

MOBILISING THE SUSTAINABLE DEVELOPMENT GOALS THROUGH UNIVERSITIES:

**Case Studies of Sustainable Campuses in
Malaysia**

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Mobilising the Sustainable Development Goals Through Universities: Case Studies of Sustainable Campuses in Malaysia

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Jeffrey Cheah Institute on Southeast Asia (JCI) is an independent public policy think-tank based at Sunway University on the outskirts of the Malaysian capital, Kuala Lumpur. The Institute's research programme is grouped around three core disciplines: economic development, governance, and social progress, including education. Its mission is to develop solutions to some of the region's most pressing development problems. JCI seeks to engage policymakers, scholars and ordinary citizens through regular public lectures and discussions, and to build lasting academic partnerships in the region and the wider Asia-Pacific.

Jeffrey Sachs Center on Sustainable Development (JSC) is a regional center of excellence that advances the achievement of the 17 Sustainable Development Goals (SDGs) in Malaysia and Southeast Asia, tackling the sustainability agenda through education, training, research and policy advisory. Launched in December 2016, the Center operates out of Sunway University and was borne out of a \$10 million gift from the Jeffrey Cheah Foundation (JCF) to the UN Sustainable Development Solutions Network (SDSN).

ABSTRACT

The 2030 Agenda as adopted by the United Nations General Assembly paves the way forward for planet, people and prosperity—an Agenda that replaced the Millennium Development Goals with the Sustainable Development Goals (SDGs). The SDGs consist of 17 goals, 169 targets and 232 indicators. Essentially the goals exist to address sustainability holistically, covering all dimensions including economic, social, cultural and ecological aspects. The United Nations has identified Goal 4: Quality Education as one of the main drivers in achieving the Agenda. This paper focuses specifically on Target 4.7: Education for sustainable development and global citizenship. Universities play a vital role in engaging youth and generating knowledge and expertise in understanding and implementing the SDGs. This paper explores the role of universities in ensuring the SDGs are met, as a mobilising catalyst for accelerated implementation, as well as case studies of sustainable campuses in Malaysia that showcase the community and student outreach projects, in line with the SDGs, such as the Bicycle Project at the University of Nottingham, Malaysia Campus, Kompos to Kelulut (K2K) at the Universiti Sains Malaysia and Sunway Youth for Sustainable Development at Sunway University. The case studies show that education goes beyond the formal curricula, emphasising on soft skills and critical thinking – a major component of and contributor towards pro-environmental behaviour. A set of recommendations are included to address limitations in the study.

Keywords: SDGs – universities – sustainability - sustainable campus. ■

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MOBILISING THE SUSTAINABLE DEVELOPMENT GOALS THROUGH UNIVERSITIES: CASE STUDIES OF SUSTAINABLE CAMPUSES IN MALAYSIA

Introduction

The United Nations Rio+20 Conference in 2012 witnessed the establishment of the Sustainable Development Goals (SDGs) by 193 countries (United Nations Development Programme (UNDP), 2015). The SDGs replace the expiring Millennium Development Goals (MDGs) in a post-2015 setting, with a vision of achieving the 2030 Agenda. The purpose of the SDGs is to stimulate governments and civil society to step up and address the interrelatedness of environmental, societal and economic challenges that we face today (Norstrom et al. 2014). Although the previous MDGs were a historic pioneering set of goals for global mobilisation, it has been critiqued for having a narrow focus on human development, whilst neglecting the significance of natural capital and ecosystem services (Sachs, 2012). There is also little cross-referencing between targets and indicators, as well as a lack of universal ambition for the transformation of sustainability pathways (Norstrom et al. 2014). Unlike the MDGs, the SDGs put forward a unified universal framework to enhance human prosperity in the Anthropocene, where global environmental risks are ever rising (Griggs, 2014).

The urgency for sustainable development is apparent as the triple bottom line approach is key towards determining human wellbeing (Sachs, 2012). Nearly all of the world's societies have expressed that they strive for a holistic collaboration of economic development, environmental sustainability and social inclusion. However, specific objectives may differ globally and between societies. Nonetheless, this proves that the SDGs concern everyone and has to adopt an inter-sectoral approach in terms of implementation across levels. The 17 goals, for example, highlight different areas of focus in achieving a sustainable future. Goal 4 in particular, represents quality education.

Education represents the most fundamental process of facilitated learning, to inhibit knowledge, values, skills and habits. Education is so important that the United Nations called for the International Decade of Education for Sustainable Development (IDESD) in 2005. The purpose of IDESD is to provide a platform to integrate the values, principles and practices of sustainable development in education and learning holistically. UNESCO (2005) stated that education for sustainable development (ESD) is set to review educational approaches to ensure that they were up

to pace with the evolving challenges of sustainable development. Ultimately, the goal for IDESD was to encourage behavioural change in hopes of achieving a more sustainable future, especially in terms of environmental integrity, economic viability and a just society for all (UNESCO, 2005).

At higher institutional levels, ESD is most likely to be associated with an integrated curriculum structure in individual modules or as part as a larger course. However, this is not often the case. The SDGs are taught in various methods and via myriad platforms. More often than not, the SDGs are incorporated in extracurricular activities, whether it be led by student, faculty or campus community. Individual academic interest and motivation are often the key drivers for action and implementation for SDGs in universities, as they are more well informed on UN campaigns compared to university management. The existence of pockets of implementation by conscious individuals shows that there is a lack of coordinated approach at all levels of institution (Mohamedbhai, 2015).

The objective of this paper is to compile and analyse case studies of sustainable initiatives in universities in Malaysia as best practices that can be adopted by other universities moving forward the sustainability agenda. The paper focuses on the following aims:

- 1) To highlight the proactiveness of the campus community in Malaysian universities in implementing sustainable initiatives and the localisation of SDGs via case studies of existing projects;
- 2) To identify the factors affecting positive change in campus sustainability to further enhance the implementation of SDGs in universities; and
- 3) To provide recommendations to improve the advancement of ESD and sustainability initiatives of universities in Malaysia. ■

UNDERSTANDING SUSTAINABILITY IN MALAYSIAN UNIVERSITIES

In Malaysia, there are different models of higher education institutions, which include mainly public universities, polytechnics, private universities, branches of foreign universities and private colleges (Saadatian, 2011). Different models of higher education institutions (HEI) have different operational procedures. Public universities are funded by the government, of which five of these universities have “Research University” status. Private universities and colleges are universities and colleges set up by financially sound corporations and monitored by the Ministry of Higher Education (MOHE) of Malaysia. Currently, Malaysia has 20 public universities, 43 private universities, 31 private colleges, 9 foreign university branches and 34 polytechnics (StudyMalaysia.com, 2016).

According to Mohd. et. al. (2011), the definition of a sustainable campus is based on its operations, social and economy that promotes long term survival of the environment and respective social structures. Another definition of sustainable campus as developed by Cole (2003), Velazquez et. al. (2006), and Habib and Ismaila (2008) emphasise well-being and health as the key characteristics leading towards a better balance between social, economic and environment goals. In general, a sustainable campus would cover four areas of university community, which include the administration, academic departments, university research efforts and the local community (Kasim et. al., 2014). The studies on Malaysia by Kasim et. al. (2014) and Abd-Razak et. al. (2012) suggest that planning and design of the campus play an important role in developing a healthy environment hence better supporting the sustainability of campus.

There is a considerable amount of environmental awareness with regards to achieving a sustainable campus in Malaysia (Abdullah, 2014). Many universities are involved in monitoring their campuses’ energy consumption and waste, while others focus on fundamental basics such as recycling and separation of food waste. The levels of sustainability in Malaysian university campuses vary as some are merely in the pioneer stage while others are veterans in the field. ■

METHODOLOGY

The paper adopts the case study framework that will capture both the qualitative and quantitative analysis of the sustainability initiatives of Malaysian universities. The case study methodology incorporates various primary and secondary data generation techniques such as reviewing literature, interviews of key stakeholders, and also physical 'observations'.

The literature review covers the leading electronic journal databases. Interviews with key persons-in-charge of leading the projects in each of the campuses were carried out to further understand the depth of the projects. In addition, we also adopted physical 'observations' as a technique to observe the behavioural and visual aspects of the university campus, which includes composition, form and appearance of the university (Shuhana et. al., 2007).

The following three campuses and projects were selected based on accessibility and programmes adopted by the respective universities: (a) University of Nottingham, Malaysia Campus's 'Bicycle Project' from 2015-2016, (b) University Sains Malaysia's 'Kompos to Kelulut' in 2017, and (c) Sunway University's 'Sunway Youth for Sustainable Development' in 2018. All the key activities were closely monitored to capture the key dimensions and to ensure accurate representation of information. ■

CASE STUDY PARTICULARS

The University of Nottingham Malaysia Campus (UNMC), Universiti Sains Malaysia (USM) and Sunway University (SU) were selected as case studies for this paper. The three selected universities are very diverse, with UNMC being a foreign university branch campus, USM being a public university and SU a private local university. There are different approaches being made to tackle sustainability issues in each university as well. This paper highlights the common best practices for sustainable campus initiatives, regardless of the university background or approach.

The Bicycle Project, the University of Nottingham, Malaysia Campus

The University of Nottingham, Malaysia Campus is situated about 38 kilometres from Kuala Lumpur, in a quiet town in Semenyih, Selangor. It is the first British university campus in Malaysia, and one of the first to open outside the UK. The Malaysia Campus was set up in 2000, and moved to its current location in Semenyih in 2005. The total enrolment of students in UNMC is at an estimated 5,000 in 2016. It is considered a relatively new and small campus, which in turn creates a rather intimate connection between the campus communities.

The campus mimics the attributes of the University Park Campus in the UK, spanning about 50.6 hectares, with lush greeneries and a man-made lake in front of an iconic clock tower. The university has four faculties, which comprises teaching staff from the UK Campus, as well as competent international and local lecturers as well. All students take part actively in co-curricular activities under the Student Association (UNMC, 2018). Many sustainable initiatives in UNMC are developed through a bottom-up approach, from a 'Bring Your Own Tupperware' initiative, to getting more recycling bins on campus.

As students become more environmentally conscious, so does the university. In 2015, a group of students gathered together to carry out the UNMC Bicycle Project. Co-founded by Jasmin Irisha Jim Ilham and Malik Hisyam Zaihan, the UNMC Bicycle Project aimed to provide an alternative mode of transportation, cultivate a cycling culture, lower the amount of campus carbon emissions from motorised vehicles, and encourage a healthy lifestyle among the campus community. There were two initial reasons behind why the project was carried out. Local students faced a parking problem on campus, as there was a lack of parking lots to cater to the high number of vehicles. On the other hand, international students, mostly UK and EU students, were very interested to rent bicycles - a service that the campus did not offer.

A team of students who primarily cycle to campus were put together, and in collaboration with the Sustainability Research Network, conducted a campus-wide survey to gauge interest towards cycling. Based on the survey, 69% of respondents expressed their interest in having a bicycle rental system on campus. As a result, a proposal was drafted and presented to the Campus Services director, seeking support to pilot a student-run, small-scale bicycle rental system.

This also led to the conception of UNMC's first ever Cycling Club, to provide a platform for students to not only cycle together but to champion for sustainable transportation. The Cycling Club was established to not only provide a common platform for interested individuals to gather and form a community, but also to monitor the progress of the Bicycle Project.

Through multiple meetings and discussions, the Campus Services director showed his support for more bicycles to be brought in to campus, although he questioned the feasibility and sustainability

of it. The idea of bringing in e-bikes was toyed around with but did not eventually become a reality. The emergence of oBike in Malaysia provided just the solution, as the company had intended to build a presence in university campuses. Bicycles provided by oBike were welcomed into UNMC and saw many students pick up the habit of cycling to get from one end of campus to the other. UNMC has also incorporated cycling as part of their Campus Sustainability portfolio.

The UNMC Bicycle Project was purely a bottom-up, grassroots movement, led by the students themselves.

Kompos to Kelulut (K2K), Universiti Sains Malaysia

Universiti Sains Malaysia (USM) is located on an island state on the northwest coast of Peninsular Malaysia, called Penang or Pulau Pinang. USM was founded in 1969 and is one of the oldest institute of higher learning in Northern Malaysia. It had around 24,375 students enrolled in 2016, making it one of the biggest universities in Malaysia in terms of enrolment. It is also large in terms of space, taking up a 416.6 hectare site (Universiti Sains Malaysia, 2018).

USM is no stranger in the realm of sustainability in higher education. Aside from being one of the leading research universities in Malaysia, USM is committed to “transforming higher education for a sustainable tomorrow.” USM is well recognised as a Regional Centre of Expertise (USM-RCE) for education for sustainable development, taking part in the Kampus Sejahtera (Campus Well-Being) Programme, and most of all, gaining the Malaysia’s Accelerated Programme for Excellence (APEX) status.

The strength of USM’s ability to push forward the sustainability agenda lies in the commitment of campus faculty to lead and be agents of change. One of the successful examples in particular is the School of Industrial Technology’s Compost to Stingless Bees project, better known as ‘Kompos to Kelulut’ (K2K). The K2K project started in 2014 under the Knowledge Transfer Programme, a research grant awarded by the Ministry of Higher Education. The Knowledge Transfer Programme awards grants to researchers from local universities to share their research findings with the industry and local communities for two years. It is also intended to train fresh graduates.

The K2K project was led by Professor Dr. Mahamad Hakimi bin Ibrahim from Eco-process Research Technology Group (ECOPRO), the School of Industrial Technology. The project is a continuation of existing research on Composting and Vermicomposting which started in 2010. At the time, the purpose of the project was purely for research, in which 8 Master students and 3 PhD students graduated from various studies on Composting and Vermicomposting. The K2K project grew into the Rooftop Wild Garden project as ECOPRO searched for space to grow plants using the compost that was produced during the composting and vermicomposting research. ECOPRO identified the university rooftop as a suitable space to start a wild garden based on the concept of zero waste, zero space and zero time.

At the same time, the extra compost was deposited at an area nearby the school, called Bukit TI. Bukit TI, also known as the Green Technology Garden, is used as a teaching and training centre for the K2K project on the methodology of Ecosystem Design & Restoration. Visitors come from local and international universities, government agencies such as Forest Research Institute Malaysia (FRIM), community colleges, schools, private sectors and the local community.

This project also creates a volunteering opportunity for USM students and the local community to participate in greening Bukit TI. Workshops are regularly conducted on topics such as making Eco Soap, developing their own Effective Microbe (EM), and various methods of composting and vermicomposting. Ultimately, the project aims to grow a ‘USM Community Garden’ using Green Technology as well as Ecosystem Design & Restoration.

Having a faculty to lead and contribute to the sustainability efforts of the campus is one of the main driving forces for the advancement of sustainability of the university.

Sunway Youth for Sustainable Development, Sunway University

Sunway University (SU) is located 16km away from the Kuala Lumpur city center, in Bandar Sunway, Subang Jaya, Selangor. The university was first established in 1987 as Sunway College, then upgraded to university college in 2004, followed by full university status in 2011. It has over 5,000 students and is owned and governed by the Jeffrey Cheah Foundation.

As a leader in sustainability, SU champions the United Nation's 17 Sustainable Development Goals (SDGs). SU supports sustainability initiatives via constantly pushing forward the best minds to discover new ideas in pursuing environmental and economic issues. In line with the goal of creating a sustainable future for all, SU hosts the Jeffrey Sachs Centre on Sustainable Development (JSC), which is a collaboration between the Jeffrey Cheah Foundation and the United Nations Sustainable Development Solutions Network (UN-SDSN) (Sunway University, 2018).

As part of the university's sustainability framework, the Sunway Youth for Sustainable Development (SYSD) was established and co-founded by Natasha Ting and Mohd Shakirin in 2016. The society aims to raise awareness about the Sustainable Development Goals (SDGs) among Sunway University stakeholders and advocate for the realisation of solutions on campus. It would also serve to collaborate with regional organisations to work on implementation of the SDGs. In 2017, a committee of students from Sunway University were appointed to the committee of SYSD to champion these goals on campus, under the supervision of JSC.

SYSD is established as a platform for Sunway University students to be more involved in projects and activities related to the causes under the 17 United Nations Sustainable Development Goals (UN SDG). For instance, SYSD had organised its inaugural event, Earth Week, to bring students together and expose them with the 17 UN SDG. These goals are important guidelines to reduce societal as well as environmental problems in the today's community. Activities like Earth Week aims to embed the motivation and desire in students to be a change agent in their respective communities.

SYSD was formed as a result of an organised framework structure in order to implement the SDGs effectively in the community. ■

DISCUSSION

The three case studies put forward in this paper showcases the different projects and approaches leading to a sustainable campus in Malaysia. From solving an urban transportation issue, nature-based initiatives, to grooming youth champions for SDGs, there are many ways for sustainability to be practiced and implemented in higher institutions. Sustainability in pedagogy through ESD is not enough, instead, it must come with experience and hands-on engagement that can harness soft skills and critical thinking among students. According to Reza, Choy and Pereira (2013), field-based pedagogical approach is effective and helps students understand sustainability from a broader perspective. This aligns with the presented case studies, that were not part of the formal university curricula. These 'Sustainability in Practice' examples may not cater towards the usual pedagogical approach, but is important as it creates an immense impact on society (Reza, 2016).

Localization of SDGs

The Government of Malaysia recently launched a Voluntary National Review (VNR) 2017 of the SDGs at the High-level Political Forum. Localisation of SDGs can be identified by mapping the 17 SDGs, 169 targets and 232 indicators against the current 11th Malaysia Plan, themed 'Anchoring Growth on People'. The VNR acts as a testimony of Malaysia's continuous commitment to achieve the 2030 Agenda and the SDGs (VNR, 2017).

The 17 SDGs are universal and transformational, providing a guide to address major development challenges for humanity. The case studies portrayed in this paper act as a medium for the localisation of SDGs and demonstrate an impactful local outcome. For example, the UNMC Bicycle Project relates to SDG1: Sustainable Cities and Communities, K2K relates to SDG4: Quality Education and SYSD relates to SDG17: Partnership for the Goals.

Leaders in local communities have the responsibility to align SDG framework and national policies together, making localisation of SDG a priority. Towards the achievement of the 2030 SDG Agenda, implementation of the SDGs at a local scale is critical. Among the main points moving forward from the VNR include localising SDGs at sub-national levels via adopting the national multi-stakeholder governance at state levels, mobilisation of resources through partnerships and knowledge sharing to strengthen data readiness for a more comprehensive dataset for implementation of SDGs (Sustainable Development Knowledge Platform, n/a).

Factors Affecting Positive Change

There are several questions that spurred up from analyzing the projects from the case studies:

1. What drives the motivation for students and staff to carry out their sustainable projects?
2. Does the awareness of students and campus community on sustainability reflect how sustainable the overall campus is? Or do existing sustainable facilities that are already available on campus enhance the awareness of students and the campus community?
3. How does one ensure continuity of the project and influence others in respective circles to adopt the same practices?

Pro-environmental behaviours are evident in the co-founders and project leaders, despite the project being a grassroots movement or a product of an institutional setup. They recognised that there are several environmental problems that encroach the world and pose a threat to sustainability, which include climate change, anthropogenic pollution and biodiversity loss (Steg

and Vlek, 2008). The direction of environmental education is currently shifting, via the reorienting higher education process (Akiyama et. al., 2013). This process shifts the traditional knowledge on environmental education and sustainability towards integrating that curricula to establish a role that higher institutions can play.

The emergence of not only environmental leadership, but also youth leadership was observed in all three case studies. The UNMC Bicycle Project was independently co-founded by students, the K2K USM project hones undergraduate and graduate students to volunteer and take up research in the field, while the SYSD SU team of organisational members is fully comprised of university students. This reveals that modern day sustainability extends beyond sharing existing scientific knowledge, but 'walking the talk' from what was learned within the four walls of a classroom. Akiyama et. al. (2013) argue that Asian universities are relatively slow and distant from global movements of networking in environmental education and leadership development, as well as lacking active involvement in participatory leadership programmes. This is highly debatable for universities in Malaysia as there is an improving trend that higher institutions are adopting sustainable practices, due to the localisation of SDGs into the national agenda.

The question on the direction of change, whether high student awareness leads to greater campus sustainability or if reformed campus facilities leads the way to greater student awareness, is a chicken-and-egg dilemma. To achieve whole-of-institution change and adopt a holistic sustainability approach in universities, there are a number of criteria to take into consideration, which primarily starts at an institutional level. Universities with clear goals and strong sustainable policy directions will be able to advance ESD more smoothly (Ralph and Stubbs, 2014). However, will this translate into pro-environmental behavioural change and increase in environmental awareness? Behavioural change and awareness takes time, and is dependent on the effectiveness of the surrounding environment in influencing pro-environmental choices and decision. For example, a student is more likely to recycle if recycling bins are easily found around the campus, because it is convenient for them. But what happens when there are no recycling bins that can be found? The student will most likely discard the recyclable disposal in a trash can.

What the three case studies have in common is that they provide a platform for the campus community to be more environmentally cautious and to increase awareness on sustainability. The UNMC Bicycle Project aims to provide a bicycle rental service to encourage more people to cycle, the K2K USM project dedicates an outdoor space for nature based learning to cater to hands-on experiential training, whereas SYSD SU is a common platform for youth to learn from one another to enhance youth leadership in sustainability and further inspire others to be more environmentally aware.

Continuity of sustainability projects in universities is vital to ensure that more in the campus community can benefit from them. A key success factor that is identified through the three case studies is people, particularly committed individuals. People who hold leadership roles in the projects are responsible for the operational and implementation of the project. Other attributes that are important to maintain the sustainability of the projects is commitment and funding. Thus, capacity building plays a fundamental key to ensure the continuity of the projects. Being able to identify key potential individuals to carry on what was started is a challenge, but is definitely needed. It is considered challenging because universities have a high turnover rate, as students only spend three to four years in a university.

Limitations and Lessons Learnt

The key success factors are also key limitations that were identified in determining the success of projects. In moving forward, it is pertinent to address leadership, funding, policies and human

resource challenges. The case studies did not highlight the timeframe, manpower and number of activities carried out per year. These attributes would influence the effectiveness of the projects and how the projects are able to outreach to the community and achieve goals accordingly. A multifaceted approach can be adopted in advancing ESD and sustainability initiatives on campus that includes:

- Establishing a sustainability framework in universities to govern, enhance and support the strategic directions of environmental sustainability on campus;
- Consistency in the funding allocated in order to encourage students and staff to carry out sustainability initiatives and integrate sustainability in the curricula;
- Engaging with environmental leaders and advocates within the university to mobilise the sustainability movement and create awareness in the community;
- Providing capacity building training to hone skills in staff and students of the university to further understand the university's environmental sustainability principles, directions and policy (Ralph & Stubbs, 2014). ■

CONCLUSION

Universities play an important role in shaping the leaders of tomorrow, today. The importance of achieving the 2030 Agenda has increasingly become a priority for universities that put forward Sustainable Development as one of their key areas of development and have committed to embedding SDGs as core values and principles in their everyday teachings and activities. Adopting best practices from the case studies could elevate universities in Malaysia in terms of sustainability, making universities in Malaysia align with the global United Nations standards, thus increasing the university's performance in producing more valuable and holistic graduates that are environmentally conscious and aware of the present conditions of the planet. ■

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