

# SUSTAINABLE DEVELOPMENT G ALS

SUNWAY UNIVERSITY SUSTAINABLE DEVELOPMENT GOALS 2021/2022 REPORT

SUSTAINABLE DEVELOPMENT GOALS	1 NO POVERTY	2 ZERO HUNGER
3 GOOD HEALTH	4 QUALITY	5 GENDER
AND WELL-BEING	EDUCATION	EQUALITY
6 CLEAN WATER	7 AFFORDABLE AND	8 DECENT WORK AND
AND SANITATION	CLEAN ENERGY	ECONOMIC GROWTH
9 INDUSTRY, INNOVATION	10 REDUCED	11 SUSTAINABLE CITIES
AND INFRASTRUCTURE	INEQUALITIES	AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE Action	14 LIFE BELOW WATER
15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	<b>17</b> PARTNERSHIPS FOR THE GOALS

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# FOREWORD FROM PRESIDENT

It is with immense pleasure that I present the Sunway University Sustainable Development Goal Report 2021-2022. The United Nations Sustainable Development Goals (SDGs) serve as concrete goals to ensure that Sunway University continues to address global challenges for a sustainable future by driving actions and achievements on all of the SDGs.

We take pride in being an early adopter of SDGs by launching the Jeffrey Sachs Centre on Sustainable Development in 2016, the establishment of the Sunway Centre for Planetary Health in 2021 and most recently, the launch of the Sustainable Development Solutions Network (SDSN) Asia Headqua rters in 2022, working closely with SDSN regional offices in New York and Paris.

We are also committed to advancing the SDGs by adopting Planetary Health as the guiding principle through our leadership and work practices, university policies, teaching and learning activities, research initiatives, university activities, investments and collaborations with various stakeholders.

Sunway University is also one of a few global universities that has launched its own #CampusWithaConscience campaign, taking concerted actions on campus and embracing everything students and staff will experience during their time at Sunway University.

This report highlights Sunway University's achievements in all 17 SDGs for 2021/2022.

Professor Sibrandes Poppema President

### **HIGHLIGHTS OF 2021-2022**

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Graduate Employability among all universities in Malaysia

# 301-400<sup>th</sup>

Times Higher Education Impact Rankings 2022

**1051** Total number of SDG publications

# 5958

Citation Impact with average citation of 5.67

2139

Lead Author Impact leading 22.7% of total publications

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# 77.2%

Internationally co-authored

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# **KEY FACTS**













School of Engineering and Technology won BEST FACULTY 2021

awarded by MDEC



'Automated Touchless Hand Sanitizer Dispensing Device' won

> Silver Award from RITEC 2021



Rethinking Food Waste Cookbook won

### National Winner

from Gourmand World Cookbook Awards



Contributed to the development of the National Water Sector Transformation 2040 Roadmap to transform the water sector into a dynamic economic sector by

2040



Sunway University's Nano-fluid invention reduces energy consumption up to

10%

Establishing Early Disaster and Weathering System In collaborations with HUMAC

Malaysia's Climate & Change Marine Simulator



# SUSTAINABILITY AT SUNWAY UNIVERSITY

Sunway University was established in 2011 and has quickly become a leading not-for-profit private university in Malaysia committed to the pursuit of education through scholarship, research and enterprise. The United Nation's Sustainable Development Goals (UNSDGs) and Planetary Health are the guiding principles for our leadership, work practices and policies, in teaching and learning, research and our collaborations with our stakeholders.



# STRATEGIC VISION UNDER FOUR PILLARS

Sunway University is dedicated to championing sustainability efforts within and around the campus by instilling sustainable practices into the various aspects of the university experience such as ensuring high standards in sustainability through our leadership, research, education and external engagement initiatives.

### Pillar 1 Leadership



Sunway University commits towards institutional policy reforms, university-led actions and initiatives that will harness synergies among the 17 SDGs, that will nurtures more sustainable and resilient communities globally.

### Pillar 2 Research



Sunway University continues to support researchers, staff, and students in executing research-oriented activities and events, fostering multi-disciplinary collaborations and deriving research innovation and technology outcomes and impact towards addressing the SDGs.

### Pillar 3 Education



Sunway University ensures that our education and curriculum development are embedded with sustainability and planetary health focuses, which is crucial to attaining a competitive edge in today's global area, leading to a global paradigm shift in education which emphasises the significance of sustainability. Pillar 4 External Engagement



Sunway University focuses on building strong networks and linkages with stakeholders both locally and globally in advancing the sustainability agenda to address the pressing global challenges.

# PILLAR 1: LEADERSHIP

Every City has a University, Only Sunway has a City.

As such, Sunway University acknowledge the significance of institutional drive and support towards sustainability and the spillover impact on the communities where our campuses are situated.

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Sunway University an institution of higher education aims to be the nurturing ground for local and global citizens and in developing societies and economies towards a more sustainable future.



#### Equal Opportunity

Diversity and inclusion are closely tied to Sunway University's core values of integrity, humility, and excellence which are incorporated into every facet of our day-to-day operations and goals. Sunway University aims to create a culture which promotes fairness, equality, dignity, and respect for all in the workplace, values and utilises the contribution of staff members with diverse ideas, backgrounds, experiences, and perspectives for Sunway University growth and success of the customers and communities we serve.

In this sense, Sunway University has adopted several open policies regarding employee and other operational matters, including putting in place schemes such as the Employee Assistance Programme (EAP), remote working employment and standard working hours which support staff welfare and wellbeing.



Fostering a Sustainable Urban Space and Eco-Friendly Living

Sunway University has also been committed to reducing its impact on the environment by ensuring sustainable choices in executing its operation.

This is executed through safety principles of building occupants, maintenance, and upkeep to prolong facility lifespan, conservation of scare resources, retrofitting to improve water and energy efficiency, as well as continuing education of the campus community on sustainable behaviours. Subsequently, Sunway University's building and infrastructure are thoughtfully designed and constructed to meet the requirements of Green University Building Certification.



Anti-Bribery and Corruption Policy (ABC Policy)

Sunway University is devoted to practice a zero-tolerance policy against all forms of bribery and corruption and committed to conducting its business in compliance with all relevant laws, rules, and regulations at the highest ethical standards.

Sunway University wholeheartedly abhor all forms of modern slavery, forced labour and human trafficking, and will not knowingly support such activities nor tolerate them on the part of any organisation or individual with which we are affiliated in response to support the United Nation's goals.

### Sunway University's Female Scientists are Leading the Way in Science in Malaysia



In conjunction with the International Women's Day, Sunway University has celebrated its female scientists who have remarkably contributed in propelling Sunway University towards being among the Malaysia's top cited research universities. Aligning with the UN SDG 5: Gender Equality, Sunway University has been a pioneer in this sector and have led the way in this aspiration through SDG 4: Quality Education.



Professor Elizabeth Lee Awarded the UN Women 2021 WEP Regional Award for Leadership Commitment to Gender Equality

Professor Elizabeth Lee, the Chief Executive Officer of Sunway Education Group was celebrated as the award winner in the Leadership Commitment Category at the 2021 Malaysia Women's Empowerment Principles (WEPs) Awards ceremony. Professor Lee continuously advocates gender equality among Sunway Education Group's employees and students, and frequently participates in various local and international forums and conferences related to education, gender equality and women empowerment. This extraordinary achievement serves as an inspiration to our female colleagues across Sunway University.







#1 Graduate Employability in Malaysia

Sunway University has been awarded top 1 in Graduate Employability among all private universities in Malaysia by Talentbank Group based on the National Graduate Employability index that gauges the employability rate of graduates from universities across Malaysia, making our graduates officially in being the preferred recruitment choice of the nation's leading brands.



Sunway Group Educates New Hires on SDGs through the "Are You the Master of Sustainability?" Board Game

In 2022, the Sunway Education Group "Are you Master of Sustainability?" board game has been incorporated by Sunway Group as part of their New Hires Orientation Programme to allow new hires to learn about Environmental, Social and Governance, along with SDGs, notably preparing them to work towards Sunway Group's vision and mission in addition to their career journey with Sunway.



### Establishment of Sunway Centre for Planetary Health (SCPH)

Sunway University is committed to advancing planetary health in alignment with the United Nations Sustainable Development Goals. At Sunway, the health of the people and the health of the planet is an interconnected and interdependent ecosystem. Sunway Centre for Planetary Health (SCPH) was established in August 2021 and aims to break down the silos between human health, climate change and the economy, which warrants a call to action on planetary health.. The Centre demonstrates Sunway's commitment to sustainability and its engagement on this important agenda.







Jeffrey Sachs Center of **Development** -#CampusWithAConscience

#CampusWithAConscience is a core spirit at the heart of Sunway Campus Life with the goals to educate, encourage and engage students to a greater extent within a diverse and inclusive community. We are proud to have Jeffrey Sachs and Jeffrey Sachs Center at Sustainable Development to join Sunway University in creating sustainable future for all.

**I**nnovation, inspiration, dedication, and entertainment were some of the key factors that brought a city together in a united effort to drive interest and action toward the United Nations 17 Sustainable Development Goals (SDGs)



Jeffrey Sachs Center of **Development** -#CampusWithAConscience

The Campus With A Conscience LIVE Webinar Series making its third comeback with award winning guest speaker, Professor Mohammed Kheireddine Aruoa, Associate Dean for Research and Postgraduate Studies and Head for the Centre for Carbon Dioxide Capture and Utilisation at Sunway University School of Engineering and Technology.

The series is a platform showcasing experts and policymakers from higher learning, NGOs, private and public sector sharing insights into global challenges facing our society today.



npus with a Conscience LNE is a platform showcasing movers & shakers, experts, changemakers, and knymakers from institutions of higher learning, INGOs, private and public sector sharing insights into global lengers facing our socient today. rn how you can be part of the solution through practical takesways.

me join us via this new interactive platform and be part of the generation that will make a differ





Campus With A Conscience Hosts A-Week Long SDG Festival

In support of the United Nation 17SDGs and its worldwide initiative of Local Action for Global Goals 2022, Sunway University hosted a week-long festival of events and activations.

This unique festival and the first of its kind in Asia featured talks, performances, interactive workshops, corporate displays on sustainability from Volvo, Uniqlo, The Body Shop and Huawei, daily flag parades, on-stage demonstrations, a sustainable marketplace, and a space to connect with leaders, changemakers, activists, private sector as well as a live musical performance by the children from the Spastic Children's Association of Selangor and Federal Territory. During the event, there was an e-waste collection where staff and students were able to environmentally dispose their unwanted electrical items. Since the start of the initiative, over 34,00kg electrical waste has been collected.

Younger participants enjoyed an interactive "Treasure Our Planet Trail" across the campus, learning new 17 SDG facts every step of their journey of enlightenment, ensuring the next generation will continue to carry the message of influence and action.

This is our aim with the Local Action Global Goals 2022 – to educate and reeducate and to remind everyone that we need to work collectively to bring about sustainable and meaningful change.

**Professor Elizabeth Lee** 



## PILLAR 2: RESEARCH

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Sunway University commits to solving global challenges, particularly in the areas of sustainable development and planetary health through building multidisciplinary research teams that focus on the following key research areas:

- Actuarial Science & Mathematical Modelling
- Climate Change & Planetary Health Sciences
  - Creative Arts, Media, & Culture
  - Future & Emerging Technologies
    Hospitality & Tourism
    - Medical & Health Services
  - Psychological & Neurological Sciences
    - Sustainable Business
    - Sustainable Science & Technologies.

# RESEARCH INNOVATION AND TECHNOLOGY

### Water Sector Transformation 2040

Under the 12th Malaysian Plan, the WST2040 aspires to "transform the water sector from an economic enabler into a dynamic economic sector as the future direction of national growth". In collaboration with the Academy of Sciences Malaysia, Sunway Institute for Global Strategy and Competitiveness (IGSC) led the water as an Economic Sector taskforce and examined areas where water can be an economic opportunity as well as securing Malaysia's water needs. The institute introduces an ecosystem approach and develops a comprehensive roadmap for the Economic Planning Unit to lay out the transformation of Malaysia's water sector into a competitive regional water industry hub.









### Sustainable Integrated Transport Ecosystem (SITE)

Sunway Institute for Global Strategy and Competitiveness (IGSC), in partnership with Monash University and Sunway Group, has conducted an extensive assessment on the adequacy of the SITE facilities to support environmentally, commercially, and socially sustainable travel for Sunway City's communities. Informed through several rounds of focus group discussions and community surveys, this study identified the factors that encourage and hinder individual use of SITE facilities – namely, the Bus Rapid Transit, and the Elevated Canopy Walk. The findings will help Sunway City explore additional ways to expand the sustainable integrated transport ecosystem.

The Nexus of Biodiversity Conservation and Sustainable Socioeconomic Development in Southeast Asia



ASEAN is one of the most biodiverse regions in the world and its biodiversity is also one of the most threatened. This position paper provided strategic recommendations to address biodiversity decline and achieve the 2050 Vision for Biodiversity set out by the Convention of Biological Diversity.



Sunway Institute for Global Strategy and Competitiveness (IGSC) in collaboration with Academy of Science Malaysia (ASM) utilised the 8i Nature-Centric Ecosystem Framework as the main foundation to analyse the current strengths and gaps in the ASEAN biodiversity landscape, and to formulate strategic measures and recommendations for adoption by policy makers from ASEAN.



### Macroeconomic Development and Impact on the Energy Sector

Sunway Institute for Global Strategy and Competitiveness (IGSC) reviewed the economic development in Malaysia and developed forecasting methods to gauge the outlook of the economy. These analyses examined the overall competitiveness and development of various sectors and states in Malaysia which then informed the future energy infrastructure development plans of a major energy provider in Malaysia. The findings centered around the transition towards sustainability energy sources and the provision of clean affordable energy for Malaysia.



'Automated Touchless Hand Sanitizer Dispensing Device' won a Silver Award from RITEC 2021

Professor Mayeen U. Khandaker from the School of Engineering and Technology, and his students won a Silver Award in the Research & Innovative Technology Competition 2021 (RITEC 2021) for the work entitled "Development of a Novel Design and Subsequent Fabrication of an Automated Touchless Hand Sanitizer Dispenser to Reduce the Spread of Contagious Diseases' under innovative product category. The touchless, LDR-based automated sanitizer dispenser overcomes the problem of the interference of sunlight, vehicle sound, etc. found in the conventional ultrasonic and infraredbased dispensers. The overall performance was analysed based on the cost, power consumption, and environmental factors by deploying it in busy public places as well as indoor environments. The presented device is expected to play a key role in the disinfection of public hands in a contactless manner, hence reducing the spread of infectious diseases in society.



Enterovirus 71 Antiviral Peptides

The present invention pertains to peptides derived from the capsid protein of Enterovirus 71 which has antiviral activity. Also provided are pharmaceutical compositions, comprising these peptides, nucleic acids encoding the same, as well as vectors and host cells expressing the ant-viral peptides of the invention. This invention is beneficial as method for treating or preventing infectious diseases caused by viruses, in particular by Picornaviruses, such as Enterovirus 71.



Sunway University's Nanofluid Invention Reduces Up to 10% Energy Consumption in Industrial Chillers

Sunway University, Sunway Innovation Labs (Sunway iLabs), and Daikin Refrigeration Malaysia Sdn Bhd announced that the pilot trial of graphene-based nano-fluid in industrial chillers had reduced daily consumption by up to 10% (kwH) consistently over a trial period of one-month. The nanofluid results in almost 40% faster heat transfer, better cooling performance, lower energy consumption, extends life of heating, ventilation, and air-conditioning (HVAC) equipment while keeping maintenance costs down. Above all, lowers the carbon footprint.





A Real-Time Counting Application of Printed Circuit Boards Assembly (PCBA) using Image Processing and Weight Detection Techniques

HUMAC researchers have successfully delivered the proposed real-time counting application prototypes to Deng Kai Sdn Bhd under the Public-Private Research Network (PPRN) 2.0 grant. The solution comprising of an IoT weighing scale system, vision-based counting system, and an Android mobile application to monitor the production outputs in real-time.



A Method of Synthesizing Mxene: Rapid and Greener Production of 2D MXene Sheets from MAX Phase

Graphene and Advanced 2D Materials Research Group (GAMRG), the School Engineering and Technology filed the firstever patent on the production of MXene using a greener approach. The synthesis conditions were successfully optimized to make the MXene production faster, economical, and more environmentally friendly than conventional Mxene production methods. They were able to minimize the chemical usage and the production time from 12 hours to 40 minutes, as well as reaction temperature from 180°C to 40°C.

The timely invention aligns with the recently launched NanoMalaysia Energy Storage Initiative (NESTI) programme, which will aid in the development of new energy storage devices locally. This food waste project convenes the efforts of professionals across various disciplines at Sunway University, ranging from chefs, psychologists, scientists, engineers, social scientist, and economists.





Early Disaster and Weathering System



Sunway University Champions Food Waste Reduction and Composting

The food waste project has officially launched by Sunway Materials Smart Science and Engineering Cluster (SMS2E) of Sunway University in January 2022. This project seeks to repurpose culinary lab food waste produced in Sunway University into compost. Reducing food waste from sending it to landfills would cut greenhouse gas emissions, slow the destruction of nature through land conversion and pollution prevention, enhance the availability of food and thus reduce hunger at a time of global recession. Sunwayians, Kelvin Choo Zen Hou and Associate Professor Dr. Yap Kian Meng from the School of Engineering and Technology collaborated with the Research Centre for Human-Machine Collaboration (HUMAC) in the building of an 'Early Disaster and Weather Monitoring System'. This system is aimed to provide weather and climate monitoring as well as alerts for different possible disasters such as fire, smoke, landslide, flash floods.

**We are deploying** 'Disaster warning system with weather monitoring' for the first time to take our sensory-technology research initiatives to greater heights! **JJ** 

# RESEARCH PUBLICATIONS AND COLLABORATIONS





Roadmap to 2050: The Land-Water-Energy Nexus of Biofuels

In 2020, experts of land-use, water, energy and biofuel technologies, engineers, scientists, and professionals from the global arena were assembled to build a world class consortium, aiming to discuss, debate and refine the potent ion for biofuels to be integrated into national and sectoral decarbonisation blueprints.

In this report which was published by the UN Sustainable Development Solutions Network (SDSN) and Fondazione Eni Enrico Mattei (FEEM) in September 2021, the researchers attempt to provide dynamic insights on the intricacies of the global biofuel market, the evolution of key technologies and the intersection of biofuel production on water, land as well as the local economies from which they are derived. Dr Goh Chun Seng has featured as one of the lead authors in producing this released report.



Extended Producer Responsibility Review Booklet

The Institute has produced this research report in collaboration with GIZ Collaborative Action on Prevention of Single-Use Plastic as part of the WWF-Malaysia's Extended Producer Responsibility (EPR) Project.

In response to the growing prominence of ERP as a crucial apparatus in transitioning towards a circular economy for plastics, this report aims to formulate a policy framework for raising the responsibility of producers regarding the packaging waste derived from their products after intended use. Additionally, existing policies and regulations related to EPR for packaging waste in Malaysia and other countries, along with the current institutional structure of Municipal Solid Waste (MSW) management in Malaysia have been critically reviewed and examined in this paper, highlighting the potential legal barriers, and proposing appropriate policy responses towards the EPR policy in Malaysia.





Rethinking Food Waste: Tranforming Edible Waste into New

Inspired by the commitments of Sunway University towards the United Nations Sustainable Development Goals and Feed the Planet Initiatives by World Chef, a digital cookbook of transforming edible food waste into a new dish has been recently published by the Sunway University Young Chefs from School of Hospitality and Service Management.

Although food waste could be converted into compost; the Young Chefs nevertheless tries to repurpose edible food waste such as vegetable peels and scraps, into a new dish before it reaches the bins. The cookbook has been awarded as the national winner for the prestigious Gourmand World Cookbook Awards which falls under the category of B14 Digital, B22 University Press and D01 Food Watse. Recently, it has also been shortlisted for the Best of the World Award which will take place in Umea, Sweden in 2022.





Aetiology and Outcome of Paediatric Acute Liver Failure in Asian Children

This project involved research collaborators from University of Malaya, Pantai Hospital Kuala Lumpur, General Hospital Kuala Lumpur, and MARA University of Technology to evaluate the outcome and prognostic indicators of paediatric acute liver failure (PALF) in Malaysia where emergency liver transplant (LT) for ALF is limited. Overall survival of PALF remained poor. High peak bilirubin and low GGT predict poor outcome of PALF. Liver Injury Unit (LIU) scire is a goof model in predicting outcome of PALF and may be useful in selecting children for emergency LT.



Insights into Controlling the Spread of Covid-19: A Study Inspired by Seven of the Earliest Vaccinated Countries

This project involved research collaborators from PEMAMDU Associates Sdn Bhd. The aim is to derive deeper insights into the control of the spread of Covid-19 during second half of 2021, from seven countries that are among the earliest to have accelerated the deployment of Covid-19 vaccines – United Kingdom, United Staes of America, Israel, Canada, France, Italy, and Austria. Principal component analysis was conducted, the results were interpreted through 2-dimensional and 3-dimensional plots. This study delineated the spread of Covid-19, human mobility patterns, widespread vaccination coverage and government stringency measures on the overall control of Covid-19.



Joint-Research with Cambridge University and Sunway Medical Centre: Low Dose Radiation and Cellular Response

Sunway University has been awarded a Sunway Cambridge Collaborative Research Fund of RM446,500 for joint research with Cambridge University and Sunway Medical Centre. Leveraging on the expertise of the Centre for Applied Physics and Radiation Technologies (CAPRT) from the School of Engineering and Technology, on novel low dose dosimetry, Sunway University made an attractive proposal that interest Cambridge University to collaborate on prospective positive effects of low dose radiation. The research embarks on low dose radiation hormesis of normal and cancer tissues, and it is expected that there will be great potential for therapeutic applications



### Salt Policy in Malaysia 2020-2022

In collaboration with the National University of Malaysia (UKM), Ministry of Health Malaysia, and University of College London, the research helps set up policy on salt intake reduction in Malaysia. Salt intake is high in Malaysia (around 8gm/day) when the WHO recommended intake should be less than 5gm/day. Reduction of salt intake can reduce blood pressure and in turn reduce strokes, heart failure, heart attack and kidney failure.



International Collaboration in Drone Technology with Guilin University of Aerospace Technology, China

The Sunway and Guilin teams have agreed to progress towards their joint participation in an international unmanned aerial vehicles (UAV) consortium as well as establishing bilateral academic and research collaboration between the institutions. Aerospace technology could become a new future focus area as it could offer numerous applications including those associated with the UN Sustainable Development Goals (SDG).





Embedding the Framework of Culture of Health in Small Medium Enterprises: A Comparative Perspective between Japan and Southeast Asia



Inclusive Leadership for Reduced Inequality: Economic-Social-Economic Cycle of Inclusion

In this joint research between Sunway University and Saitama Japan funded under Toshiba Foundation, it explores the Culture of Health framework (CoH) which is developed by Harvad University and its applicability in the context of Asian Small and Medium Enterprises (SMEs). Subsequently, it aims to derive an insightful narrative for a Post Covid (SMEs) engagement with the United Nations's Sustainable Development Goals and create a dialogue with concerns arising from planetary health. The CoH comprises a 4-pillar framework which encompasses organisational and societal well-being, namely:

- Employee Health (well-being of workers)
- Consumer Health (Healthfulness and safety of products and services)
- Community Health (Business impacts on public)
- Environmental Health (Business impacts on environment)

These pillars convene business to create a corporate 'Health Footprint' for the mutual benefit of business and society.

Professor Yuka Fujimoto from the School of Business has collaborated with Dr Jasim Uddin from Monash University Malaysia in producing this publication. Extending the burgeoning responsible leadership theory which promotes paradox-savvy leadership in building inclusive ventures through various actors, this paper proposes brand new perspectives of inclusive leadership which foster the economic inclusion of the poor from Amartya Sen's capability approach perspective.

By understanding how leaders include the poor in social business, a new concept of inclusive leadership has been introduced as a personalized empowering cycle of economicsocial-economic inclusion to close the gaps between the rich and poor in business and society as well. This concept offers new territories of diversity and inclusion exploration for bringing down the inequality.

#### Integrative Resource Model of Workplace Inclusion for Reduced Inequality: Conservation of Resources Perspective



Sunway University in collaboration with Deakin University and North South University produced a white paper which provides an empirical study of workplace inclusion of under-resourced employees of low socioeconomic status. It has been contended that the centrality of resources acts as a vital inclusion process for well-being outcomes among employees with insufficient resources based on the conservation of resources perspective.

This white paper validates the significance of economic inclusion in fostering workers' well-being through fair employment practices and offers new insights into the integrative resource model of workplace inclusion research by corroborating workers' personal resources of learning orientation as an internal condition in strengthening the optimistic impact of economic inclusion on well-being.



SustHack - The Hackathon Approach: Synchronizing SDG Actions between Finland and Malaysia

The aim of this project is to emphasize the sustainability perception in computing education. This is done by utilizing co-creative hackathons with local sustainability challenges both in Finland and Malaysia. These crossnational hackathons will emphasize the possibilities of IT in sustainable development and increase the understanding of the sustainability in computing field. Hackathons have been chosen as the approach as they have been proven to be good collaborative events for various purposes.



Establishing Malaysia's First Climate Change Marine Simulator to study and enhance the thermal resistance of corals

In a previous research project, the authors have modified a strain of coral symbiont algae, commonly referred to as Zooxanthellae, to be able to grow well at temperature beyond its usual upper limit (i.e., 32.5°C). This implies that the Zooxanthellae is adapted to high water temperatures. The researchers wish to test the theory that our lab Zooxanthellae can also improve temperature tolerance of their associated corals. Hence, it is required to construct and establish a series of stable, marine simulator aquariums that can mimic the environmental effects of climate change, specifically with regards to temperature increases.

# **HIGHLIGHTS OF PUBLICATIONS**

**Contribution Maps** 

Data extracted from SCOPUS for January 2021- November 2022.





### Total Publication Output (2019-2022)

Sunway University is exploring, investigating, and creating sustainable innovations and impact solutions that can address the most pressing global challenges through our research, collaborations and partnerships.

Sunway University has contributed actively to 534 publication outputs in 2022 and translational impact among communities in each of the SDGs.

































### Top 10 Most Collaborated Countries (2021-2022)

Sunway University maintains good partnerships through collaborative initiatives with many excellent institutions across the world. The top 10 most collaborated countries in research publications are Saudi Arabia, India, United Kingdom, China, Pakistan, Australia, Bangladesh, United States, Taiwan, and Singapore. As such, 10.2% of the research publications were in collaborations with Saudi Arabia, followed by 9.0% with India, 7.1% with United Kingdom, and 5.2% with China. Sunway University will strive to maintain good relationships with each of our global partners through consistent and effective communications moving forward.







# PILLAR 3: EDUCATION

Sunway University commits to equiping students with the knowledge and skills through the integration of SDG elements in teaching and learning programmes, ultimately shaping the future leaders of sustainable development.

University ኛ

Nelson Mandela once said, "Education is the most powerful weapon which you can use to change the world". Here we are helping to provide a better world for our future generations.



Sustainable Development Goals (SDGs) Education for All at Sunway Education Group

To become globally connected, forwardlooking education institutions dedicated to sustainability, the Campus With A Conscience team of Sunway Education Group has successfully developed and launched an online SDG Education Course campus-wide in partnership with the SDG Academy, as one of its initiatives to drive sustainability efforts in the SEG in January 2022. The course is designed to strengthen our staff and students' foundational understanding of the United Nations 2030 Agenda and its 17 Sustainable Development Goals.





ASEAN Future Leaders SDG Workshop

Sunway University has offered this virtual flagship programme in the context of SDGs which convenes undergraduate students from eight ASEAN nations. This virtual programme comprises of teaching sessions on SDGs in general and particularly on Climate Change, along with self-directed project schedule for students to develop a statement of aspirations which may be delivered at the Conference.



Seamless Incorporation of Geographical Information Systems for Malaysian Compulsory Subject on Sustainability

An undergraduate-level course in Sunway University, MPU3312: Sustainable Development in Malaysia has been delivered during the period of January to February 2022. Story maps were created by students using ArcGIS toward addressing the sustainability issues in Malaysia, potentially creating awareness among the youths and public.



Master in Sustainable Development Management (MDSM) Research Project

The Master in Sustainable Development Management (MSDM) at the Jeffrey Sachs Center aims to create a new generation of multidisciplinary practitioners adept at management and problem-solving using analytics and systems thinking guided by global concerns. The programme aims to equip students with the necessary management skills and acumen to create innovative solutions to achieve Sustainable Development Goals (SDGs). It encompasses corporate sustainability strategies, social entrepreneurship, finance and sustainability, sustainable management and operations, economics and development. This is built upon a broad knowledge base that covers critical areas like climate change, waste management, energy systems, agriculture and food systems, forestry, and biodiversity. Students are not only exposed to theories and concepts but also to real-world practices and case studies to gain a holistic understanding of the opportunities and challenges to achieving the SDGs in scientific, economic, business, and technological aspects through their Research Projects.

### **Group Coursework – Case Studies**



### Embedding SDGs into courses and subject



Various initiatives have been held by School of Arts in incorporating sustainability elements into their teaching and learning activities. Some initiatives are exhibited as follows:

The School of Business has embedded SDG elements in their units, for instance MGT3044: Business Ethics and Social Responsibility. Students have worked on case studies toward addressing the sustainability issues faced by the community and nations, including slums and responsibilities of firms and sweatshop working conditions, living wages, impact on environment, crimes, drugs, and prostitution. This allows students to gain a better understanding of the current sustainability issues happening around them and critically formulate appropriate strategies in tackling such issues.



### Case Study on Pharmaceutical Industry

School of Business has held several workshops in March and August 2022 which focus on the responsible production in B2B marketing context. The multi-billiondollar pharmaceutical industry to expose the insidious ways that illness is used, manipulated and in some

instances created for capital gain have been critically discussed. This case study also involved the exploration in the consequences of relying on a for-profit industry for our health and well-being.

### • SDGs Campaign for Three Sunway Malls

School of Arts has recently signed an MOU with Sunway Malls and among the agreement was to allow undergraduate students from COM2014 to organize campaign as part of their assignments for Sunway Malls every semester.

### • Sustainable and Functional Design Prototype

This assignment has been introduced to undergraduate students from Bachelor in Design Communication and Bachelor in Interior Architecture. It is designed as a continuation/ iteration activity which aims to give students a full cycle through the larger scope design thinking process. This assignment provides students the chance in creating experiential prototypes and introduces them to the concept of sustainability, upcycling, and repurposing.



### BEST FACULTY 2021 Awarded by Malaysia Digital Economy

The School of Engineering and Technology has won the BEST FACULTY 2021 awarded by Malaysian Digital Economy Corporation (MDEC). The selection criteria are based on the highest number of industry engagements, highest number of joint research and collaborations with industry, highest number of micro-credentials developed, success stories by the schools, academic members and students, highest number of social media posting with #MyPremierDigitalTech and last but not least the ability to demonstrate PDTI branding effort throughout all events organized by the School of Engineering and Technology.





Sunway University has emerged as one of the winners in the ASEAN Data Science Explorers (ASEAN DSE) Regional Finals 2021

ASEAN DSE is a regional programme by the ASEAN Foundation and SAP that aims to catalyse activism and critical thinking among university students in ASEAN. Team Big Drain, comprising Ryan Kok Lam Liew and Jia Hui Ng, from Sunway University Malaysia secured the second runner up place. Their presentation was focused on prioritising e-waste covering SDG 12 – Responsible Consumption and Production

### 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

#### Sunway University won an award in Cisco APJC DevNet Innovators Challenge

The Cisco APJC DevNet Innovators event is a 2-stage challenge that is opened to Cisco's customers, partners, and students. In this challenge, the participants would need to ideate and develop new use cases where the power of Cisco programmability can help them to reach the desired business outcome, then, bring the idea to life by developing a prototype with utilizing the resources from Cisco.

Sunway Team B, with their creation entitled "Disaster warning system with climate monitoring", has successfully secured a categorical award – "Fresh Energy", from 26 competitors which consist of technology giants, government departments, and famous universities around the world (i.e., China Unicom, Wipro, Tata Consultancy Service, Fujitsu, Nagoya University, Busan City Hall, and etc.).



### Sustainable City Destination Program

This course has been introduced by School of Hospitality and Service Management, aiming to introduce sustainability and sustainability city destinations, in terms of the sustainable practices implemented by the destination, understand the impacts of the sustainable practices and the different roles of stakeholders in sustainability. Various roles of distinct stakeholders are explored, by learning about initiating and implementing sustainability in urban tourism contexts. Subsequently, participants in this course shall critically examine the impacts and mitigation strategies in city tourism destinations, in particular Sunway City. A group of students from Petra Christian University, Indonesia has registered into this short course from 27 June to 15 July 2022.



#### Academic Enhancement Division (AED) Training

Academics from respective schools participated and attended trainings on blended learning and technology enhanced learning organized by AED. These training help to provide guidance on maintaining quality education and improving delivery of teaching and learning through a more innovative and effective mode.



School of Mathematical Sciences Academic Excursion

The School of Mathematical Sciences conducts Academic Excursion annually, at the beginning of the year. This is an initiative by the School to continually improve the delivery of teaching and learning, through training and sharing sessions among academics. Representatives from ASQ and AED are always invited to the event to provide advice on curriculum-related matters and blended learning approach and delivery.



Community Service for Planetary Health Course

Sunway Centre for Planetary Health in collaboration with Sunway iLabs Foundry and Ventures, Sunway Medical Centre Velocity and Sunway XFarms, had piloted the course, "Community Service for Planetary Health in which 37 students majoring in communication, advertising, and branding participated. During the seven-week period, the students took part in online lecture wherein they learnt about the fundamental principles, tools and skills towards diagnosing planetary health problems and designing solutions to address them. Students also harnessed their communication skills in by working closely with various host organisations part of the Sunway Group, in implementing projects that addressed planetary health-related issues (such as healthcare waste management, urban farming, raising public awareness, etc.). Upon completion of the course, the students celebrated by taking part in the global Planetary Health Pledge, indicating their individual and collective commitment for planetary health.

### Sustainability in Student Experiences



Throughout 2021 and 2022, the School of Medical and Life Sciences has mentored and provided guidance and expertise in units of study, modules, internships, final year projects.

Students are highly encouraged to think critically, collaborate proactively, positively making an impact to the community, and recognising themselves as socially responsible leaders in the future. Hence, embedding sustainability projects empowers students to delve into different sustainable ideas, strategies, and actions on the campus.

In terms of internships, the School has successfully sent three students to experience student training at International Medical University (IMU), Taylor's University, and University of Malaysia (UM) respectively. Alternatively, students explored, developed, and were involved in numerous sustainability ideas.

### Some sustainability education units, modules, and projects:

- Formulating facial masks containing clitoria ternatea (butterfly pea flower) extracts
- Identification and selection of B cell epitopes from the SARS-CoC-2 spike protein in eliciting S-Specific IgG and neutralizing antibodies
- Glycerol as a sustainable solvent in the extraction of bioactive compounds from Thanaka bark as natural sunscreens
- Plastic Pollution in Malaysia through media lenses: Challenges and way forward
- Evaluation of food compost quality: Bacteria community population, carbon, hydrogen, nitrogen, and sulfur (CHNS) element content, mineral and moisture analysis
- BSc (Hons) Psychology Module
   PSY3024 Behavior Modification –
   Assignment 2: Sustainable Change
   Project
- PSY3034 Learning Disabilities
   Coursework: Learning Disabilities
   Experience Exhibition
- MU4 2432 Community service: Free Pad for All
- MU4 2432 Community service: Stop the Flood
- MU4 2432 Community service: Greenearth4all



### LaunchX: Building the Startup Generation of Tomorrow



Sunway University, likely the only university around the region or even the world to have access of a multibillion conglomerate with 13 business lines and in-house venture capital firms – has created a game changing open innovation ecosystem which is being continuously evolved to support the growth of local start-ups as well as create employers instead of employees.

One of its notable initiatives is the Start-up Foundry, an entrepreneurship programme launched by Sunway Innovation Labs (iLabs) at Sunway University in collaboration with Sunway University's School of Science and Technology. A few of outstanding winners and participants from Sunway University are as follow:



LaunchX 1: OPACK -Transforming the Way Malaysians Utilise Single-Use Plastic Packaging

Mei Xin, the founder, and Chief Executive Officer of OPACK, is a Sunway University alumnus. OPACK is a smart returnable container system that provides high quality reusable container, cleaning, and logistics service for businesses to reduce single-use plastics packaging. Ultimately, OPACK aims to make it convenient to improve the lives of Malaysians by changing their "throwaway" behaviour and create a sustainable future for generations to come.





LaunchX 2: Greenbox -The Start-up Aspiring to Transform Malaysia's Packaging Ecosystem to Be More Sustainable

Sunway alumni and Greenbox Founder, Jun Huo is a final year student studying Environmental Science and Technology. His start-up, Greenbox will be the first manufacturing company in Malaysia that produces boxes from agro waste. Greenbox is a one-stop sustainable solution company offering sustainable packaging solutions, customization, and collection.

Ultimately, Jun Huo believes that Greenbox can change the packaging ecosystem in Malaysia and lead the other platers to become more sustainable, brand their business nature, and contribute to lessen environmental impact.





LaunchX 3: Kita - Building A World That Shops Sustainably

Sunway alumni and Kita founder, Teoh Wei Ean said that the idea for Kita came to her when she stumbled on a thrift store on Instagram. Kita aims to be a social commerce platform for sustainable fashion and reduce fabric waste. Kita wants to give fellow sustainable fashion warriors, the tailormade e-commerce tools for them to conveniently carry out their day-to-day activities, instead of having it done tediously,



# PILLAR 4: EXTERNAL ENGAGEMENT

Sunway University develops collaborative partnerships with diverse stakeholders to advance education, research and engagement initiatives towards achieving SDGs.

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Road to Glasgow: Kunming: Combating Climate Change and Biodiversity Loss in Malaysia



In response to the two largest environmental negotiation forums, UN climate Change Conference (COP26) and UN Biodiversity Conference (COP15), the European Union Delegation to Malaysia and WWF Malaysia hosted this virtual conference to inform the public regarding the preparations being made for these events. One of the presentations, ASEAN Green Future-Low Carbon Economy was delivered by Professor Woo Wing Thye, Director of Jeffrey Sachs Center on Sustainable Development.



Multi-Institution Translation Project on Jeffrey Sachs' "How to Achieve Sustainable Development Goals Course?" into Malay

In the efforts of the UN-Sustainable Development Solutions Network (SDSN) Malaysia's translation project led by Kong Phui Yi from Jeffrey Sachs Center on Sustainable Development, the SDG Academy course, "How to Achieve Sustainable Development Goals Course?", is now available in Bahasa Melayu.



Beyond Growth Financing Sustainability to Build Back Better

Professor Yeah Kim Leng was featured as one of the panellists in this panel discussion which aims to bridge the thematic ideas of the published book, "Financing Sustainability: Critical Issues with East Asian Experiences" with the current realities of building back stronger from the pandemic.



### Technical Working Committee in Malaysia's Voluntary National Review (VNR) 2021

The Jeffrey Sachs Center (JSC) on Sustainable Development at Sunway University is on the Technical Working Committee for Malaysia's 2021 Voluntary National Review to be submitted at the UN High Level Political Forum on Sustainable Development. The Committee comprises government ministries, non-governmental organisations (NGOs) and academic networks, including SDSN Malaysia, where JSC is also the secretariat.

The roles of the Technical Working Committee involve:

- Identifying issues, challenges, and progress on SDG implementation in Malaysia
- Providing input for inclusion in the VNR report
- Verifying data and information accuracy in the VNR report

This is Malaysia's second VNR submission with the first being back in 2017

### South-East Asia Affordable Housing Symposium



Sunway Institute for Global Strategy and Competitiveness (IGSC) organised the 1st South-East Asia Affordable Housing Symposium in Aug 2022. The symposium brought together academics, industry players, non-government organisations, and policy makers from the region to discuss the issues and challenges of housing affordability in South-East Asia.



The future of cities and urban development will be a key priority for cultivating sustainable and inclusive communities in growing economies and this symposium is the first step of many towards identifying the gaps and developing actionable solutions for decision makers

### Bina Pavo 2nd Asia-Pacific Family Business Summit 2022



Sunway University, together with Sunway Institute for Global Strategy and Competitiveness (IGSC) as the knowledge partner, Bina Pavo – an advisory business firm, hosted the 2nd Asia Pacific Family Business Summit 2022 to share important insights on the state of family businesses in relation to sustainability and ESG issues in Malaysia. Professor Pervaiz K Ahmed, the director of Sunway IGSC was invited to give a speech on "Family Business – ESG Initiatives and Challenge" that sums up the findings from multiple roundtable discussions with family businesses where thy voiced their barriers towards achieving ESG goals.



Sunway Group and SDSN Malaysia Showcase Promising National Solutions to Advance the SDGs

Malaysia's inaugural National Solutions Forum (NSF) was held in April 2022 to advance a whole-of nation approach to achieve the Sustainable Development Goals (SDGs). Hosting the NSDG where the Sunway Group, driven by its mission to be Asia's leading corporation in sustainable development, and SDSN Malaysia, having the mandate to mobilize expertise for the implementation of the SDGs. This forum a modelled after the SDSN Global Solutions Forum, which has been carried out since 2019.



SDSN Malaysia Launches SDG Monitor: Malaysia's First State-Level SDG Dashboard

In May 2022, SDSN Malaysia convened a virtual meeting to launch its state-level SDG Dashboard, called SDG Monitor, bringing together expert contributions from seven SDSN Malaysia member institutions.

This launch enables the Malaysian public, students, academics, and policymakers to access localised SDG performance. Supplementing the existing data are over 40 expert commentary write-ups on goal level assessments for the country. References in academic and multimedia format are provided to spur in-depth learning on SDG issues.

The tutorial on the Monitor's layout was led by Danesh Prakash Chacko of the Jeffrey Sach Center on Sustainable Development at Sunway University. As such, the SDG Monitor utilises the same methodology as SDSN's global Sustainable Development Report.



SDSN Malaysia Conducts Special Briefing on its SDG State- level Dashboard to Malaysian Policymakers

Since the launch of its SDG Monitor, a statelevel dashboard for SDG performance, in May, SDSN Malaysia was invited to conduct a briefing on the use and benefits of this dashboard to one of its member institutions' interested staff and students. In July 2022, upon the request, a special briefing was conducted by the SDG Monitor Lead, Danesh Prakash Chacko from the Jeffrey Sachs Center on Sustainable Development for the Department of Statistics Malaysia (DOSM), the government agency responsible for the collection, interpretation, and dissemination of real time data and the monitoring of national economic performance and social development.



Public and Community Engagement Activities

Dr Fiona Wong E Chiong from School of Arts has featured as a co-moderator for Hello Malaysia, a daily talk show on audio social platform Clubhouse on various Malaysian topics and has actively shared topics in regard to Malaysia's local cultures and her research since September 2021. She has also conducted an online talk on cultural heritage topic to Kuen Cheng High School, Kuala Lumpur in July 2022.



The 2nd International Conference on Emerging Technologies and Intelligent Systems (ICETIS 2022)

Dr Tang Tiong Yew has shared insights about Robotic Process Automation (RPA) in this conference which aims to convenes academics, researchers and developers from both academia and industry to share and exchange their latest research contributions and identify practical implications of emerging technologies to advance the wheel of these solutions for global impact while also in line with the fourth industrial revolution goals and its respective impact on environmental sustainability



Webinar Organized by IChemE National Early Career (Malaysia)

The webinar entitled 'Water, Water Everywhere And Not A Drop to Drink' was coorganised with Sunway University to provide an overview of how water is essential and how the latest technology and innovation could address water security in disaster-prone or relief areas.



Drone Tech and Digital Transformation Technical Talks by Funlead Corp. Japan and Aerosense Inc, Japan

Talk 1 by Mr. Satoru Shimada – Aerosense Inc provides industrial solutions by combining Japan-made drones with AI cloud computing. This session provide stakeholders the opportunity to understand actual implementation of AI on various sector of the economy in Japan and globally.

Talk 2 by Mr. Koichi Kishi – Funlead Corp focuses on value creation via space data (remote-sensing/positioning), drone remote sensing, and IoT data using AI technologies. Introduction of past achievements in AgriTech Field and affordable hyperspectral use cases in Foodtech concepts for the future.



Providing Certification in Sustainable City Destination Management

This Certification programme is specially designed and offered to international partner's universities. This serves as an international engagement through the agenda of promoting education in sustainable development in particular to the area of tourism, hospitality, and destination management. The first cohort was held in February 2022 offered to Kyoto Tachibana University and second cohort was in June 2022 with Petra Christian University.



### Health Consumption Awareness

The School of Medical and Life Sciences has been emphasizing health consumption in the public through several engagements with the governments and international organizations. This includes:

### HOPE-Asia Network to Improve Management of Hypertension in Asia

A group of 22 hypertension specialists from 14 different regions of Asia who has done research together and written many consensuses on management of hypertension in Asia.

### The goal of the HOPE Asia Network is to improve the management of hypertension and organ protection towards achieving "zero" cardiovascular events in Asia

### MyWASSH Malaysian Society for World Action on Salt, Sugar, and Health

A new NGO formed by Prof. Chia Yook Chin and her team. MyWASSH seeks to inculcate salt and sugar reduction strategies by engaging with lawmakers, the food industry, the media, and the health care professionals, the public.





Sharing Knowledge Through Seed Bomb Workshop

Sunway Material Smart Science and Engineering (SMS2E) Research Cluster was recently invited by Marketing Office, Sunway University to conduct a four-day seed bomb workshop for 120 school teachers on Teachers' Day June 2022. This workshop was conducted by Dr. Jane Gew and her research assistants as well as student ambassadors from School of Medical and Life Sciences, Sunway University. Student ambassadors had fun sharing knowledge on food waste and composting with the school teachers. We learn better when we teach, don't we?



### IMT-GT & BIMP-EAGA Green City Action Plan Kick-Off

The Government of Malaysia, in partnership with the Asian Development Bank, ICLEI-Local Governments for Sustainability and the IMT-GT Joint Business Council Malaysia, is supporting the development of Green City Action Plans (GCAPs) in 14 Malaysian cities over the next five years under the IMT-GT and BIMP-EAGA subregional cooperation. The GCAOs, developed through a scientific and systematic methodology, will identify constraints, gaps, and opportunities for resilient, low-carbon development in urban areas. Identified pipelines of infrastructure projects will catalyse government and private sector investments.



### **Actions to Combat Climate Change and Its Impact**

Several engagement sessions, webinar, workshop, and lectures are conducted to improve education, awareness-raising and human and institutional capacity on climate change mitigation.

Some sustainability engagement sessions conducted:

- Experts' engagement session on climate change and climate risk -Hong Leong Bank
- Legal workshop on carbon financing to mitigate climate change
- Webinar on sustainability: Key considerations and impacts to business
- Section editor for the journal climate change ecology
- Webinar on climate finance to MYLCOY 2021



#### **Biodiversity Conservation**

Biodiversity conservation has always been the hot topics to be aware because it provides vital ecosystem functions such as soil fertilization, nutrient recycling, pest and disease regulation, erosion control and crop and tree pollination. As such, biodiversity supports food security and sustained livelihoods through overall genetic diversity.

Some sustainability knowledgesharing activities conducted:

- Workshop on potential transformation in challenging environmental and societal issues
- STEP Environment Camp
- World Wildlife Day Regional Youth Symposium
- Lecture on Kenyir for Life: Saving the Malaysian Tiger and more
- Lecture on environmental conservation in National University of Singapore



### Community Service Project with Non-Governmental Organisations



Fundraising initiatives have been carried out by undergraduate students in School of Hospitality and Management to NGOs including Rumah K.I.D.S, Seso, Tzi-Chu Foundation Malaysia, Free Tree Society, and others.

### **Sunway Student Volunteers**



Sunway Student Volunteers (SSV) is known as a student volunteer body in Sunway University campus. It was formed with the belief and understanding that the spirit of volunteerism is essential in humanity to bring continuous impacts and benefits to the community. In 2021-2022, SSV had organised several meaningful volunteer projects as listed:



### Setting Up Toy Libraries

The Sunway Student Volunteers Community Department has also been consistent in helping several organisations including Malaysian CARE and the RePlay Project organise and prepare their toy libraries for their beneficiaries and the general public. These include toy libraries located in DaMen Mall and SS3 Toy Recycling Hub.





Making a Differences in BRT Run 2022

The Sunway Student Volunteers Health Department helped the organisers of the BRT Run held along the tracks of Sunway's BRT. The 20 volunteers forwent sleep for the event that started at 10 p.m. and lasted until 4am early the next morning. Volunteers were tasked with distributing runner tags and directing the runners to the correct route,





### Showers Love and Care to Stray Pets

Let's not forget our furry friends whom SSV has also been actively helping through our Wildlife Department. Our bi-monthly event, The Zero Stray Project, continues to encourage care for all living creatures including strays. Volunteers help the NGO prepare food such as rice and chicken and pack them separately into 240 packets to be distributed across several zones in Puchong.



### **Collaboration with Free Tree Society**



The Sunway SSV Environment Department has been actively taking care of SDG 12 and 13 (Life on Land and Life on Water) through tree planting projects and assisting Friends of Sungai Klang in their GreduATION Programme to naturally cleanse the Klang River.



### Community Projects Conducted by the School of Mathematica Sciences

Community projects play a crucial role in achieving the visibility of the 2030 Agenda for Sustainable Development. Importantly, to meet the diverse needs of different communities in creating a better quality of life and future for all generations. Over the year, the School of Mathematical Sciences has conducted several community service activities, including:



#### Distribution of Food and Essential Items to the Needy

NGO engagement activities in collaboration with SESO Malaysia, PPR residents with Asian Youth Ambassadors, Kechara Soup Kitchen.



### Visits to Community Homes



In an effort to spread awareness on community issues and raise funds to the needy, the project was conducted in January 2022. The community homes that the School has visited include Shelter Home for Children, House of Joy, Elderly Welfare Association Chan Kuala Lumpur, Pusat Jagaan Kanakkanak Istimewa Cerdik Taman Klang Jaya, and many more.





Visits to Community Homes

In collaboration with NGO – Asian Youth Ambassadors, Maths for Community is a weekly initiative that provide physical Mathematics teaching and activities to poor children in Angsana flats, USJ1





Animal Adoption and Sustainable Ecosystems

Activities including sorting recyclable items, planting trees, collecting garbage by the beach, cleaning animal shelter, bathing the dogs, feeding and spending time playing with rescue pets are conducted to spread awareness on animal adoption and promote sustainable ecosystems. This was in collaborations with Tzu Chi Bukit Cheng Recycle Centre, Friends of Sungai Klang Mid Valley River Three, Second Chance Animal Society and S.I. Shelter.



# METHODOLOGY

This SDG Report highlights Sunway University's actions in addressing the United Nations Sustainable Development Goals (SDGs). We continue to map our actions in addressing the SDGs through four main areas: Leadership, Education, Research and External Engagement. The overall data inevitably derives from multiple sources and at different timelines between 2021- 2022.

#### Data, Metrics and Source of Information

Data has been extracted from Scopus to exhibit Sunway University's total research publications against each SDG from 2021 to 2022. Such data is retrieved on the 29th of November, 2022. With such data, we have been able to summarise:

- The number of Sunway University publications for each SDG for the period 2021-2022
- The level of the citation impact of Sunway University's publications against each SDG for the period 2021-2022
- The level of lead author impact of Sunway University's publications against each SDG for the period 2021-2022
- The number and proportion of SDG publications co-authored with researchers internationally for the period 2021-2022
- Total publications for each SDG year on year for the period 2019-2022
- Top 10 Most Collaborated Countries for the period 2021-2022
- Global collaboration mapping for the period 2021-2022

Case studies and action initiatives were selected for inclusion to illustrate the contributions to the SDGs. The actionable SDG initiatives and information were collected through a campus-wide self-reporting initiative which was reviewed and re-write for the purpose of the publication. Many other actionable highlights will be provided in our future sustainability microsite for a fuller picture of our impact.



### IN PARTNERSHIP WITH THE WORLD

International collaborations with the globally renowned institutions.





