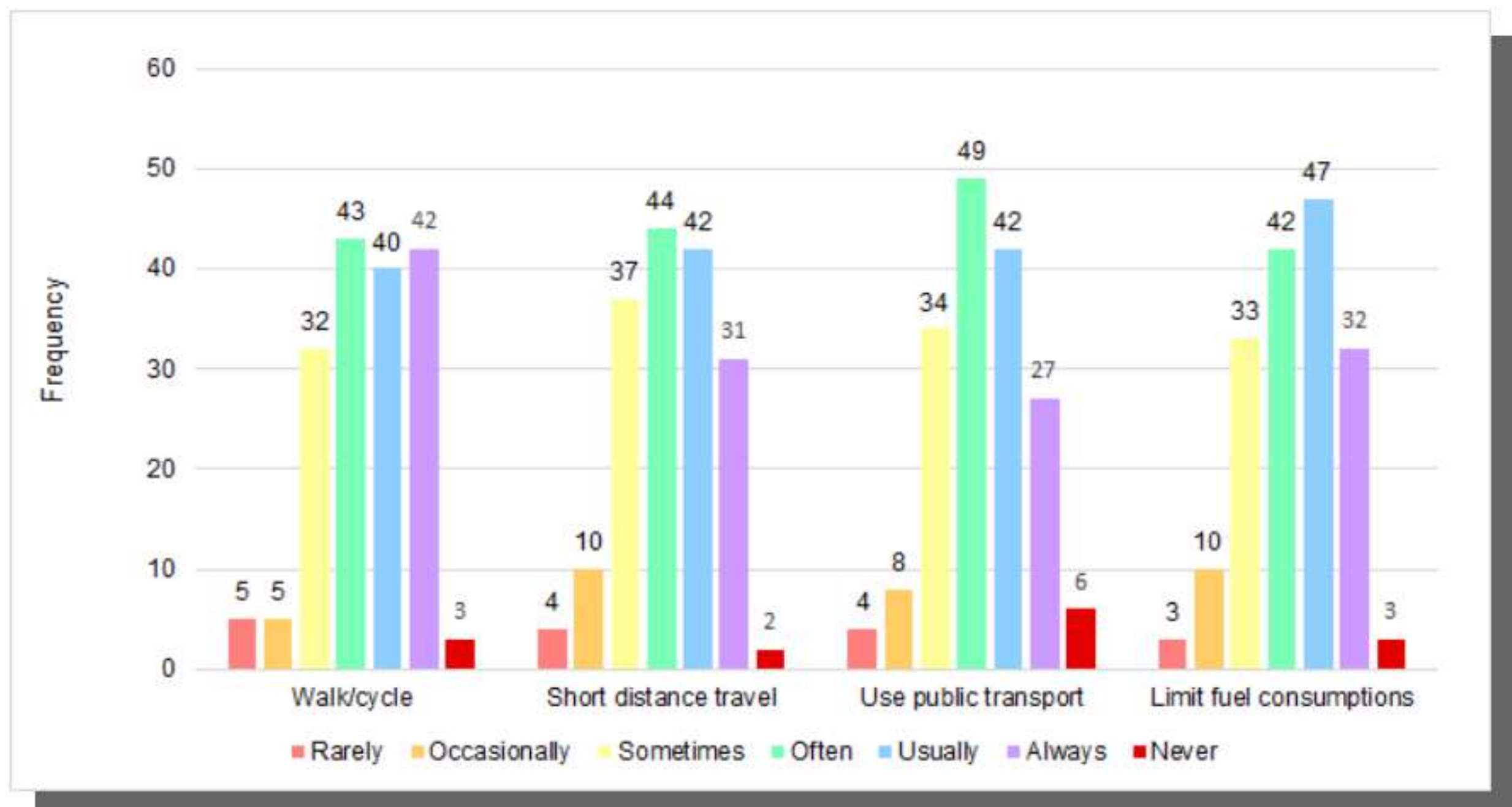


Details of reuse practices

Green Mobility Practices

Mobility refers to movement from one place to another.

A majority of the UUM community agreed that they prefer to walk or cycle wherever possible. By walking or cycling, daily fuel consumption can be reduced, hence lessening air pollution. Green and shady surroundings provide a comfortable environment that encourages the UUM community, especially students to just walk or cycle for short distances.

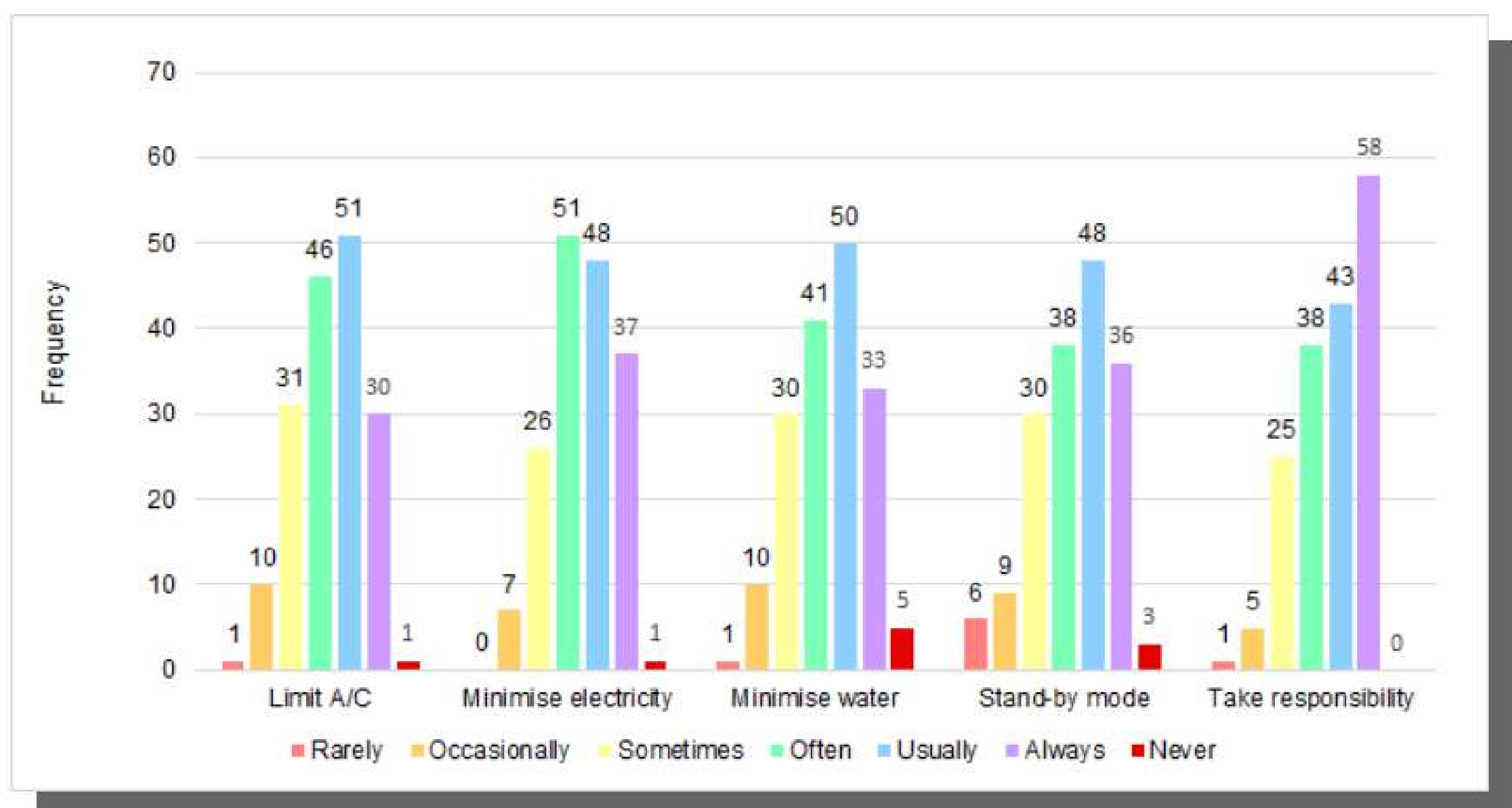


Details of green mobility practices

Energy and Water Conservation Practices

As compared to other practices, most of the respondents agreed that they always take responsibility in turning off lights/fans/air-conditioners/water taps in public places whenever possible. They also make the effort in minimising the use of electricity usage in their daily routine.

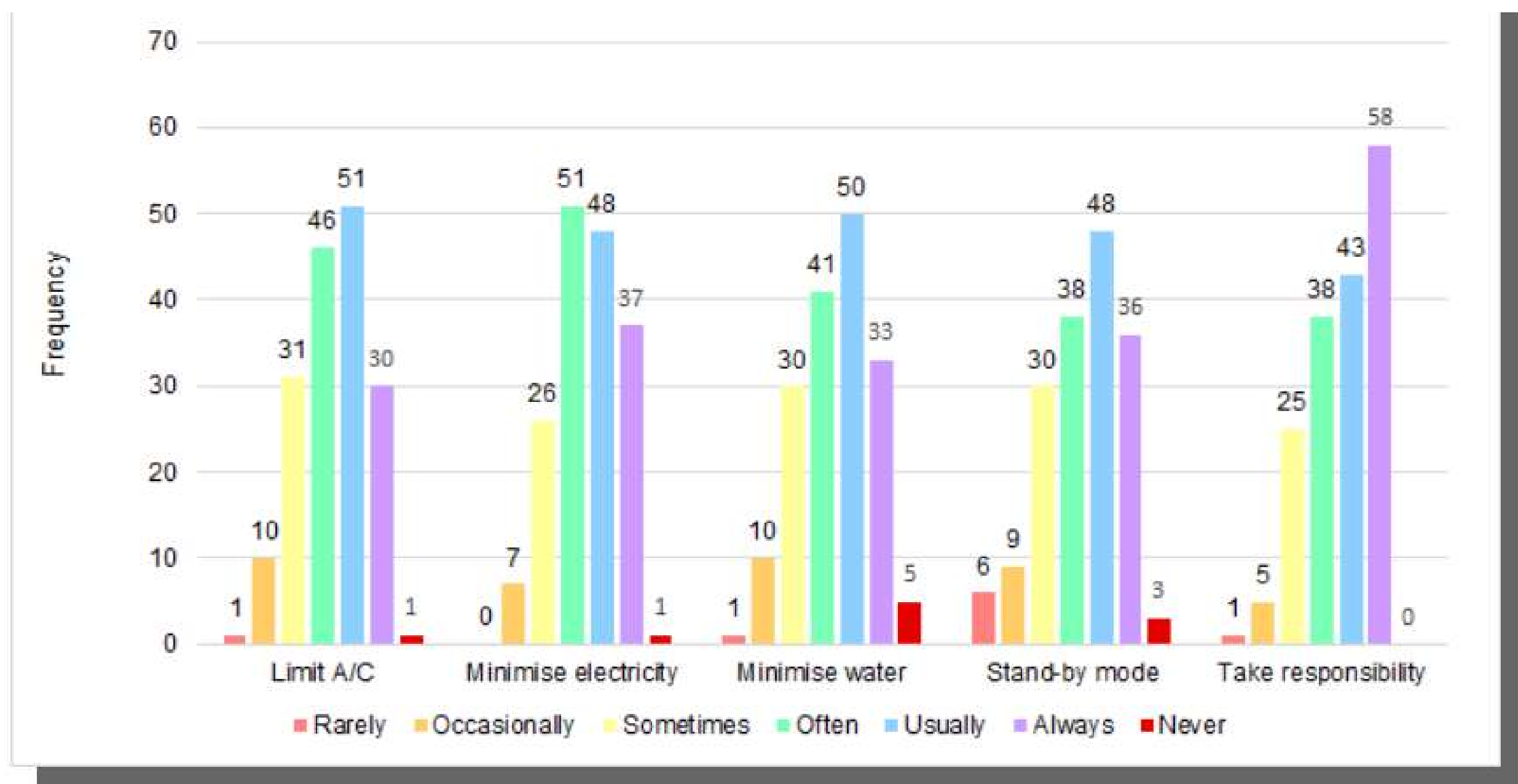
Limiting the use of air-conditioning in personal space, minimising water usage, and leaving electrical appliances on standby mode are some of the more common practices for energy and water conservation.



Details of energy and water conservation practices

Recycling Practices

Recycling is another practice that relates to sustainable behaviour. In UUM, rather than throwing away waste, it has become common practice to recycle glass, paper, metal, and plastic. Recycle bins which can be easily found around the UUM campus facilitates this effort.



Details of recycling practices



Based on the results, the researchers reached several conclusions:

Sustainable behaviour within the UUM community is relatively common. This can be seen through their daily environmental-friendly practices such as energy and water conservation, green mobility, and recycling.



The findings of this survey validate all the greening efforts made by UUM. The survey also adds substantial value to UUM as one of the universities that have secured a good ranking in UI's GreenMetric, a university ranking in the field of sustainability. More importantly, UUM's effort to encourage sustainable behaviour among its community aligns with Kedah's Green Agenda and supports the SDG 2030.



The findings also reflect the success and effectiveness of the greening effort carried out by CETMA (Centre for Testing, Measurement and Appraisal), UUM, which develops and implements the green living campus agenda and other sustainability initiatives within the campus.





GEARING TOWARDS 2022

TOWARDS LIVING AND CONNECTED CAMPUS

UUM IS PREPARED FOR MALAYSIA 5.0, WHICH PROPOSES USING FOURTH INDUSTRIAL REVOLUTION (4IR) TECHNOLOGIES THAT COMBINE BOTH PHYSICAL AND DIGITAL ENVIRONMENTS TO ADDRESS SOCIETY'S ISSUES AND CONCERNS.

2 UUM is ready to offer high-speed wireless broadband service for denizens on campus, university guests, and visitors.

4 UUM is ready to expand analytic solutions and intelligent services to the whole campuses in Sintok and KL.

6 UUM is ready to encourage more innovations among the researchers on campus.

8 UUM is ready to accept the SDG challenges faced by Kedah state.

1 UUM is ready to upgrade humans' digital skills and capabilities on campus to reap the benefit of open source, connectivity, and the wave of big data.

3 UUM is ready to provide a platform to enable the management team to access all relevant and significant information through an analytic solution.

5 UUM is ready to develop a database and data infrastructure to be accessed by interdepartmental users.

7 UUM is ready to embrace digital initiatives with less resistance from the grass root.





We thank you for your continued support in our efforts to contribute to the SDGs.

Contact

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