Promotion of Sustainability in Postgraduate Education and Research

ProSPER.Net

ProSPER.Net:

Enabling Higher Education for the Sustainable Development Goals 2015-2021

Editors:
Mario Tabucanon
Jonghwi Park

UNITED NATIONS UNIVERSITY

UNU-IAS

Institute for the Advanced Study of Sustainability

This document should be cited as:
ProSPER.Net: Enabling Higher Education for the Sustainable Development Goals 2015-2021
UNU-IAS, Tokyo, Japan, 2022

Editing and coordination:
Mario Tabucanon
Jonghwi Park

Contributors:
Miki Konishi
Nancy Pham
Fumiko Noguchi
Philip Vaughter
Jaewook Sung

Main cover photo:
Daniel Powell/UNU

Design and layout:
Fraser Biscomb

© The United Nations University 2022

Published by:
United Nations University, Institute for the Advanced Study of Sustainability (UNU-IAS)
5-53-70, Jingumae, Shibuya
Tokyo 150-8925, Japan
Email: ProSPERNet@unu.edu
Web: https://prospernet.ias.unu.edu/

The designations employed and the presentation of material throughout the publication do not imply the expression of any opinion whatsoever on the part of UNU-IAS concerning the legal status of any country, territory, city or area or of its authorities, or concerning its frontiers or boundaries.
The contributing authors are responsible for the choice and presentation of the facts contained in this document and for the opinions expressed therein, which are not necessarily those of UNU or UNU-IAS and do not commit either the University or the Institute.

Print ISBN: 978-92-808-4652-2
e-ISBN: 978-92-808-4602-7

Acknowledgement
ProSPER.Net is profoundly grateful to the *Ministry of the Environment of Japan* for its generosity in support of the network initiatives. Gratitude also goes to *ProSPER.Net* member institutions as well as partner organisations that participated in *ProSPER.Net* joint projects, programmes and events.

The *ProSPER.Net Secretariat* greatly appreciates the inputs provided by members of the *ProSPER.Net* community who reviewed various sections of the Report. The reviewers were: the Investigators of 12 Joint Projects; Hosts and organisers of 4 *Young Researchers' Schools*; Hosts and organisers of 6 *Leadership Programmes*; and Hosts and organisers of 9 *Forums on Sustainability in Higher Education*.

Contents

Executive Summary 3

Chapter 1 Introduction – ProSPER.Net at a glance 4
1.1 Rationale and history in brief 4
1.2 Vision, mission, programmes and governance 4
1.3 Context – global frameworks 5
1.4 About the *ProSPER.Net Report* 6

Chapter 2 Curriculum development 8
2.1 Background 8
2.2 Understanding Decentralised Energy Interventions and Their Success Conditions in Selected Countries in Asia-Pacific 8
2.3 Health Food Traditions of Asia 9
2.4 Climate Compatible Development in Asian and Pacific Cities 10
2.5 Built Environment Curricula in the Asia-Pacific Region: Responding to Climate Change 11
2.6 Recycling Plastics in Asian City Environments (RePLACE) 14
2.7 Disaster Resilience and Sustainable Development Education Network in Asia 14
2.8 Disaster Education for Integrating SFDRR and SDG in Asia 16
2.9 Development of a Framework for the Local Implementation of the SDGs (Phase 1) 17
2.10 Development of a Framework for the Local Implementation of the SDGs (Phase 2) 18
2.11 Safe Havens: Relocating SIDS Communities Threatened by Climate Change 20
2.12 Impacts of Pollution on Tropical Montane and Temperate Forests of South Asia: Preliminary Studies by Postgraduate Students in India and Sri Lanka *(In progress)* 21
2.13 One Health Approach in Long-tailed Macaques Conservation and Zoonotic Potential from Molecular and Social Perspective in Tourism Places of Bali and Yogyakarta *(In progress)* 21
2.14 Synthesis 22

Contents

Chapter 3 Capacity building 24

3.1 Background 24
3.2 **Young Researchers' School** 24
3.2.1 New Delhi, India 2016 24
3.2.2 Ho Chi Minh City, Vietnam 2017 25
3.2.3 Kanagawa, Japan 2018 26
3.2.4 Yogyakarta, Indonesia 2019 27
3.2.5 Synthesis 28
3.3 **Leadership Programme** 30
3.3.1 Sabah, Malaysia 2015 30
3.3.2 Labuan Island and Beaufort, Sabah, Malaysia 2016 31
3.3.3 Bangkok, Thailand 2017 32
3.3.4 Melbourne, Australia 2018 32
3.3.5 Quezon City, Philippines 2019 34
3.3.6 Tokyo, Japan (Virtual) 2021 35
3.3.7 Synthesis 35

Chapter 4 Policy advice 38

4.1 Background 38
4.2 Tongji University 2015 38
4.3 UNU-IAS 2016 39
4.4 Chulalongkorn University 2017 39
4.5 Chulalongkorn University 2018 40
4.6 Universiti Teknologi Malaysia 2018 40
4.7 UNESCAP 2019 41
4.8 Miyagi University of Education 2019 41
4.9 UNU-IAS (Virtual) 2020 41
4.10 Ateneo de Manila University and University of the Philippines Diliman (Virtual) 2021 42
4.11 Synthesis 42

Chapter 5 Next steps – ways forward 44

Executive Summary

Since the Promotion of Sustainability in Postgraduate Education and Research Network (ProSPER.Net) published its first consolidated report in 2014 in commemoration of the conclusion of the United Nations Decade of Education for Sustainable Development (UN DESD 2005-2014), the landscapes of higher education have progressed remarkably into the broader realm of sustainability evolving towards interlinking Education and the Sustainable Development agenda. The launching of the UN Agenda 2030 and the Sustainable Development Goals (SDGs) in 2015 was a manifestation of the urgent call to action by all countries to create a sustainable future. Towards this end, SDG 4, on Quality Education, stipulated specifically in SDG 4.7 (on Education for Sustainable Development), serves as an enabler to all Goals. As a network of higher education institutions in the Asia-Pacific region, which is dedicated to sustainability transformation in higher education, ProSPER.Net supports the implementation of the UN Agenda 2030 and the SDGs.

This Report is a compilation of ProSPER.Net projects, programmes and events undertaken during the past seven years, from 2015 through 2021, highlighting synopses on contexts, processes, outcomes, impacts, recommendations and lessons learned from wide-ranging experiences of the network. ProSPER.Net initiatives have centred on curriculum development demonstrated through joint projects that integrate sustainability into curricula; capacity building for young professionals and postgraduate students that equipped them with knowledge and skills on leadership for sustainability and research; and policy advice supporting policymakers.

During the period covered in this Report,

- *a dozen ProSPER.Net Joint Projects have been executed,*
- *four ProSPER.Net Young Researchers' Schools offered,*
- *six ProSPER.Net Leadership Programmes conducted, and*
- *nine ProSPER.Net Forum on Sustainability in Higher Education events held,*

all having themes relevant to Education for Sustainable Development, which contributed to the implementation of the SDGs in the context of the "ESD for 2030" framework priority action areas.

Looking ahead, this Report is a testimony to ProSPER.Net's resolve to step up with its mission to transform higher education institutions and enhance involvement of alliance members and like-minded partners, as the network community continues to thrive and expand. Under its devolved, decentralised governance system, such as through Expert Advisory Panels, where varied expertise of members is harnessed, the network aims at consolidating, synergising and focusing its programmes and projects on key thematic areas - Climate Change (Planet); Circular Economy (Prosperity), and Equity and Inclusion (People) – in undertaking curriculum development, capacity building, supporting policymaking, and facilitating mobility of students, researchers, faculty, and curricula for the next five years.

Chapter 1
Introduction – ProSPER.Net at a glance

1.1 Rationale and history in brief

In response to the global call to reorient education towards integrating the Education for Sustainable Development (ESD) paradigm into education policies, programmes and systems[1], the United Nations University Institute for the Advanced Study of Sustainability *(UNU-IAS)*[2] embarked on a noble cause to promote sustainability in postgraduate education and research, through building an alliance of leading higher education institutions in the Asia-Pacific region. It was inspired by regional policy makers' calls for recognising the pressing need to strengthen higher education for sustainable development, underscoring the importance of networking of higher education institutions (HEIs) to face the challenges resulting from the unsustainable and uneven growth, and producing a new cadre of leaders for sustainability in the region.

With the pioneering support of the *Ministry of the Environment of Japan (MOEJ)*, together with partner organisations and spearheaded by *UNU-IAS*, the *Promotion of Sustainability in Postgraduate Education and Research Network (ProSPER.Net)* was launched on 21 June 2008 in Sapporo, Japan[3]. Representatives of founding HEIs and partner organisations gathered for the official launching of *ProSPER.Net*, which was an auspicious occasion held in conjunction with *Hokkaido University's 'Sustainability Week 2008'*, a celebratory activity to the G-8 Summit hosted by Japan in July 2008.

1.2 Vision, mission, programmes and governance

ProSPER.Net was founded with the vision to transform HEIs through creating an academic community that can play leading roles in societal transformation for sustainable development. Its mission is to transform HEIs through introduction of sustainability-oriented innovation in governance, education, research and outreach, thereby producing a new generation of leaders and professionals equipped with the knowledge and skills required to build sustainable societies. *ProSPER.Net* endeavours to integrate sustainability in curricula, engage in capacity building, and contribute to policy advice, all representing the priority action areas of the alliance. With the direction and guidance of the *ProSPER.Net General Assembly, Board* and *Secretariat*, as the network's governing bodies, and taking into account the interests of member institutions in the context of international/national ESD frameworks, the *ProSPER.Net* priority actions are conducted with defined SDG-relevant thematic foci.

The *ProSPER.Net General Assembly* comprises representatives of all regular member institutions, with its *Board*, comprising of a maximum of fifteen member institutions elected by the *General Assembly* including *UNU-IAS (ex-officio)*, as the executive body working with the *ProSPER.Net Secretariat*, which is served by *UNU-IAS*. The network is governed and managed according to its *Charter, By-laws, Policies and Procedures* which are established and posted online[4].

[1] A thrust of the United Nations Decade of Education for Sustainable Development (UN DESD 2005-2014).

[2] Formerly known as United Nations University Institute of Advanced Studies *(UNU-IAS)* at the time of *ProSPER.Net's* launching in 2008.

[3] See *ProSPER.Net* history: *https://prospernet.ias.unu.edu/about-prosper-net-page/history-and-activities*

[4] See *ProSPER.Net* link: *https://prospernet.ias.unu.edu/about-prosper-net-page/prosper-net-documents*

1.3 Context – global frameworks

Reorientation of education policies, curricula and programmes for sustainable development are underway in many countries worldwide; however, efforts toward mainstreaming ESD, especially in the higher education sector, need to be stepped up and accelerated to enable effective implementation of the *United Nation's Agenda 2030 and the Sustainable Development Goals (SDGs)*[5]. The 17 SDGs are depicted in Figure 1.

Quality Education, *SDG 4* (particularly *SDG 4.7* on ESD), is regarded as enabler for all the Goals. It is therefore important to recognise the transformative role of HEIs in bringing together, and bridging the gap between, Education and the Sustainable Development (SD) agenda. *ProSPER.Net* supports the implementation of the *SDGs* through actions aligned with the priority areas of the *ESD for 2030 framework*[6], such as (i) *Advancing policy*, (ii) *Transforming learning environments*, (iii) *Building capacities of educators*, (iv) *Empowering and mobilising youth*, and (v) *Accelerating local level actions* as shown in Figure 2. It also promotes advancing ESD according to the *Berlin Declaration on ESD*[7].

Figure 1: **The 17 SDGs**

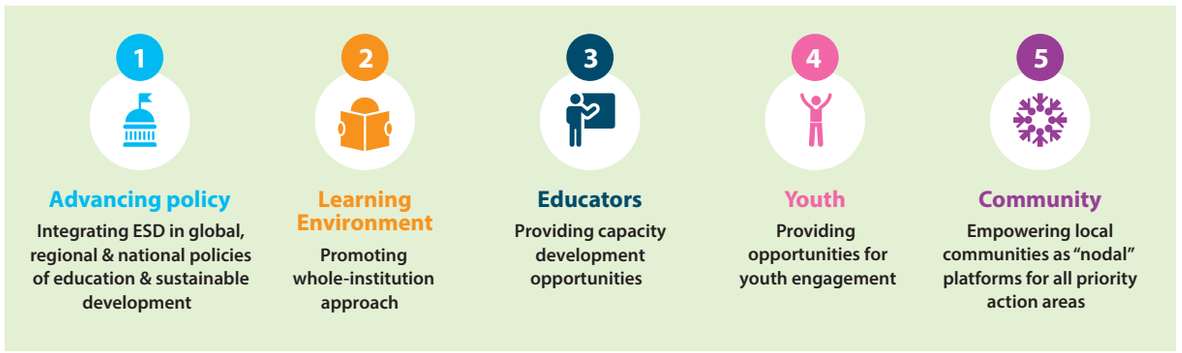


Figure 2: **Five priority action areas of ESD for 2030 (UNESCO, 2020)**

[5] *https://sdgs.un.org/2030agenda*

[6] *https://unesdoc.unesco.org/ark:/48223/pf0000374802.locale=en*

[7] The Berlin Declaration on ESD was adopted at the UNESCO World Conference on Education for Sustainable Development, May 2021 in support, among others, of the *ESD for 2030* framework and its Roadmap.

1.4 About the *ProSPER.Net Report*

The first *ProSPER.Net Report*, titled *"ProSPER.Net: Transforming Higher Education and Creating Sustainable Societies"*[8], was published in 2014. It covered the period 2008-2014, spanning seven years from the network's inception until the end of the UN DESD. This second report, the *ProSPER.Net Report 2015-2021*, also spans 7 years, 2015-2021. The theme is *"ProSPER.Net: Enabling Higher Education for the Sustainable Development Goals"* cognisant of the network's role in, and coinciding the commencing year with, the *UN Agenda 2030 and the SDGs*.

The Report is framed according to the network's action areas – *Curriculum development, Capacity building*, and *Policy advice*. The *ProSPER.Net Report 2015-2021* is a consolidation of the initiatives and achievements of the network over the past 7-year period with a view to learn lessons and envision towards strengthening the network community and their roles in creating sustainable societies. Synopses of *Joint Projects, Young Researchers' Schools, Leadership Programmes* and *Forums on Sustainability in Higher Education* conducted since 2015 are contained in this Report.

[8] *https://collections.unu.edu/view/UNU:5770*

Credit: UNU-IAS

Chapter 2
Curriculum development

2.1 Background

Transforming learning environments in higher education demands integration of sustainability in curricula. *ProSPER.Net* members, in a joint project, pick a subject area, delve into the issues to understand the education and learning processes entailed, develop a model of a course, course materials and learn lessons from the transformative processes. The joint project outputs do not remain theoretical but are piloted and improvised, if necessary, for implementation. It is expected that the developed model, upon passing the piloting stage, is then considered for up-scaling in other settings and disciplines, firstly within *ProSPER.Net*, and subsequently beyond the network community.

Below are synopses of 12 Joint Projects undertaken during 2015-2021, with details available on the *ProSPER.Net* website[9]. Each featured Joint Project highlights the context (issues addressed, baseline situation, development dimensions – SDGs), processes (methodologies and change processes), outcomes and impacts (achievements, innovative learning, institutional and local changes that occurred, social/environmental/policy impacts), and recommendations (lessons learned, policy implications, potential for up-scaling).

2.2 Understanding Decentralised Energy Interventions and Their Success Conditions in Selected Countries in Asia-Pacific (2014-2015)

Participants

The project investigators were *TERI School of Advanced Studies, India* (Lead); *Asian Institute of Technology, Thailand* (Regional); and *Tongji University, China*.

Context

Addressing issues relevant to *SDG 7 (Affordable and clean energy)* and *SDG 13 (Climate action)*, the project carried out an assessment of the policy and regulatory interventions, more specifically, the fiscal and financial instruments shaping the development of decentralised energy systems in the study countries (China, India, and Thailand). Although sectoral peculiarities differ significantly across these countries, the baseline situation is that all three are experiencing some form of revolution in the energy sector, with a specific focus on transiting to a clean energy regime.

Processes

Decentralised renewable energy systems have the potential to transition within the energy sector to an overall sustainable development trajectory. Given the global direction towards renewable energy in general and decentralised renewable energy in particular, HEIs play crucial roles in creating the required pool of skilled manpower through a variety of capacity building programmes and can offer innovative solutions through their research. Studies were conducted in China, India and Thailand.

Credit: Daniel Powell/UNU

Outcomes and impacts

The analysis by the three participating HEIs showed that the larger economic and political settings of the countries govern the decentralised renewable energy sector to a significant extent. Incentives in the form of subsidies, tax concessions such as tax holidays, relaxation of import tax and other taxes, a priority sector consideration for bank lending, are widely used across all three countries. However, there are pronounced variations in the use of specific financial instruments to create incentives for decentralised renewable energy systems. Overall, there have been efforts by all countries to transit to smarter ways of subsidy disbursement. There were two major outcomes of this project. Firstly, there exists pluralistic interpretation of what constitutes 'decentralised energy systems', and secondly, most interpretations are drawn largely from the country's context. The analysis showed that differences can be observed not only across various incentive schemes, but also within a scheme in terms of its form, nature, source of funding, and use of the instrument, for example how subsidies were used in the different countries.

Recommendations

Some of the salient policy recommendations for curriculum development are the following: Decentralised energy systems have paramount importance in promoting renewable energy, and have potential to generate significant co-benefits such as reduction of transmission and wheeling losses and multiple economic, environmental and social benefits. These systems can promote policy and financial innovations to increase funding and investment, also to increase the confidence of banks to issue loans, adjusting subsidies and the price for electricity; HEIs have a critical role to play in understanding the complexities of instruments and designing their suitable applications to launch academic studies and evaluations and analysis, especially by broadening the role of HEIs on research and curriculum development on sustainable development to effectuate a longer-term impact of policy. It is advisable to use the multi-stakeholder partnership initiatives to create policies and coordination practices.

For more info: *https://go.unu.edu/YlTBo*

2.3 Health Food Traditions of Asia (2014-2015)

Participants

The project investigators were *Universitas Gadjah Mada, Indonesia* (Lead); *Universiti Sains Malaysia, Malaysia; Prince of Songkla University* and *Asian Institute of Technology, Thailand* (Regional) (with invited expert from *Oxford University*).

Context

This project aimed at developing innovative methods for studying health and food traditions of Asia with the understanding of the diversity of food and health traditions in the region and linkages between traditional knowledge, practices and health *(SDG 1 – No poverty; SDG 2 – Zero hunger*; and *SDG 3 – Good health and well-being)*. Asia represents a vast geographic, socio-economic and culturally diverse region, including diversity of food and health traditions. Health food traditions relate to various dimensions from agriculture to food processing, to cooking methods and to consumption practices. Although there is wide diversity of food used in Indigenous communities, the global trend is for diet simplification. This has led to high erosion of traditional knowledge and rapid reduction of food source diversity. It is important to study from socio-economic as well as cultural and local epistemological frameworks of nutritional guidelines based on local knowledge and practices. There is also a need to strengthen local production and consumption systems *(SDG 12 – Responsible consumption and production)* which have impact on livelihoods.

Processes

A workshop was conducted which highlighted the vast geographic, socio-economic and cultural diversity in Asia (with special reference to the Southeast Asian region), the relevance of rich food traditions in the region, as well as the increasing disparity in health status within and between countries. The workshop also deliberated on various dimensions of traditional practices related to health and nutrition, including agriculture, food processing, cooking methods, production consumption practices and specific health-related claims of traditional foods in areas such as cardiovascular diseases and nutritional disorders.

An open public forum discussed general food security and sustainability challenges, highlighting several scientific research programmes and policy initiatives internationally

[9] *https://prospernet.ias.unu.edu/*

on traditional foods. The forum called for the need to integrate healthy traditional practices in the higher education curricula and for more focused research and networking.

Outcomes and impacts
The project produced a documentation of health food traditions of Asia that provides information and knowledge about health benefits of traditional foods in Asia. It created an evidence base for traditional food practices including local food/drink. The outcome of the project also provided inputs to curriculum development based on traditional knowledge, food and health linkages and stimulated new research into healing food traditions of Asia. It led to collaborations between participating institutions on research, staff and student exchange, and a dual degree programme. The project produced a publication on "Healthy food traditions of Asia: exploratory case studies from Indonesia, Thailand, Malaysia and Nepal", *Journal of Ethnic Foods*, July 2019.

Recommendations
Health Food Traditions of Asia has high value of cultural, historical, social, economic, environmental and health aspects. Therefore, it is important to disseminate and promote the knowledge to all members of the community, from children to adults. To sustain traditional healthy foods, and to become widely consumed, the commercial sector and the country's policymakers are key players. It is important to integrate health food tradition and sustainability in education curricula and to engage in interdisciplinary research on nutrition, health, food technology, social and economic aspects. More research works are expected in the future wherein modern food processing technologies can be combined with the traditional techniques to enhance the safety, shelf life and market value of traditional foods.

For more info: *https://go.unu.edu/wutcq*

Journal article is available at *https://go.unu.edu/kR6hM*

2.4 Climate Compatible Development in Asian and Pacific Cities (2015-2016)

Participants
The project investigators were *Asian Institute of Technology, Thailand* (Regional; Lead), *RMIT University, Australia; TERI School of Advanced Studies, India; Chulalongkorn University* and *Prince of Songkla University, Thailand;* and *Universitas Gadjah Mada, Indonesia*.

Context
The project delved into the role of cities' climate actions and mitigation and adaptation strategies, to tackle climate change from scientific and practice perspectives *(SDG 11 – Sustainable cities and communities)*. Urbanisation is correlated with higher energy and GHG emissions. Additionally, the key and emerging global climate risks are concentrated in urban areas and the urban climate change risks, vulnerabilities, and impacts are increasing worldwide. Therefore, the needs for Climate Compatible Development of Cities are becoming more important. This is more relevant in Asia due to changing urban demography, urban land expansion and infrastructure development. Following the Paris Agreement as well as with evidences from increasing scientific knowledge regarding cities and climate change, the onus of climate actions have shifted towards cities. Therefore, the roles of climate actions at the city level are increasingly recognised despite slow progress and lack of sound monitoring mechanisms for climate compatible urban development.

Processes
The project evaluated the existing climate actions in selected cities - Melbourne, Australia; Bangkok and Hatyai, Thailand; New Delhi, India; and Yogyakarta, Indonesia - through climate risks, GHG reduction targets and adaptation measures being taken *(SDG 13 – Climate action)*. Learning from this, the study developed an overarching framework for climate compatible development that includes barriers and coming up with the ideas for tracking climate actions' progress as a crucial component of cities' climate action. It also built a common framework and network of universities to foster knowledge on climate compatible urban development.

Outcomes and impacts
As most cities in Asia are vulnerable to the exposure of climate risks, and much of the climate actions, mainly adaptation strategies are still in a developing phase, developing a common framework to track mitigation and adaptation, and ensuring their adoption by the concerned authorities in preparing climate action plans is essential. Climate Compatible Development of Cities is conceptualised as one where urban development process (a) emits less GHGs or mitigates more emissions (b) enhances carbon sinks (c) builds resilience by reducing vulnerability and adapting to the impacts of climate change and (d) reduces mitigation and adaptation burdens outside of the city boundaries. Barriers for implementation of cities' actions within the region are multiple. Informal settlements, coastal locations, governance challenges, poor understanding of cross boundary interactions, and lack of capacity and resources are major barriers. Key barriers are also on formulating a large-scale response across sectors due to systemic and structural issues, as institutional silos hinder integrated response to mitigation and adaption and the policies/practices are often short-sighted.

Recommendations
While cities are developing climate action plans, there is urgent need for developing a tracking framework with appropriate indicators to assist and guide cities in mitigation as well as adaptation efforts. These must be formulated and selected carefully, as they will vary according to the context and the nature of mitigation and climate hazards, as well as the development process and goals in different cities. Crucial elements to any framework or indicators include articulation of climate change goals and objectives, sectoral inclusiveness, complete representation and characterisation of interventions, in-boundary and out-boundary linkages, administration and institutional changes designed to facilitate mitigation and adaptation (e.g. processes associated with capacity building), and the evaluation of whether development outcomes (e.g. increased productivity, reduced disaster losses, etc.) have improved. As many cities in the Asia-Pacific region still are in the early stages of development associated with rapid emission rise, and are also vulnerable to climate risks, a common framework to track cities' efforts to address climate change would help not only cities themselves, but also their development partners.

Different city sectors and city versus province/national responses are in silos, and therefore breaking/aligning them through integrated planning and policies are a must. Furthermore, cities need to include both mitigation and adaptation frameworks into all of the cities' planning processes. The climate compatible development framework for cities and the climate tracking system provide useful inputs to curriculum design. These provide guidance to HEIs on the curriculum design that incorporates SDGs and their indicators in urban/city settlements.

For more info: *https://go.unu.edu/myhdT*

2.5 Built Environment Curricula in the Asia-Pacific Region: Responding to Climate Change (2016)

Participants
The project investigators were *RMIT University, Australia* (Lead); *Tongji University, China; University of Peradeniya, Sri Lanka; Asian Institute of Technology, Thailand* (Regional); *University of the Philippines Diliman, Philippines;* and *Universitas Gadjah Mada, Indonesia*.

Context
In the current urban century, cities face multiple challenges (such as those targeted in *SDG 6 – Clean water and sanitation; SDG 9 – Industry, innovation and infrastructure; SDG 11 – Sustainable cities and communities*; and *SDG 13 – Climate action;* among other Goals). Current and future built environment professionals, whether involved in city governance and planning, urban development, or urban design, need to practice ethically and sustainably as they cope with rapid economic/technological/social change, urban growth, climate change, resilience and adaptation pressures. They need to be supported so that they can develop competencies and practices around good planning and design, environmental knowledge, principles of social equity, and good governance. Developing these competencies in many parts of the Asia-Pacific region is not easy as both cities and higher education systems in many countries are growing very rapidly. Little attention has been given to ensuring that sustainability knowledge, including understanding of climate change mitigation and adaptation issues, is at the core of the curriculum of built environment academic programmes.

Processes
The research approach was to undertake five case studies of built environment professions and professional education in the Asia-Pacific region. Each profession was researched by examining five themes, namely 1) built environment regulation, 2) the profession, 3) curriculum

governance, 4) built environment curriculum, and 5) expectations of the profession. These case studies were researched through document analysis and interviews with built environment professionals, academics, representatives of professional associations, and representatives of government and international agency officials.

A workshop, which formed an important element of the project process, brought together built environment and higher education professionals from universities, industry associations, professional associations and government agencies with responsibility for city planning, building and economic development that were committed to the development of low-carbon cities. The workshop addressed how to systematically integrate environmental sustainable development thinking into university built environment professional education. The workshop, while held in Indonesia, also had a regional orientation informed by the participation of representatives of several *ProSPER.Net* member institutions in other countries.

Outcomes and impacts

Curriculum change extending beyond bottom-up initiatives to a broader institutional and system-wide change was critical for creating sustainable built environments. For example, built environment programmes typically offer sustainability courses as electives, not as core, and this needs to change so that knowledge of climate change and sustainability become core graduate attributes.

Findings suggested that governments in all the five countries studied had adopted a green building code but were experiencing significant difficulties in implementing the code. Also, the green building council in each country had made little headway in generating support for the rating of new buildings using their rating tool. Built environment professional associations and the government agencies that regulate entry of new members to the built environment professions think in terms of 'competent professionalism' which does not recognise the challenge of climate change. There is no systematic consideration of how best to equip built environment programme graduates with the knowledge and skills needed to work in an industry increasingly required to decarbonise the built environment.

Recommendations

Changing the priorities of universities, professional associations, regulators of the professions and built environment regulators constitutes a large-scale change agenda. An agreed upon 'roadmap' for change is required aiming to make climate change mitigation and adaptation central to higher education built environment professional education in the Asia-Pacific region. The nature of the 'roadmap' can be illustrated by noting initial ideas for research, capacity building and network development projects.

The capacity of universities to make climate change mitigation and adaptation issues more central to the curriculum could be enhanced by supporting faculty who are already teaching in built environment professional courses to renew curriculum; reviewing the operations of licensing boards and councils used to regulate built environment professional membership and setting new expectations; establishing an Asia-Pacific PhD scholarship programme which supports research aimed at creating a future network of expert built environment sustainability educators; and continuing support for the already qualified built environment professionals necessary for sustainable city building and governance.

For more info: *https://go.unu.edu/ZuT7A*

Credit: UNU-IAS

2.6 Recycling Plastics in Asian City Environments (RePLACE) (2018-2019)

Participants

The project investigators were *RMIT University, Australia* (Lead); *TERI School of Advanced Studies, India*; and *Vietnam National University Ho Chi Minh City – International University, Vietnam*.

Context

As the Asia-Pacific region continues to experience rapid economic and population growth, the problem of plastic waste entering soil, rivers and oceans and causing damage to environments and biota will only magnify. Globally, 275 million tonnes of plastic waste is produced every year, with 99.5 million tonnes entering oceans consistently[10]. It is estimated that China, Indonesia, Philippines, Thailand and Vietnam are responsible for more than 60% of the plastic waste entering the world's oceans. To address this, sustainable practices to reduce plastic disposal and to encourage reuse and recycling need to be adopted globally *(SDG 12 – Responsible consumption and production)*.

Processes

This project developed a collaborative, innovative, postgraduate educational study unit aimed at the Asia-Pacific region to identify approaches for recycling plastics. The objectives were achieved through undertaking research, case studies, as well as developing learning case materials on the situation in the countries represented.

Outcomes and impacts

The final outcome of this project – the RePLACE course – provided in-depth knowledge and critical understanding of key concepts related to recycling and its applications at different levels in the countries represented. The project produced learning cases from Australia, Vietnam and India. The learning cases and curriculum reports have been used in higher education institutions that participated in the project.

Recommendations

Educational institutions can play a more substantial role by incorporating plastic recycling strategies into course material, and in turn develop models that will provide a common framework for major environmental (land, water and marine) issues and management in developing countries. In Australia, banning of single-use disposable foodware, packaging and plastic bags to protect various ecosystems, as well as incentivise the use and development of recyclable, compostable or reusable materials and to support companies that innovate, are policy recommendations. For Vietnam, policy makers should focus on the two groups that can make the most effective impact to the situation, namely the students (young generation, to integrate into education programmes) and lawmakers (law regulators, to improve old policies). For India, policies should address the problem largely seen to revolve around inefficient segregation and collection of waste which eventually translates into increased dumping at landfills causing loss of city aesthetic and adding to emissions from landfills.

For more info: *https://go.unu.edu/mRKhb*

2.7 Disaster Resilience and Sustainable Development Education Network in Asia (2018-2019)

Participants

The project investigators were *Asian Institute of Technology, Thailand* (Regional; Lead); *Miyagi University of Education* and *Keio University, Japan*; and *Universiti Sains Malaysia, Malaysia*.

Context

The Asian region is recognised as critically important for global sustainability due to its rapid growth and vulnerability to environmental degradation, social disparities, human rights violations, and geo-climatic effects *(SDG 13 - Climate action)*. Within the region, there is a lack of awareness and education on disaster prevention and mitigation within all levels of the community, from individuals to the national level. As such, the importance of capacity development, education *(SDG 4 - Quality education)*, and regional synergy for natural disaster resilience and sustainable development in addressing this issue cannot be underestimated *(SDG 15 - Life on land)*.

Processes

The project established a working group comprising experts from leading universities in the Asia-Pacific region, creating a nexus to understand the current state of higher education linked to sustainable development and disaster resilience. The working group was also set to identify gaps in the current curriculum to build resilience in educational institutions and society. Multidisciplinary, cross-cultural and diverse socio-economic backgrounds of the members of the *Working group on Higher Education Institutions on Disaster Resilience and Sustainable Development (HEI-DRSD)* under this project brought unique expertise to build capacity among partners and stimulate long-term regional engagement. The *HEI-DRSD* also undertook collaborative curriculum assessment on disaster resilience and sustainable development, particularly beneficial for the Asian region. The working group pursued curriculum reform to integrate the sustainability agenda into post-graduate courses, curricula and programmes, along with the development of a multidisciplinary curriculum mapping tool focusing on the *Sendai Framework for Disaster Risk Reduction (SFDRR)* and the SDGs.

Outcomes and impacts

Working group members recognised the crucial role HEIs could play to develop community learners on sustainability, as well as critical thinkers and professionals to support local sustainability challenges. In addition, the unavailability of short term and professional courses in the HEIs educational framework was identified, which limits the opportunity of interdisciplinary research and collaboration with other natural science disciplines. Limited chances of informal education and vocational training in local languages was seen to hinder the chances of effective community outreach and greater awareness, as was the lack of national and international funding support to promote education related to disaster risk reduction (DRR) and SDGs. Higher education curricula should consider the complex socio-economic diversity along with the sensitivity of the sub-regions in different disaster events and their magnitude. Disaster Economics, Risk Insurance, Business Risk Management, Business Continuity/CSR policy, and practices are priority action areas for bridging the gap in transforming the learning experience into creating capacity and a conducive environment. The project paved the initial step in developing big data on disaster resilience in higher education in the region.

One of the significant achievements of the project is the "International Symposium on Disaster Resilience and Sustainable Development," which drew hundreds of people from over twenty-five countries. The symposium provided a platform for policymakers, academics, practitioners, and other relevant stakeholders to have discourse on contemporary issues of disaster resilience, disaster education, and sustainable development. Furthermore, the technical session provided opportunities for participants to showcase and present their research findings. Among them, selected works have now been developed as chapters in the edited book titled "Disaster Resilience and Sustainability – Adaptation for Sustainable Development" published by Elsevier.

Recommendations

The study outcome envisaged key recommendations through a policy brief at various levels of the education system at the national and sub-national levels. HEIs should take part in active advocacy and promote disaster education curriculum at secondary education level for a smooth transition into higher education; participate in community outreach and help to develop appropriate material to promote risk reduction actions and disaster education; establish an advisory committee to help reform and strengthen disaster specific curriculum of the HEIs and undertaking periodic monitoring, adding a new course as per the subsequent updating of existing or innovative technology and theories; develop specialised disaster specific curriculum based on the regional/ national/ local or based on their existing specialties and infrastructure; share expertise and enhanced technical capacity to develop/ support operational capacity to collect data (disaster specific) and develop disaster specific regional database; engage/ promote in offering a joint curriculum (degree) to enhance the capability of the student in more than one dimension.

For more info: *https://go.unu.edu/38nMw*

[10] *https://ourworldindata.org/plastic-pollution*

2.8 Disaster Education for Integrating SFDRR and SDG in Asia (2020-2021)

Participants
The project investigators were *Asian Institute of Technology, Thailand* (Regional; Lead); *Keio University* and *Miyagi University of Education, Japan; Universitas Andalas,* and *Universitas Gadjah Mada, Indonesia*.

Context
This project is a follow-up project of the previously mentioned project, "Disaster Resilience and Sustainable Development Education Network in Asia" (2018-2019, See Sec. 2.7), focusing on the development of a model curriculum for post-graduate course on disaster risk management and sustainable development.

Processes
A capacity assessment was conducted among members of the HEI-DRSD Network to identify key areas and concerns that need to be integrated into the multidisciplinary post-graduate course curricula on disaster risk management and sustainable development. The project identified and mapped the DRR interventions in the Asian region contributing to sustainable development and came up with a book volume.

Outcomes and impacts
The project has co-developed a model multidisciplinary post-graduate course curriculum on disaster risk management and sustainable development for the Asian region. In addition, the project successfully ran a pilot multidisciplinary certificate course for HEI Network members. The project team identified and mapped the twenty effective interventions in DRR in the Asian region in a book titled "Disaster Risk Research, Science and Innovation for Sustainability: Asian Case Studies." The project, through a curriculum workshop, webinars, and international conference, has significantly contributed to promoting the sustainability paradigm in post-graduate education and research for disaster resilience.

Most notably, the second series of International Symposiums on "Disaster Resilience and Sustainable Development" became a regional platform to discuss various dimensions of higher education systems in the Asia-Pacific region with a focus on DRR and the SDGs. The symposium collaborated with twenty-one institutional partners, reaching 337 participants through four keynote sessions and twenty-one technical sessions, providing a vibrant platform for policymakers, academia, researchers, development practitioners, private sectors, and relevant stakeholders. The conference produced the publication of special issue journals, namely "Risk and Resilience Paradigm for Sustainable Development" in *Progress in Disaster Science Journal*, and "Disaster Risk Reduction and Resilience Building for Sustainable Society" in the *International Journal of Disaster Resilience in the Built Environment (IJDRBE)*. In addition, two proceedings volumes are in the works: "Multi-hazard Vulnerability, Climate Change, and Resilience Building" and "Disaster Risk Science and Technology: Addressing Cross-cutting Challenges."

Recommendations
Through a policy brief, the project team has stressed the immediate need to incorporate disaster education into curricula. The lack of conceptual clarity about disaster education in policymakers and educationalists in the Asian region is affecting the integration of disaster education in higher educational institutions. The case studies book published by the project has outlined how social and scientific knowledge and innovation can come together for more practical solutions in DRR. Most importantly, higher education institutions should also possess a capacity to mitigate and manage risk and the ability to bounce back better during the disaster without hampering the educational engagement of students. Therefore, all higher education institutions should have a proper contingency plan with a precise outline mechanism to continue the operation of the institutions in whatsoever condition.

For more info: *https://go.unu.edu/hZCpk*

2.9 Development of a Framework for the Local Implementation of the SDGs (Phase 1) (2018-2019)

Participants
The project investigators were *Keio University, Japan* (Lead); *Chulalongkorn University, Thailand; TERI School of Advanced Studies, India;* and *University of the Philippines Diliman, Philippines;* with the support of *UNESCO Bangkok*.

Context
This project explored how the achievement of the global SDGs can be implemented at a local level, with a target to develop a practical education programme contributing to the implementation of the SDGs. With most of the SDGs directly or indirectly related to the roles of local governments, the local implementation of SDGs is paramount to the realisation of the goals. Across the Asia-Pacific region, differences abound in how local governments are implementing the SDGs through their strategies and policies. Therefore, further efforts are required to explore how global goals could be implemented at the local level, requiring not only academic investigation into the SDGs, but also how the SDGs *(SDGs 1-17)* can be localised, and how practical local knowledge can be utilised for policy implementation.

Processes
Case studies were conducted in a number of countries (Japan, Thailand, India and the Philippines) to understand the current implementation of the SDGs at a local level, and to identify guiding principles for higher education institutions supporting local communities on the implementation of the SDGs. To create curricula for the implementation of SDGs in a local context, HEIs have to explore and investigate sustainability challenges and essential skills. The project examined the local implementation of SDGs and developed guiding principles for HEIs. The joint implementation approach was adopted to nurture collective leadership and shared sustainability visions among the participating HEIs. With an understanding that local contexts are infinitely diverse, the project sought to empower people and community at the local level to address sustainability challenges rather than seeking an instant solution or a single model to fit all. To enhance knowledge and understandings, research was conducted in the lived realities of community residents, and the experiences were shared and examined together.

Outcomes and impacts
The localisation of SDGs provides research opportunities for HEIs to expand the body of knowledge for a new generation with sustainable visions. The significant role that HEIs can play in this endeavour is to connect the international and local implementation of SDGs by supporting local communities to forge partnership with government agencies. Sustainable challenges in the local context could be addressed by identifying gaps between local sustainability practices and global and national SDG policies. Translation of global SDGs into the local specific context is necessary and one of the roles of HEIs could be found here. Participatory and integrated approaches are essential for the empowerment of civil society to become owners of the shared visions of sustainability. It is crucial for HEIs to network with each other, and bring together social capital from various entities within and outside communities.

The first case study addressed decentralisation and a need-based approach to empower people in New Delhi, India, to forge partnership with the local government to achieve sustainable development outcomes. The second case study emphasised a participatory approach to integrate the community in Toyooka city, Hyogo Prefecture, Japan, in visioning their sustainable urban future through tackling the community's depopulation problem. The third case study focused on the role of HEIs as a key facilitator in the localisation of SDGs in Quezon City, National Capital Region, Philippines. The fourth case study attempted to translate sustainability practices in a local context in Pua District, Nan Province, Thailand, to international SDGs.

Recommendations
Networked HEIs as strategical knowledge generators to tackle sustainability challenges would encourage HEIs to bring together social capital outside and within local communities to facilitate the local implementation of SDGs, broaden the range of case studies to improve guiding principles for HEIs to enhance its role in local communities, and emphasise participatory and integrated approaches to empower people and community for the implementation of SDGs. In efforts to localise the SDGs, HEIs should view transformative education and learning through the lens of the following attributes, as building blocks for community engagements for local level actions. The foundation is local ownership and relevance; the approach is participatory, bottom-up, multi-methodological and multi-stakeholder engagement; the

tools are critical thinking, value-driven and holistic; and the aim is problem solving and transdisciplinary.

For more info: *https://go.unu.edu/AEDxk*

2.10 Development of a Framework for the Local Implementation of the SDGs (Phase 2) (2020-2021)

Participants

The project investigators were *Chulalongkorn University, Thailand* (Lead); *TERI School of Advanced Studies, India; University of the Philippines Diliman, Philippines; Keio University, Japan; Universitas Gadjah Mada, Indonesia;* and *Universiti Sains Malaysia, Malaysia;* with the support of *UNESCO Bangkok*.

Context

The ownership of the implementation of the SDGs *(SDGs 1-17)* by local authorities and communities, civil society and the scientific and academic community is paramount to the realisation of the goals. Many countries promote partnership and local implementation at the national level as a policy and action plan. Furthermore, local authorities and communities at the local level need more concrete practices to implement the SDGs. According to Phase 1 project's results, higher education institutions can play a key role in this endeavour by supporting local authorities and communities through educational and research activities. This Phase 2 project delved into the enhancement of HEIs' capabilities to collaborate with communities for localising SDGs.

Processes

Based on the achievements and the lessons learned from Japan, India, Philippines and Thailand in Phase 1 (See Sec. 2.9), Phase 2 of the project explored models of SDGs localisation based on collaboration between higher education institutions and communities. In order to harness knowledge and experiences broadly, more participating institutions were involved, apart from *ProSPER.Net* members, especially higher education institutions leading Regional Centres of Expertise on ESD (RCEs) in the Asia-Pacific region. SWOT analyses were conducted by the six participating institutions.

Outcomes and impacts

The outcomes of the SWOT analyses led to a collection of best practices in terms of teaching and learning, research, service and knowledge exchange, student initiatives, HEIs policy, and overcoming challenges. The knowledge gained from Phase 2 were consolidated as a resource material for use in higher education, and disseminated widely for a broader audience. This project enhanced the capacities of higher education institutions to collaborate with local communities for the implementation of the SDGs at the local level. The project explored existing practices of higher education institutions' collaboration with local communities in education and research for sustainability and investigated the models and methodologies of collaboration. Two major outputs are a collection of the situational analyses of HEIs' community engagement practices by the project member institutions including relevant resource materials, and a policy brief involving recommendations on higher education institutions' role by SDGs localisation. On 18 August 2021, an SDGs virtual International Conference on "Development of a Framework for the Local Implementation of the SDGs" was hosted by *Chulalongkorn University*, together with *Keio University, TERI School of Advanced Studies, Universiti Sains Malaysia, Universitas Gadjah Mada* and *University of the Philippines Diliman*, in collaboration with *UNESCO Bangkok, ProSPER.Net,* and *UNU-IAS*. The event brought together six speakers of the case study reports from the Joint Project, which was attended by over 65 participants from 10 countries in the Asian region.

Recommendations

Collection and understanding of best practices on community engagement of HEIs could provide guidance to teaching and learning towards community sustainability, community-based research, community services and knowledge exchange, student initiatives with community engagement, institutional policymaking, and on how to overcome the pertinent challenges facing SDG implementation. As to have a successful implementation of the SDGs entails local ownership and relevance, it is expected that best-fit models vary from locality to locality and thus from institution to institution. HEIs' roles towards SDGs implementation in local communities must be predicated by participation and empowerment of community members, and their community engagement practices enabled and sustained through multi-stakeholder partnerships and institutional support.

For more info: *https://go.unu.edu/1wW5W*

Credit: Chulalongkorn University

2.11 Safe Havens: Relocating SIDS Communities Threatened by Climate Change (2020-2021)

Participants
The project investigators were *Kyoto University* (Lead) and *Hosei University, Japan;* and *University of the South Pacific, Fiji* (Regional).

Context
This project aimed to investigate the factors that affect outcomes for government- and nongovernmental organisation-sponsored relocation of communities deemed vulnerable to climate change impacts in Fiji *(SDG 13 – Climate action; SDG 15 – Life on land).* Migration and displacement around the world are on the rise, and one of the engines of this mobility is climate change, which contributes to rapid-onset natural disasters as well as slow-onset impacts such as chronic drought and desertification. Researchers have predicted that the number of climate-forced migrants worldwide may reach up to 200 million by 2050, while prolonged drought has already been implicated as a factor in recent migration crises in many parts of the world. Nowhere is climate change impacting households and communities more than in small island developing states (SIDS), where a rise in the frequency and magnitude of ocean storms, rising sea levels, salinity, erosion and other impacts are increasingly endangering the physical and economic security of coastal communities. Fiji is a leader in climate change adaptation in the South Pacific and is one of the first governments to systematically relocate vulnerable communities.

Processes
This research sought to identify challenges and considerations for successful relocation and share recommendations with SIDS governments by holding workshops in Fiji and disseminating an online policy brief. Due to the COVID-19 pandemic, the research component could not be implemented. However, the project yielded online tertiary-level content and a literature review on the emerging issue of climate change-induced mobility for university lecturers. The intention was to provide materials, slides and websites to assist university faculty seeking to prepare classroom curricula on climate change-induced mobility, and policy recommendations on community relocation. The literature review focused on climate change-forced community relocation in the Asia-Pacific region.

Outcomes and impacts
The project has produced an online toolkit of resources related to human mobility and climate change, which aims to provide educational content for university courses in this area and has been designed for use by university lecturers. The materials include (but are not limited to) video clips, slides, reports, and activity ideas designed to help in the organisation of courses, workshops, or discussions around the topics of human mobility and climate change.

Recommendations
Forced resettlement can be the result of rapid-onset natural disasters or slow-onset environmental change exacerbated by climate change, particularly in the Asia-Pacific region. Various case-studies in literature have highlighted the importance of the following issues on resettlement – identifying vulnerable communities, the scale and scope of relocation, procedures of consultation with the moving and receiving communities, and sufficiency of preparation and reasonable timing. Displacement leads not only to the loss of physical homes, but to a serious disruption of livelihoods, food security, resource use, social and economic networks, and community cohesion. Therefore, in the planning of relocation, the preventive measurement of vulnerabilities and risks is crucial.

For more info: *https://go.unu.edu/jm1WM*

2.12 Impacts of Pollution on Tropical Montane and Temperate Forests of South Asia: Preliminary Studies by Postgraduate Students in India and Sri Lanka *(In progress)* (2021-2022)

Participants
The project investigators are *TERI School of Advanced Studies, India* (Lead); *University of Peradeniya* and *University of Sri Jayewardenepura, Sri Lanka.*

Context
The impacts of atmospheric pollution now reach distant locations and are not restricted to the vicinity of the polluting sources. Pollutants of fine particulate matter also get transported to remote forest ecosystems, impacting upon their constituent biodiversity and the ecosystem services they provide *(SDG 13 – Climate action, SDG 14 – Life below water, SDG 15 – Life on land, & SDG 17 – Partnerships for the goals)*. The loss of these services are less researched with limited quantification, hence they rarely surface in policy and decision-making. Research through remote sensing has substantiated South Asia as a global hotspot of pollution. In addition to carbon dioxide, other greenhouse gases like oxides of sulfur and nitrogen are having a detrimental impact on species sensitive to pollution. This is altering forest biogeochemistry, nutrient cycling, and causing tissue damage which impacts physiological processes like photosynthesis. The functioning of ecosystems has yet to be understood in greater depth. Detrimental impacts on their functioning are not always readily visible and may take a long time to manifest themselves. The recent rise of pollution due to nitrogen in the form of nitrates and ammonia in the atmosphere, in South Asia in particular due to excessive usage of fertilisers, livestock and vehicular emissions has emerged as a global issue, with the United Nations Environment Assembly (UNEA), in its General Assembly in 2019 in the Colombo Declaration, has urged the global community to reduce the wastage due to nitrogen pollution by half.

Processes
The project engages ten postgraduate students of the *TERI School of Advanced Studies* in India, and the *University of Peradeniya* and *University of Sri Jayewardenepura* in Sri Lanka in undertaking preliminary research in temperate forests of the Himalayas, India and the tropical montane forests of Sri Lanka on the impacts of pollution on biodiversity and ecosystem services and contribute to the ongoing initiative of the South Asia Nitrogen Hub (SANH) and International Nitrogen Management System (INMS).

Outcomes and impacts
Students built their capacities and participate in a global initiative that leads to real-time data being emanated from South Asia and contributes to global datasets and the regional policy environment. A workshop is held on how to integrate the research topics into postgraduate courses. It is expected that a synthesis of technical reports would lead to a peer-reviewed journal article as soon as the project is completed. A consolidated volume of technical reports by students shall provide a roadmap for larger initiatives in the region.

Recommendations
The study is in progress, including researching on indicators of pollution in forest ecosystems in Western Himalaya in India and montane forests of Sri Lanka. The study will facilitate long-term ecological monitoring of forest ecosystems.

For more info: *https://go.unu.edu/gzDJG*

2.13 One Health Approach in Long-tailed Macaques Conservation and Zoonotic Potential from Molecular and Social Perspective in Tourism Places of Bali and Yogyakarta *(In progress)* (2021-2022)

Participants
The project investigators are *Universitas Gadjah Mada, Indonesia* (Lead); *Hokkaido University, Japan;* and *Mahidol University, Thailand.*

Context
Although in some places long-tailed macaques are often seen as a nuisance to human activities, in some tourism objects, long-tailed macaques have become very important icons, with their existence used as an attraction for tourists to visit the place. The research mainly addresses *SDG 3 – Good health and well-being*; and links with *SDG 8 – Decent work and economic growth*, *SDG 11 – Sustainable cities and communities, SDG 12 – Responsible consumption and production*, and *SDG 15 – Life on land*.

The existence of a herd of long-tailed macaques in tourist areas has been beneficial because it has become a tourist commodity, which improves the wealth of the communities surrounding the areas, but on the other hand, cautions are needed because long-tailed macaques have been reported to attack and bite visitors. The possibility of disease transmission from monkeys to visitors

is also another potential problem that arises due to the genetic similarity to humans which can transfer zoonotic diseases (disease from animals to humans and vice versa), as the world is now facing with the COVID-19 pandemic.

Processes

The study applies a transdisciplinary approach, involving Veterinary Medicine, Anthropology (Social and Cultural Sciences), and Natural Science (Molecular Biology), to maintaining the health of humans, animals, particularly long-tailed macaques, and environment. Additionally, the 'One Health Approach' is needed for the long-tailed macaques to have good relationships with humans and maintain their sustainability as well as maintain the sustainability of the tourism destination. The 'One Health Approach' for sustainable tourism of healthy humans, animals, and environment can be implemented not only in the places mentioned but also to a broader community across the world. Online webinars are used as a platform to spread the information that may be useful for other tourism places in the region and beyond.

Outcomes and impacts

Upon completion of the research (by March 2022), the project is expected to provide recommendations for tourism destinations where managers and visitors are handling the behavioural issues and prevention of zoonotic transmissions from long-tailed macaques, through research, an international online webinar, and a course curriculum on 'One Health Approach' for long-tailed macaques.

Recommendations

The study is in progress and expected to provide recommendations for policy, research and curriculum development on safe and sustainable tourism, behavioural interactions between macaques and humans, drawn on "One Health Approach".

For more info: *https://go.unu.edu/Fqwg6*

2.14 Synthesis

Over the 2015-2021 period, *ProSPER.Net* undertook 12 Joint Projects – 4 on climate change, 2 on disaster risk reduction, 2 on pollution, 2 on health, and 2 on localising SDGs through education and community engagement – all addressing in various ways the *ESD for 2030* framework priority areas and the SDGs (See Table 1; with abridged Project titles). A total of 20 *ProSPER.Net* member institutions either led or participated in the 12 Joint Projects.

Based on the dozen Joint Projects conducted over the past seven years, here are some salient observations:

- Climate change thematic area is primarily of high interest to *ProSPER.Net* members. Other thematic areas of interest are on disaster, pollution, health, and community engagement, reflecting members' concerns on environmental and social dimensions, and the governance aspect of sustainability through community engagement.
- Although all Joint Projects were aimed at curriculum and related development, most of them contributed to policy advice and, to some extent, capacity development as being part of the research process.
- Curriculum development projects produced framework guidance on the issues that are essential in a postgraduate study programme or a course, and on developing education tools and materials as well as building academic and research alliances.
- In terms of synergy, four Joint Projects influenced the main discussion points in the 2016 *ProSPER.Net Forum on Sustainability in Higher Education* (See Sec. 4.3).
- The immediate and short-term outcomes of the Joint Projects are known and qualitatively assessable; the longer-term impact would take longer time to ascertain.

Table 1. **Summary of *ProSPER.Net* Joint Project Contributions**

Joint Project	*ESD for 2030* Priority Area	SDGs	*ProSPER.Net* Action Areas			Overall Outcome
			Curriculum Development	Capacity Building	Policy Advice	
"Decentralised Energy" ***(Sec. 2.2)***	Transforming learning environments; Advancing policy	SDGs 7 & 13	Promoted inclusion of sustainable energy in curriculum	(Not applicable)	Policy advice on roles of HEIs; and on incentivising energy decentralisation	Guidance to participating HEIs on decentralising energy systems
"Health Food Traditions" ***(Sec. 2.3)***	Transforming learning environments; Advancing policy	SDGs 1, 2, 3 & 12	Developed curriculum framework for health food traditions	Conducted workshop on health, food and sustainability	Policy recommendations on health, food traditions & sustainability	Developed study programme and courses, research & students and staff exchanges
"Climate Compatible Development" ***(Sec. 2.4)***	Transforming learning environments; Advancing policy	SDGs 11 & 13	Promoted issues for curriculum inclusion on climate tracking	(Not applicable)	Policy advice on developing climate mitigation and adaptation tracking frameworks	Guidance to participating HEIs for linking cities to designing curricula on SDG indicators
"Built Environment" ***(Sec. 2.5)***	Transforming learning environments; Building capacities of educators; Advancing policy	SDGs 6, 9, 11 & 13	Developed a curriculum framework based on case studies & workshop outcomes	Conducted case studies & workshop which benefited investigators & participants	Policy advice to HEIs on climate change and sustainability to be core graduate attributes, and hence embedded in curriculum	Guidance to participating HEIs on curriculum; identification of weaknesses of current system
"Recycling Plastics" ***(Sec. 2.6)***	Transforming learning environments; Building capacities of educators; Advancing policy	SDG 12	Established postgraduate education study unit to support curriculum development	Guided postgraduate students	Policy advice to HEIs on recycling plastics	Established curriculum and developed learning resources on recycling plastics
"Disaster Resilience" ***(Sec. 2.7)***	Transforming learning environments; Building capacities of educators; Advancing policy	SDGs 4, 13 & 15	Developed curriculum framework on disaster resilience	Established a regional working group of experts	Policy advice for governments and HEIs on disaster resilience	Promoted policymaking on disaster resilience in participating HEIs
"Disaster Education" ***(Sec. 2.8)***	All priority areas	SDGs 4, 13 & 15	Developed course curriculum	Organised webinar; faculty/student exchanges	Policy advice to HEIs on disaster education	Building academic alliances on disaster education
"Development of Framework for Localising SDGs – Phase 1" ***(Sec. 2.9)***	Transforming learning environments; Empowering & mobilising youth; Advancing policy	SDGs 1-17	Developed curriculum framework on localising SDGs	Employed students & young researchers to conduct local stakeholder interviews & learning processes	Policy recommendations for HEIs on localising SDGs for curricula	Learning cases for localising SDGs
"Development of Framework for Localising SDGs – Phase 2" ***(Sec. 2.10)***	Transforming learning environments; Advancing policy	SDGs 1-17	Demonstrated models for community engagements of HEIs	Conducted SWOT analyses on community engagement	Policy recommendations on engaging communities by HEIs	Developed models on HEIs' community engagement on SDG implementation
"Safe Havens" ***(Sec. 2.11)***	Transforming learning environments; Building capacities of educators; Advancing policy	SDGs 13 & 15	Developed toolkits for curriculum development and course materials	Produced climate change resource mobility toolkit for capacity building workshops	Produced literature review on displacement and climate change for policymaking	Guidance for curriculum development and produced online toolkit of learning materials
"Impacts of Pollution" *(In progress)* ***(Sec. 2.12)***	Transforming learning environments; Empowering & mobilising youth	SDGs 13, 14, 15 & 17	Provide inputs on content for a course on air pollution and biodiversity	Guided students research	Policy advice to HEIs on air pollution, forestry and biodiversity	Engaged and built capacities of postgraduate researchers
"One Health Approach" *(In progress)* ***(Sec. 2.13)***	Transforming learning environments; Advancing policy	SDGs 3, 8, 11, 12 & 15	Produced curriculum framework on "One Health Approach"	Conducted online workshop	Policy recommendation on "One Health Approach"	Guidance and deepen understanding on the 'One Health Approach'

Chapter 3
Capacity building

3.1 Background

ProSPER.Net recognises the crucial role of educators and leaders in promoting ESD and appreciates the value of investing in capacity development. Young people, who are change agents for sustainable development, need to be empowered by creating opportunities for learning and providing them with the knowledge, skills and competencies to participate in ESD as co-creators of individual, institutional and societal transformations.

Capacity building initiatives of *ProSPER.Net* target young researchers and professionals experiencing sustainability challenges in a multidisciplinary and multicultural environment, through two flagship programmes, namely *Young Researchers' School (YRS)* and *Leadership Programme (LP)*. YRS and LP have been offered over the years, bringing together not only early career researchers and aspiring faculty, but young professionals from the public and private sectors, as well as from civil society. This is part of *ProSPER.Net's* efforts to bridge institutional gaps that hinder the integration of sustainability in higher education activities and contributes to the introduction of pedagogical innovations that are tied with sustainable development demands for complex problem solving.

Over the years, both the YRS and LP have been regularly offered with special focus on topics that are of high relevance to the locality and hosting institution. The offerings during 2015-2021 are summarised below – 4 YRS and 6 LPs – categorised by location where the school/programme was held or hosted. Each offering highlights the theme, description of programme curriculum and methodology, outcome and lessons learned.

Credit: UNU-IAS

3.2 Young Researchers' School

Postgraduate students, especially doctoral students who are potentially future leaders in their respective fields, are invited to participate in an intensive ten-day to two-week programme where they are exposed to sustainability issues while developing their research skills. The programme provides students with the opportunity to learn from experts and the tools to launch innovative research projects and to develop communication skills. It also offers an invaluable venue for young researchers to expand a network of sustainability scholars and professionals in the Asia-Pacific region. The YRS renders a multiplier effect as its alumni continue to propagate what they have gained from the programme throughout their careers.

3.2.1 New Delhi, India 2016

Theme: ***"Sustainable Energy for Transforming Lives: Availability, Accessibility, Affordability"***
Dates: 1-12 February 2016
Host: *TERI School of Advanced Studies, New Delhi, India*
Participants: 17 PhD students from 5 countries
Focus SDG: *SDG 7 – Affordable and clean energy,* and *SDG 13 – Climate action*

Programme and proceeding
Students were exposed to theory and practice of "Sustainable Energy" especially in the aspects of availability, accessibility and affordability in the context of the SDGs. Various issues around the sustainable energy and the governance and technologies to promote them were discussed and students were taught how to develop a research proposal that captures sustainability issues. They were provided with templates to help better focus on the research question at hand, explore each objective, thereby create a comprehensive research plan.

The curriculum covered quantitative and qualitative research methods in the area of sustainable development. The core components to assist students in developing research communication skills included activities such as a three-minute thesis competition. A lecture on modern ways of research dissemination allowed them to rethink the way they may share their research output in the future. In a unique, interactive session "Life after the PhD", participants had an opportunity to interact with mid-career professionals on various post-PhD career options and strategies.

Field visits were designed to demonstrate how to put theory into practice. Students went to several sites such as the TERI campus in Gurugram, which showcased an energy-efficient operation, the National Institute of Solar Energy, where students observed grid and off-grid solar systems, thermal, photovoltaic and solar biomass hybrid cold storage. They also visited the Firozabad glass bangle factory cluster and a brick industry, where energy efficiency measures such as preheating technology, waste heat recovery and energy efficient designs were practiced by transitioning from traditional systems to new production methods. At the Dayalbagh Educational Institute and the Punjab Energy Development Agency students were exposed to various energy efficient approaches such as roof-top solar photovoltaic systems with a battery bank, solar thermal systems, a tracking PV system, and net metering and energy efficient architecture.

Outcome and lessons learned
Students produced four research proposals – 1) Analysis of existing technologies in the sugar industry and implications for the Punjab net metering policy; 2) Improving energy efficiency in the small and medium brick industry in Punjab; 3) Towards the adoption of green building in the commercial and institutional sector of India; and 4) Suitability of thermoelectric generation as an energy generation technology for rural communities in Rajasthan. The YRS provided a platform for young researchers and scientists to brainstorm and gather thoughts around possible ways of sustaining and utilising energy resources more effectively and efficiently.

For more info: *https://go.unu.edu/DP8UB*

A video of the programme is available at *https://go.unu.edu/r93Ky*

3.2.2 Ho Chi Minh City, Vietnam 2017

Theme: ***"Water Security for Sustainable Development in a Changing Climate"***
Dates: 6-16 March 2017
Host: *Vietnam National University Ho Chi Minh City – International University*
Participants: 16 PhD students from 11 *ProSPER.Net* members from 9 countries
Focus SDG: *SDG 6 – Clean water and sanitation,* and *SDG 13 – Climate action*

Programme and proceeding
The students learned first-hand about the impacts of climate change, sea level rise, and illegal water use in the region through lectures, field visits, and research-writing workshops. Students were provided with a breadth of topics related to water security, policy and practices of river basin management in the Mekong Delta, and environmental impact assessment of fresh water ecosystems as a tool for pollution prevention. The Mekong Delta provides food not only for much of Vietnam, but is also an increasingly important agricultural export market, both within the region and globally.

Lectures were held on water security and storage in and around Ho Chi Minh City, policy and practice of river basin management in the Mekong Delta, and environmental impact assessment of freshwater ecosystems. Lectures on how to prevent salinity intrusion into the region, and on how local government administrators do water management in the Mekong Delta were also delivered. The students visited flood prevention infrastructures and water treatment facilities around the city. This was particularly interesting relative to Ho Chi Minh City's plan to expand fresh water access in the near future and the city's contingency plans for flood control.

Outcome and lessons learned
During the field visit to Tram Chim National Park, students observed the unique role wetlands have in biodiversity preservation. They learned about the delicate balance between park management, wildlife protection, prevention of forest fires, and allowing for agriculture. In Can Tho province, students learned about climate change in the Mekong Delta. They visited a salinity control gate in Cen Tre province. Many of the salinity control gates

in the region are being developed by the Vietnamese government in cooperation with Japanese, German, and Dutch aid programmes, giving students opportunity to witness international cooperation on the construction of infrastructure projects in response to climate change.

Students in groups produced research proposals to investigate water security issues in Vietnam on the following issues: Water resource quality assessment; Water and wastewater treatment; Infrastructure development under changing climate conditions; and Developing planning policy under changing climate conditions. These groups developed a research question with specific objectives and outcomes, a set of methodologies, data sources and a timeline to set the groundwork for the proposed project. The students put together four proposals that were presented on the final day of the school. Students also presented their own doctoral research, using a single slide and only for three minutes. The competition produced presentations, with dynamic, creative, and enlightening narratives around student's individual PhD research.

For more info: *https://go.unu.edu/N7Ldo*

3.2.3 Kanagawa, Japan 2018

Theme: ***"Sustainable Urban Development for the World's Megacities"***
Dates: 4-11 March 2018
Host: *UNU-IAS*
Participants: 20 students from 18 *ProSPER.Net* members from 15 countries
Focus SDG: *SDG 11 – Sustainable cities and communities,* and *SDG 13 – Climate action*

Programme and proceeding
The YRS provided students with the opportunity to engage with issues related to sustainable urban development in the context of megacities. With increasing urbanisation, cities have a key role to play in achieving the SDGs. The programme consisted of lectures on a range of topics including urban transportation systems, waste management, urban water security, urban climate change mitigation and adaptation, urban disaster risk reduction and urban metabolism. The workshops focused on developing research and communication skills, with participants learning about the art of developing research proposals, as well as effective research communication. Students developed presentation skills which challenged them to present their thesis in just three minutes with one slide, testing their ability to explain their research to a non-specialist audience in a succinct and engaging way. The 'Life after PhD' interactive session provided students with an opportunity to hear from a panel of experts and researchers as they shared their stories about what careers are available with a PhD, including private sector, public service, and academia.

Students visited Yokohama, Japan's second largest city, which is a leader in smart city projects and has thus been designated as a 'Future City'. The city is currently working on two plans: The Yokohama City Action Plan for Climate Change Countermeasures focusing on decarbonisation, and the Yokohama City Future City Plan introducing initiatives to address simultaneous solutions related to the SDGs. The students visited the Minato Mirai 21 District Heating & Cooling facility, which supplies heating and cooling facilities for businesses and residents across the district continuously throughout the year. The facility is able to respond to fluctuating energy demand and thereby operate with efficiency. By operating centrally, the facility contributes to disaster prevention, with the risk of a secondary disaster lowered by removing heat source equipment from individual buildings. Another visit to a sludge treatment centre enabled the students to learn about the roles of the sewage system and how to maximise its efficiency and energy usage in a dense urban environment. In a visit to the Tsurumi Plant, students learned about how the city is dealing with waste management. Initiatives to respond to the growing amount of waste include raising citizens' awareness and educating children through school visits, seminars and outreach programmes on the categories of disposal, addressing wastage of food in restaurants and homes, and providing waste collection assistance for the elderly and less-abled members of the community.

Outcome and lessons learned
The students presented summaries of lectures and group research proposals on the themes of Governance for Sustainable Development in Megacities, Urban Ecosystems in Megacities, Housing and Infrastructure in Megacities, and Urban Planning in Megacities. Each group presentation outlined a research question, goals and objectives, methodologies, data sources, a timeline, and expected outcomes and deliverables. These served as a basis for future project proposals within the aforementioned themes.

For more info: *https://go.unu.edu/Bz139*

3.2.4 Yogyakarta, Indonesia 2019

Theme: ***"Ecosystem-based Disaster Risk Reduction and Climate Change Adaptation"***
Dates: 3-12 March 2019
Host: *Universitas Gadjah Mada, Yogyakarta, Indonesia*
Participants: 21 PhD and Masters students coming from 9 countries
Focus SDG: *SDG 13 – Climate action, and SDG 15 – Life on land*

Programme and proceeding
The YRS provided participants with the opportunity to engage with issues related to Ecosystem-based Disaster Risk Reduction (Eco-DRR) in the context of the tropics, as well as an understanding of the issues and problems related to hazards and disasters in the context of the SDGs. The global landscape for disaster risks and international processes and frameworks was presented. A lecture on vulnerability analysis with case studies allowed students to exercise critical thinking about different types of vulnerability (physical, social, economic, environmental). Engaging with the community for participatory GIS for disaster management and different forms of participatory mapping, approaches, platforms, and tools were impressed upon the students, as was spatial planning for disaster management. Climate change adaptation in the context of the fishery and agriculture sectors, and best practices, were discussed. Research communication for effective communication in science, as well as its role in helping others understand the implications and issues connected to one's research, was discussed, and a panel of experts presenting 'Life after PhD' stressed the importance of networking and provided participants with an understanding of career options post-PhD.

A site visit was made to Desa Wisata Rumah Domes, a settlement containing earthquake-resistant houses, which enriched students' knowledge. A visit to the Parangtritis Geomaritime Science Park enabled students to learn about and observe the geospatial areas and how ecosystem services can be managed to reduce disaster risk in the coastal area. The site is also the location of active sand dunes, which serves as a barrier from tsunamis along the coastline. Students visited Mount Merapi Museum to learn about Mount Merapi's eruptions and impacts. There was also a visit to Huntap Pagerjurang, a resettlement village, where students could see directly how people affected by a disaster have had to adapt to new living spaces and conditions. Students worked in groups to develop research proposals related to natural disasters. Students also took part in a research communication competition in which they were challenged to present their research in a concise and compelling way, suitable for a non-specialist audience, to develop their public speaking and science communication skills.

Outcome and lessons learned
Students benefitted from a variety of in-class components (lectures, practical exercises, individual and group assignments, presentations, and discussions), as well as field visits to see how communities have learned to live and cope with disasters. The participants learned valuable lessons and insights on the area of disaster risk management, shaped by the local expertise and experiences shared. The importance of working together, local knowledge, and learning from one another, especially when it comes to mitigating disasters and adapting to climate change, has never been more important.

For more info: *https://go.unu.edu/bxfYS*

3.2.5 Synthesis

There was no YRS offered in 2015 due to an unforeseen reason, and in 2020 due to the COVID-19 pandemic. All four YRS offerings during 2016-2019 (See Table 2) were climate-related in addition to other topics such as energy, water, megacities, and ecosystem-based DRR. The established YRS capacity building methodology was consistently applied in which deeper understanding of the relevant issues pertinent to the thematic area were gained through lectures and discussions with international and local experts, developing communication skills through presentations (including 3-minute presentations with one slide) of what they learned in the programme being incorporated into their individual research, as well as conducting group work to develop research proposals on a sustainability-related research topic. The methodology includes real-life observations and learning through field visits to demonstration and operation sites and facilities. By design, all YRS offerings aimed at capacity building - *Building capacities of educators and professionals* - targeting the young generation - *Empowering and mobilising youth* - and all offerings expected to result in the participants themselves integrating sustainability issues into the individual student research required for their postgraduate academic degree.

An online Impact Survey was conducted to gather knowledge on the usefulness of the programmes to the 2016-2019 YRS alumni's professional careers to assess their impacts that could provide bases for development of future schools. From a total of 72 alumni, 14 (19%) responded to the survey, of whom 57% were male and 43% female. A great majority (86%) of the respondents where those who attended the more recent (50% from 2018 & 36% from 2019) YRS offerings; only 14% responded from the 2016 and none from 2017 offerings, respectively.

The survey results revealed unanimous satisfaction in all impact criteria (See Table 3) in varying degrees. Overall, the satisfaction of alumni and the impact of the YRS on their professional careers are significantly evident. On content and methodology, an overwhelming number (86%) were very satisfied and the rest (14%) satisfied with the YRS. On usefulness to current professional work, one-half of respondents said the YRS was very useful and the other half said that the YRS was useful. One-half of the respondents thought that the YRS had much influence, and the other half were of the opinion that it had influence, in their research outlook. On sustainability outlook, 57%, 36% and 7% of the respondents, respectively, thought the YRS much influenced, influenced, or had little influence on them. A majority of the respondents (57%) continued their networking with fellow alumni, some institutionally, after completing the YRS through social media and direct individual communications. The overall survey results manifest that the YRS' purpose has been met and its objectives achieved.

Credit: Suriadi

Table 2. **Summary of *ProSPER.Net* Young Researchers' School Contributions**

YRS Year/Theme	*ESD for 2030* Priority Area	SDGs	Participants	*ProSPER.Net* Action Area: Capacity Building
2016: Sustainable Energy for Transforming Lives: Availability, Accessibility, Affordability (Sec. 3.2.1)	Building capacities of educators; Empowering & mobilising youth; Advancing policy	SDGs 7 & 13	17 from 5 countries	Deepen understanding on sustainable energy issues, research methods & communication skills; Developing research proposals; Issues learned - linking energy and climate change, energy security, energy accessibility and socio-economic impact, energy-efficient technologies and systems, energy-use efficiency, energy policy and governance, economics of renewable energy, and community engagement; Learned lessons on integrating sustainability into students' research studies for the academic degree.
2017: Water Security for Sustainable Development in a Changing Climate (Sec. 3.2.2)	Building capacities of educators; Empowering & mobilising youth; Advancing policy	SDGs 6 & 13	16 from 9 countries	Deepen understanding on water sustainability issues, research methods & communication skills; Developing research proposals; Water security issues learned - Water resource quality assessment; Water and wastewater treatment; Infrastructure development under changing climate conditions; and Developing planning policy under changing climate conditions; Learned lessons on integrating sustainability into students' research studies for the academic degree.
2018: Sustainable Urban Development for the World's Megacities (Sec. 3.2.3)	Building capacities of educators; Empowering & mobilising youth; Advancing policy	SDGs 11 & 13	20 from 15 countries	Deepen understanding on sustainable urban development issues, research methods & communication skills; Developing research proposals; Issues learned through group work - Governance for Sustainable Development in Megacities, Urban Ecosystems in Megacities, Housing and Infrastructure in Megacities, and Urban Planning in Megacities; Learned lessons on integrating sustainability into students' research studies for the academic degree.
2019: Ecosystem-based Disaster Risk Reduction and Climate Change Adaptation (Sec. 3.2.4)	Building capacities of educators; Empowering & mobilising youth; Advancing policy	SDGs 13 & 15	21 from 9 countries	Deepen understanding on DRR & climate issues, research methods & communication skills; Developed research proposals related to natural disasters that societies may need to respond to, including coastal storms (hurricanes and typhoons), earthquakes and volcanoes, tsunamis, and urban flooding; Learned lessons on integrating sustainability into students' research studies for the academic degree.

Table 3. ***ProSPER.Net* Young Researchers' School Impact Survey Results**

Impact Criteria (Questions)	Distribution of Responses (Total Respondents 14; Total Participants 72)		Remarks (Gist of commentary from survey)
In hindsight, overall, were you satisfied with the YRS that you attended?	Not satisfied	-	Learned Asian sustainability values and issues, multidisciplinary and holistic approaches, multicultural engagement, systems thinking
	Little satisfied	-	
	Satisfied	14%	
	Very satisfied	86%	
Was the knowledge and experience gained from YRS useful in your current professional work?	Not useful at all	-	Provided opportunities for professional advancement; enabled to take SD sessions in home institution and work with peers
	Little useful	-	
	Useful	50%	
	Very useful	50%	
Has the knowledge and experience gained from YRS influenced positively your current professional outlook on research?	No influence at all	-	Largely influential in thinking process and career goal and in integrating sustainability more meaningfully into research
	Little influence	-	
	Influence	50%	
	Much influence	50%	
Has the knowledge and experience gained from YRS influenced positively your current professional outlook on sustainability?	No influence at all	-	Influenced to think more deeply about sustainability in Education; expanded research connections on sustainability internationally
	Little influence	7%	
	Influence	36%	
	Much influence	57%	
Is there any professional network you still maintain from the YRS alumni?	Yes	57%	Alumni connect professionally & institutionally through social media and direct communications
	No	43%	

3.3 Leadership Programme

The LP focuses on developing leadership skills conducive to knowledge management and application. Its distinctive feature is providing young professionals with a testing ground for potential implementation through partnerships with local governments, communities and the private sector, addressing the lack of opportunity to further local sustainable development and influence policy and decision-makers. The idea is to further enhance the growing network of young researchers and scholars, since participation is open and offered to YRS graduates, as well as young professional graduates from *ProSPER.Net* member institutions. The LP provides an opportunity for developing and practicing skills to enable participants to become agents of change through a transformational and experiential learning process.

Credit: UNU-IAS

3.3.1 Sabah, Malaysia 2015

Theme: ***"Transformational Leadership in Implementing and Assessing Sustainability Projects"***
Dates: 23-29 August 2015
Hosts: *UNU-IAS; the Higher Education Leadership Academy (AKEPT) under the Ministry of Education, Malaysia; University Malaysia Sabah (UMS);* and *University College of Technology Sarawak (UCTS)*
Participants: 21 selected participants from the Asia-Pacific region including Australia, Bangladesh, Ethiopia (based in China), Fiji, India, Indonesia, Malaysia, Pakistan, the Philippines, Thailand, and Vietnam
Focus SDG: *SDGs 1-17*

Programme and proceeding

The intensive one-week programme offered a series of lectures by academics and local experts on sustainability and leadership as well as on the international sustainable development processes concerning the SDGs. Following the lectures, field trips were arranged to the case study sites through which the participants learned about local sustainability challenges and how local communities address those challenges. Based on in-depth observation and interview as well as focus group discussion, participants developed five case studies on (1) Role of transformational leadership in the promotion of sustainable agricultural practice: A case study of Palace Hotel; (2) Sustainability in a marginalised urban area through education development: A case study of Numbak Vision Center; (3) Sustainable island development: A case study of Gaya Island; (4) Sustainable Highland development: A case study of Bundu Tuan; and (5) Integrating the principle of sustainability in higher education: A case study of University Malaysia Sabah.

Brief on-site experiences enabled participants to better understand the complexity of local sustainability challenges and the importance of multi-stakeholder engagement in negotiating solutions to sustainable development. Providing the multi-stakeholder and trans-disciplinary dialogue, the programme aimed to nurture skills that could facilitate the generation of innovative ideas and alternative options for addressing sustainability challenges through effective collaborations and partnership.

Outcome and lessons learned

Participants, divided into five groups, presented their reflections on respective case studies and shared their critical insights. By bringing together participants from different fields, the programme replicated a unique setting where participants would recognise diversity, learn from differences, and realise the importance of understanding different perspectives in implementing and assessing sustainability projects. This exercise made the participants not only seek possible solutions in the case studies but also think how they can apply what they have learned in their own fields by looking into skills, knowledge and values needed for a leadership role in order to bring positive changes to the communities towards sustainable development. The hope is that the participants would take a step forward by further nurturing collaborative partnership and putting knowledge into action in whatever ways possible and capacities they are in.

For more info: *https://go.unu.edu/Njmzi*

3.3.2 Labuan Island and Beaufort, Sabah, Malaysia 2016

Theme: ***"Nurturing Local Leadership Towards Sustainable Development"***
Dates: 7-14 August 2016
Host: *ProSPER.Net Secretariat with the Higher Education Leadership Academy (AKEPT) under the Ministry of Higher Education, the University Malaysia Sabah (UMS)* and the *University College of Technology Sarawak (UCTS)*
Participants: 34 participants from 10 countries in the Asia Pacific region
Focus SDG: *SDGs 1-17*

Programme and proceeding

The intensive programme provided a series of workshops, plenary sessions, multi-stakeholder and focus group discussions, as well as fieldwork activities around the topics of local sustainable development challenges on Labuan Island and in Beaufort. The main goals of the programme were to identify local leadership opportunities for sustainable development and to link local and national sustainable development projects to international platforms such as the SDGs, the Paris Climate Accord, and the Sendai Framework on Disaster Risk Reduction.

One activity focused on identifying ethical challenges in sustainable leadership, recognising that leaders may have to balance their social, environmental, and economic obligations simultaneously.

Participants worked on one of the five topics below, received important lectures from experts in each topic, and interacted with local stakeholders and communities through either multi-stakeholder discussions or field activities. The students were faced directly with the challenges of each community and able to identify which problems remained unresolved, such as:

- Housing and Urban Poverty: Participants visited an urban community in Wilayah Persekutuan that had been impacted by nearby industrial activities.
- Promotion of Small Scale Tourism through Homestays: Participants visited two communities and homestay operators which were working with the Ministry of Culture and Tourism in Malaysia to enhance the local tourist industry by providing homestays to tourists.
- Domestic Waste Management: Participants visited the local municipal waste landfill and recorded the problems related to recycling and waste disposal on the island in addition to issues of dump location and shipping waste to the mainland.
- Promotion of Eco-Tourism: Participants visited the Kota Kilas conservation areas to see how the locals together with NGOs provided eco-tourism to tourists interested in wildlife.
- Flood Disaster Management: Participants visited the community of Kampung Bangkalalak which has experienced recurring and periodic flooding.

Outcome and lessons learned

Each group summarised their findings in a report and a brief media paper, highlighting the sustainable development challenges and potential solutions. Participants shared their expertise in relation to a variety of sustainable development challenges, faced by both the communities as well as their fellow participants. The participants forged a strong sense of community among themselves, with many looking for opportunities to collaborate on future projects related to sustainable development.

For more info: *https://go.unu.edu/z4A9w*

3.3.3 Bangkok, Thailand 2017

Theme: ***"Building Transformational Leadership towards the Sustainable Development Goals"***
Dates: 29 June to 5 July 2017
Host: *Chulalongkorn University* in commemoration of the centennial anniversary of its founding, and jointly organised with *ProSPER.Net*, and institutions at *Chulalongkorn University*, namely, the *Faculty of Science, the Center of Excellence on Hazardous Substance Management*, and the *Southeast Asia Regional Center of START (Global Change SysTem for Analysis, Research and Training)*
Participants: 21 participants from the public and the private sectors from 10 countries across the Asia-Pacific region (Australia, China, India, Indonesia, Malaysia, Pakistan, the Philippines, Singapore, Thailand, and Vietnam)
Focus SDG: *SDGs 1-17*

Programme and proceeding
The LP comprised sessions of knowledge sharing, field visits to Chonburi Province, exercises of leadership skill development and sessions in the Asia Research Intelligence Conference organised by Elsevier and Chulalongkorn University. Participants were exposed to five case studies that were tied to the five pillars of the SDGs: People, Planet, Prosperity, Partnership, and Peace (5 P's). As future transformative leaders, participants need to understand the challenges they face in the context of their communities and their environment. Renowned speakers, experts, and resource persons engaged actively to transfer their knowledge and experience on the 5P's. The case studies, working in groups on the 5P's, were conducted in Bangkok and Chonburi Provinces. These were the topics covered:

- People: Population lifespan and sustainability; Multidisciplinary approach to an aging society's health and care through experiences from Thailand's transformation towards sustainability
- Planet: Land-water security; Climate change adaptation - Baan Rang Sri Roof Garden
- Prosperity: Sufficiency Economy; Promotion of business sustainability in Thailand and ASEAN; Business sustainability practices in Thailand
- Peace: Social responsibility and conflict management at Ao Udom Coastal Development Zone, Chonburi Province
- Partnership: Sustainable development through local partnerships; Multiple scales of sustainability governance at Panas Nikom Municipality, Chonburi Province

Outcome and lessons learned
Participants reflected many promising sustainable ideas and practical projects to be implemented in their communities. The programme provided a platform to shape leaders, not mere managers, to make a difference towards the SDGs. Observations indicated the actual improvement of the transformational leadership through the process of creative thinking, as well as the development of communication skills through inter-personal active learning and group working environments.

For more info: *https://go.unu.edu/H2Ko1*

3.3.4 Melbourne, Australia 2018

Theme: ***"Leadership for Urban Development"***
Dates: 12-16 November 2018
Host: *RMIT University*
Participants: 10 participants from across the Asia Pacific region
Focus SDG: *SDG 11 – Sustainable cities and communities*

Programme and proceeding
The LP provided participants with the opportunity to develop the skills and knowledge in order to lead on the many challenges that urbanisation brings with it. The programme began with an innovation sprint as part of the City Partnerships Challenge run by the UN Global Compact Cities Programme. Operating in a World Café style, participants worked on brainstorming innovative solutions to real-world business cases provided by five local city councils across the Australian states of Victoria and New South Wales. Projects included a proposed transport development, a combined wastewater and energy facility, the regeneration of a historic city precinct, and an indigenous tourism product incubator. A number of Sustainability Leadership exercises enabled participants to delve deeper into the characteristics and

Credit: UNU-IAS

styles of leadership. An overview was provided of RMIT's alignment and engagement with the SDGs, outlining the four main ways they contribute – through Research, Education, Operations & Governance, and External Leadership. Participants were also given an insight into indigenous engagement at RMIT, Aboriginal culture, and its relationship with the land.

The concept of 'liveability' from a planning perspective was discussed, as well as Melbourne's current plan and whether it is adequate to sustain it as a sustainable and liveable city in the future. The City of Melbourne provided an overview of local planning and building policies, tools and sustainable design categories (e.g. indoor environment quality, water efficiency, urban ecology), building scorecards, frameworks and certifications, all of which come under its strategy on sustainability for the city. The programme provided participants with a chance to see a successful example of housing provision in practice; the Nightingale model. Designed to provide housing outcomes that are sustainable, affordable, and socially inclusive, the model was developed for architects to deliver triple bottom line (TBL) outcomes for apartments under the idea of 'building less to give more'.

Outcome and lessons learned
The programme ended with participants presenting strategies for the City of Melbourne in relation to achieving targets from *SDG 11* that groups had been assigned. These included gaps and prevention measures for the city's waste management challenges, addressing unequal access to green and public spaces, strategies to address current housing issues of affordability, supply, and accessibility, and a people-centred approach to developing solutions for sustainable transport in Melbourne. As future leaders, a key challenge lies in how to implement solutions to complex problems whilst obtaining buy-in from stakeholders and the public, all of which relies to some extent on advocacy, communication, and engagement.

For more info: *https://go.unu.edu/QRyz7*

3.3.5 Quezon City, Philippines 2019

Theme: ***"Engineering Approaches to Disaster Risk Reduction and Management Towards Sustainable Development in the Asia-Pacific Region"***
Dates: 24-30 November 2019
Host: *University of the Philippines Diliman* in Quezon City, Philippines
Participants: 20 participants from across the Asia Pacific region - from Bangladesh, China, India, Indonesia, Japan, Kyrgyzstan, Mongolia, Myanmar, Nepal, Pakistan, the Philippines, Sri Lanka, Syria, Thailand, and Vietnam
Focus SDG: *SDG 11 – Sustainable cities and communities*

Programme and proceeding
The participants spent the week learning from lectures and workshops on a range of areas, which gave insights on how SD, ESD and DRR can be combined with engineering approaches to tackle local and regional sustainability issues. Participants also worked in groups to develop projects encompassing leadership for sustainability and collaboration aspects, to deliver on DRR and sustainable development. These were focused on various topics and phases of the disaster management cycle: Urban Planning and Preparedness; Housing and Preparedness; Energy and Health Care; Water Shortage and Agriculture; and Sewage System and Floods, all of which were presented on the final day of the programme.

A field trip to Marikina City, which was severely flooded by Tropical Storm Ondoy in 2009, gave participants the opportunity to contextualise their learning, by drawing on the lived experiences of the local community stakeholders. Participants visited Marikina City Hall, the DRR Management Office and Rescue 161, three local communities (Nangka, Tumana and Malanday), where they interacted with local stakeholders and heard their experiences through conducting interviews with them.

Outcome and lessons learned
Participants were exposed to engineering principles and tools that can aid in formulating sustainable solutions for the region, taking into consideration the vulnerability of the region to both man-made and natural disasters. Participants gained knowledge from working on group projects that enabled them to develop leadership skills in the context of ESD, the Sendai Framework for Disaster Risk Reduction 2015-2030, as well as the SDGs. Upon returning to their home countries or communities, participants have been asked to reflect on the lessons learned in the programme and how these can be applied to develop a strategic plan for DRR at their workplace in the long-term (10 years) and short-term (1-3 years).

For more info: *https://go.unu.edu/FTye4*

Credit: UNU-IAS

3.3.6 Tokyo, Japan (Virtual) 2021

Theme: **"*Climate Change: Global Issues, Local Actions and Transdisciplinary Solutions*"**
Dates: 14-24 September 2021
Hosts: *UNU-IAS* and *Social Innovation Japan*
Participants: 24 participants from 10 countries across the Asia-Pacific region
Focus SDG: *SDG 13 – Climate action*

Programme and proceeding
The 2021 LP was unique in applying a Design Thinking approach to finding innovative solutions to a local climate issue. Participants were exposed to understanding the current state of the climate through the IPCC reports, the impacts and risks of climate change, and the implications for adaptation, highlighting the importance of how adaptation is done and of working together. Participants were led through a series of workshops along the Design Thinking cycle, taking them on the journey of the Ideathon process, which participants used in the development of a prototype to address a pressing climate-related challenge in a local community context.

To help participants understand pertinent issues from different stakeholders, a panel discussion was held on "Exploring Climate Action: Multi-Stakeholder Dialogue", from a range of practitioners including government, business sector, youth and non-governmental organisations. In a workshop on "Leadership for Sustainability" participants gained understanding on the competency required for leadership for sustainability and completed an exercise in identifying stakeholders and vulnerable groups, as well as the potential conflicts and how they could be overcome. Another workshop focused on maximising impact, taking participants through the Theory of Change in order to ensure activities and resources for the prototype are aligned with the outcomes and consequentially the impacts of a project.

Outcome and lessons learned
Participants in groups presented their solutions to five climate challenges: (1) an app utilising an eco-system approach to educate households on clean energy, making it easier for people to adopt energy products and solutions; (2) a sustainability research and community centre based in Yakushima, Japan, to equip and engage youth and the community with knowledge on climate action; (3) an eco-branding service aimed at small businesses to tackle the issue of plastic pollution in Kyoto, Japan; (4) an integrated capacity building program for community and practitioners in Fiji to build understanding of climate change and disaster risk management, and develop confidence to take action; and (5) an advocacy campaign encompassing a holistic approach towards sustainable hotels in Bali, to foster sustainable waste management practices. Evaluations of the group projects by a panel focused on feasibility, impact, innovation, the presence of multi-stakeholder partnerships, in addition to how well groups displayed critical and systems thinking.

Post-programme survey of participants showed that the LP responded to the needs for learning opportunities of young leaders, with 95% agreeing that it met their expectation, 100% agreeing that they obtained necessary skills and knowledge for climate change solutions.

For more info: *https://go.unu.edu/AQIJL*

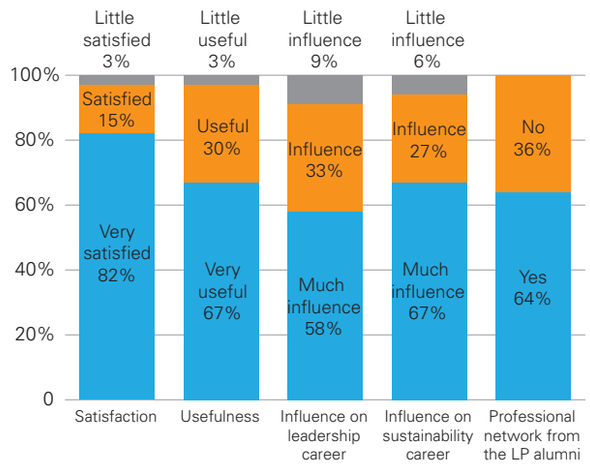
3.3.7 Synthesis

The LP was offered annually since 2015 with the exception of 2020 which was called off due to the COVID-19 pandemic. The first virtual LP was held in September 2021 (See Sec. 3.3.6). Three LP offerings dealt with transformational leadership for the SDGs and for sustainability project implementation. Three other offerings focused on leadership issues with particular themes – Urban Development, DRR and Climate Change. The offerings consistently employed the actual case learning methods and interactions with local multi-stakeholders dealing with real-life experiences on pertinent sustainability issues. Based on the evaluation at the end of the programme, participants gained knowledge, skills and experience (See Table 5).

An Impact Survey was conducted online to gather and gain knowledge on the usefulness of the offerings to the 2015-2021 LP alumni's professional careers to assess their impacts that could provide bases for development of future programmes. From a total of 130 alumni over 2015-2021 period, 47 (36%) responded to the survey, of whom 52% were male, 45% female and 3% preferred not to say. All six LP offerings were represented in the survey.

The survey results revealed unanimous satisfaction in all criteria (See Figure 3 and Table 5) in varying degrees. Overall, the satisfaction of alumni and the impacts of the LP on their professional careers are significantly evident. On content and methodology, an overwhelming number (82%) were very satisfied and the rest (18%) satisfied with the LP. On usefulness to current professional work, 67% said the LP was very useful, 30% said useful and only 3% said it had little usefulness. About 58% of the respondents expressed that the LP had much influence, 33% had influence, and only 9% had said little influence in their leadership outlook. On sustainability outlook, 67%, 27% and 6% of the respondents, respectively, expressed the LP much influenced, influenced and had little influence on them. A majority of the respondents (64%) continued their networking with fellow alumni after completing the LP through social media and individual communications. The overall survey results manifest that the LP's purpose has been met and its objectives achieved.

Figure 3. ***ProSPER.Net* Leadership Programme Impact Survey Results**



Credit: Chulalongkorn University

Table 4. **Summary of *ProSPER.Net* Leadership Programme Contributions**

LP Year/Theme	*ESD for 2030* Priority Area	SDGs	Participants	*ProSPER.Net* Action Area: Capacity Building
2015: Transformational Leadership in Implementing and Assessing Sustainability Projects (Sec. 3.3.1)	Empowering & mobilising youth; Accelerating local level actions	SDGs 1-17	21 from 11 countries	Deepen understanding on developing sustainability projects, engaging multi-stakeholders in communities and developing case studies
2016: Nurturing Local Leadership Towards Sustainable Development (Sec. 3.3.2)	Empowering & mobilising youth; Accelerating local level actions	SDGs 1-17	34 from 10 countries	Deepen understanding on local sustainability issues, engaging multi-stakeholders in communities and developing case studies
2017: Building Transformational Leadership towards the Sustainable Development Goals (Sec. 3.3.3)	Empowering & mobilising youth; Accelerating local level actions	SDGs 1-17	21 from 10 countries	Case studies on the 5Ps (People, Planet, Prosperity, Peace and Partnership) deepened insights to the interlinked SDGs; Experienced and learned transformational leadership processes through actual field visits and interviews
2018: Leadership for Urban Development (Sec. 3.3.4)	Empowering & mobilising youth; Accelerating local level actions	SDG 11	10 from 8 countries	Deepen understanding on how a city can be transformed for SD, benefit from the formation of new connections, whilst developing skills that can be applied in other spheres, from city government and finance to education and non-profit work, to lead on sustainable urban development challenges
2019: Engineering Approaches to Disaster Risk Reduction and Management Towards Sustainable Development in the Asia-Pacific Region (Sec. 3.3.5)	Empowering & mobilising youth; Accelerating local level actions	SDG 11	20 from 15 countries	Deepen insights on how SD, ESD and DRR can be combined with engineering approaches to tackle local and regional sustainability issues, and to develop a strategic plan for DRR
2021: Climate Change: Global issues, local actions and transdisciplinary solutions (Sec. 3.3.6)	Empowering & mobilising youth; Accelerating local level actions	SDG 13	24 from 10 countries	Participants in groups analysed problems and formulated solutions to various climate challenges focusing on feasibility, impact, innovation, presence of multi-stakeholder partnerships, and display of critical and systems thinking.

Table 5. ***ProSPER.Net* Leadership Programme Impact Survey Results**

Impact Criteria (Questions)	Distribution of Responses (Total Respondents 47; Total Participants 130)		Remarks (Gist of commentary from survey)
In hindsight, overall, were you satisfied with the LP that you attended?	Not satisfied	-	The programme was satisfactory and beneficial - the speakers, mentors, group sessions, and the various field activities.
	Little satisfied	3%	
	Satisfied	15%	
	Very satisfied	82%	
Was the knowledge and experience gained from LP useful in your current professional work?	Not useful at all	-	Developed programmes on sustainability in home institution; integrated ESD in teaching, research and other professional works
	Little useful	3%	
	Useful	30%	
	Very useful	67%	
Has the knowledge and experience gained from LP influenced positively your current professional outlook on leadership?	No influence at all	-	Used systems thinking in all aspects of work and leadership; influenced confidence
	Little influence	9%	
	Influence	33%	
	Much influence	58%	
Has the knowledge and experience gained from LP influenced positively your current professional outlook on sustainability?	No influence at all	-	Linked works - programmes and projects - to SD and ESD concepts and practices
	Little influence	6%	
	Influence	27%	
	Much influence	67%	
Is there any professional network you still maintain from the LP alumni?	Yes	64%	Developed professional networking with fellow alumni through social media and direct individual communications
	No	36%	

Chapter 4
Policy advice

4.1 Background

Tackling the challenges of sustainable development require policy decisions to be multifaceted that embodies understanding of cross-cultural linkages as well as the sciences and the environmental, economic and the social aspects of development problems. With this aim in mind, *ProSPER.Net* strives to support, provide advice and advance policies as well as influence policymaking of higher education institutions. It seeks opportunities to engage with policymakers by exploring different avenues for advancing policy and influencing policymaking through initiatives in education and research, such as through curriculum and capacity development, contributing to the international frameworks, influencing institutional policies, and organising forums on sustainability in higher education. By *ProSPER.Net* policy, each and every Joint Project (See Chapter 2) is expected to develop a policy brief for dissemination to policymakers and decision makers in government, academia, civil society and private sector. In terms of capacity development, *ProSPER.Net* has been offering programmes targeting young academics and professionals to further enhance their leadership knowledge and skills thus preparing them for future engagements in policy processes.

ProSPER.Net organises the *"Forum on Sustainability in Higher Education"* where members of the network community deliberate policy issues and implications of *ProSPER.Net* joint projects and other initiatives on policymaking in HEIs. Over the years, these events were held in conjunction with *ProSPER.Net* General Assembly and Board Meetings as well as relevant regional and global ESD/SD framework gatherings. The following sections feature the summary of events - nine *ProSPER.Net Forums on Sustainability in Higher Education* - held during 2015-2021 as categorised by name of the hosting institution.

4.2 Tongji University 2015

Theme: ***"Higher Education for Sustainable Development – Advancing the Nagoya Declaration"***
Date: 4 June 2015
Host: *Tongji University*, Shanghai, China
Focus SDG: *SDG 1 – No poverty; SDG 4 – Quality education;* and *SDG 12 – Responsible consumption and production*

The 2015 Sustainability Forum focused on advancing the *Nagoya Declaration on Higher Education for Sustainable Development* that was adopted at the *International Conference on Higher Education for Sustainable Development* in Nagoya, Japan on 9 November 2014. The panel discussion delved into the policy and experience of the host, *Tongji University*, in integrating sustainability into curricula across the academic offerings of the university, creating a campus culture of sustainability, as well as the university's overall commitment to ESD. Interfacing amongst science, society and policy, aligning basic and higher education, conducting public awareness campaigns, and developing competences and skills of policymakers are all essential. Also, the goal of alleviating poverty must not be swept aside and questions on green economy, how economic prosperity can be decoupled from environmental degradation, need to be addressed by policy. Universities must recognise that behavioural change is needed in human practices and underscore the importance of connecting political and natural sciences. It was acknowledged that the rigidity of university organisational structures might be causing impediment to transformation of higher education institutions. Universities must empower students through provision of platforms for debates on SD and ESD, explore problems of SD/ESD implementation and establish an indicator system for monitoring.

4.3 UNU-IAS 2016

Theme: ***"Higher Education and the SDGs"***
Date: 10 July 2016
Host: *UNU-IAS*
Focus SDG: *SDG 2 – Zero hunger; SDG 3 – Good health and well-being; SDG 4 – Quality education; SDG 7 – Affordable and clean energy; SDG 9 – Industry, innovation and infrastructure;* and *SDG 13 – Climate action*

"Built Environment Curricula in the Asia Pacific Region: Responding to Climate Change" Joint Project which addressed *SDG 9 (Industry, innovation and infrastructure)* and *SDG 13 (Climate action)*, showcased how green urban development allowed for different professions to collaborate, regulate changes in university curricula and align to one Built Environment code (See Sec. 2.5). *"Climate Compatible Development in Asian and Pacific Cities"* Joint Project explored ways in which cities can develop action plans to respond to climate change, *SDG 13 (Climate action)* in the city level and to develop a framework for tracking progress on climate action (See Sec. 2.4). *"Health Food Traditions of Asia"* Joint Project on *SDG 2 (Zero hunger)* and *SDG 3 (Good health and well-being)* assessed the increasing health disparity across Asia Pacific describing how rapid lifestyles, aging, and malnutrition in developing countries and transition economies have led to unhealthy diet patterns; the research looked at policies to strengthen local production and consumption systems (See Sec. 2.3). *"Understanding Decentralized Energy Interventions and their Success Conditions in Selected Countries of Asia Pacific"* Joint Project addressed *SDG 7 (Affordable and clean Energy)* and showed the importance of subsidies and incentives as key for propelling shared decentralised energy systems (See Sec. 2.2). A major policy recommendation from the four projects was that universities in general should focus on modelling best practices, connect more with communities outside the campus, and emphasise collaboration rather than competition.

4.4 Chulalongkorn University 2017

Theme: ***"International Collaboration: Community-based Research in the Context of the Sustainable Development Goals (SDGs)"***
Dates: 5-6 July 2017
Host: *Chulalongkorn University* on the occasion of the *4th Annual Asia Research Intelligence Conference*
Focus SDG: *SDG 4 – Quality education* and *SDG 17 – Partnerships for the goals*

Policy discussions provided networking opportunities for future collaboration on research projects and programmes related to community-based research for sustainable development in higher education. It also highlighted priority research areas for sustainable development in the region and how higher education can help address these areas to support the challenges of the *UN 2030 Agenda and the SDGs*, attract the best pool of diverse research talents with gender balance, as well as natural and social sciences perspectives. It reiterated the challenges and opportunities of the increasing availability of data and analytics for policymaking on sustainable development. Some insights on social impact assessment, a fast-emerging field, were deliberated. It was suggested to institute policies to scale up international collaborations with a more direct approach, aligning individual aspirations with institutional goals, thereby harnessing synergies of priorities and actions. Creating a clear pathway from knowledge to practice through case studies, and developing pilot projects, were some of the tools mentioned, especially in view of localising SDGs.

4.5 Chulalongkorn University 2018

Theme: ***"Development of a Framework for the Local Implementation of the Sustainable Development Goals (SDGs)"***
Dates: 24-25 October 2018
Host: *Chulalongkorn University* at the *Bangkok Forum on Integrating Knowledge for Social Sustainability*
Focus SDG: *SDG 4 – Quality education* and *SDG 17 – Partnerships for the goals*

The case study from Japan covered rural livelihoods and depopulation, with interviews and workshops leading to policy recommendations on curricula for local SDG implementation for Keio University students and middle school students in Toyooka. In Thailand, rural livelihood was also the theme, with focus group interviews, community workshop, and observation methods resulting in project learning for the local residents and tools to transform academic knowledge into community knowledge. The case study from the Philippines focused on urban livelihood, with workshops resulting in the development of learning modules and policies on the SDGs for incorporation into social studies and social science subjects at elementary and junior high levels, as well as non-formal education. In India, the focus was also on urban livelihoods, with a perception survey, stakeholder interviews, and gap analysis aiding in the development of a postgraduate curriculum framework on local SDG implementation. Each case study posed questions in the community around SDGs in different ways on innovative, participatory, experiential, action-based teaching and learning with a focus on reflection and action. Community outreach and co-production of knowledge with local stakeholders to build curriculum for students was a matter of policy. Reflected in the urban-rural situation is the importance of multi-stakeholder engagement and local values embedded into the localisation of the SDGs.

4.6 Universiti Teknologi Malaysia 2018

Theme: ***"Low Carbon Asia & Beyond"***
Date: 24-26 October 2018
Host: *Universiti Teknologi Malaysia; ProSPER.Net* as partner and exhibitor of the *4th ICLCA (International Conference on Low Carbon Asia & Beyond, iclcaconf.com)* with its members participating
Participants: Over 200 researchers and multi-stakeholders from academia, government and private sectors
Focus SDG: *SDG 4 – Quality education,* and *SDG 13 – Climate action*

Academics and policymakers shared the latest trend regarding sustainable development in various key sectors such as urban planning, transportation, energy, waste management, land use and many more. Participants shared knowledge on the advancement of sustainable development and the enabling role of education and research inter-correlating the three pillars of sustainability: the environment, economy, and society.

4.7 UNESCAP 2019

Theme: ***"Development of a Framework for the Local Implementation of the SDGs"***
Date: 27 March 2019
Host: *United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)*; as side event jointly organised by *UNU-IAS, UNESCO Bangkok* and the *Ministry of the Environment of Japan (MOEJ),* at the *Sixth Asia-Pacific Forum on Sustainable Development (APFSD 2019), UNESCAP*
Focus SDG: *SDG 4 – Quality education* and *SDG 17 – Partnerships for the goals*

In the panel discussion, case studies on local implementation of the SDGs were presented by four *ProSPER.Net* members (See Sec. 2.9 & Sec. 4.5). *UNESCO Bangkok* commented that the four case studies presented examples of collaborative learning processes for the SDGs and provided insights that such processes can facilitate the shared understanding in the community. In the discussion with the audience, the importance of putting the SDGs into local languages and institutionalising the initiatives was underscored. The panellists emphasised the importance of ESD and highlighted that higher education can contribute towards understanding the interlinkages of the SDGs.

4.8 Miyagi University of Education 2019

Theme: ***"Disaster Risk Reduction Education Open Forum on the Perspective of ESD for 2030"***
Date: 19 October 2019
Host: *Miyagi University of Education*
Focus SDG: *SDG 4 – Quality education,* and *SDG 17 – Partnership for the goals*

HEIs should promote DRR through school education and establish learning centres where pre-service and in-service teachers learn about past disasters and promote DRR for younger generations to acquire knowledge and skills to protect own lives and survive together. ESD and DRR should be integrated in both compulsory and elective courses, as well as in in-service capacity building courses for teachers and special training activities for the youth in communities.

4.9 UNU-IAS (Virtual) 2020

Theme: ***"Accelerating transition towards achieving the SDGs during and after the COVID-19 pandemic"***
Date: 16 October 2020
Host: *UNU-IAS*
Focus SDG: *SDG 4 – Quality education*

A survey conducted by the *International Association of Universities (IAU)* provided an overview of the impact of COVID-19 on HEIs, how the crisis has affected institutional activities, with the resulting move to online mode, which has brought about challenges to quality, equality, and access. From a recent *UNU-IAS* survey conducted amongst *ProSPER.Net* members, results indicated how the pandemic has significantly impacted teaching, whilst members are most concerned with the implementation of international programmes, delays in the academic year, and impact of a global recession on students' futures. Members expressed a need for training in effective delivery of virtual lectures and felt strategies to enhance international learning and cooperation, as well as online forums for networking and support, would be useful. Members expressed the importance of continuing to

communicate, the need to address mental well-being in students and staff, and most importantly, the need for a uniform call for the redesign and reorientation of higher education. Student engagement in community services is an integral part of the curriculum, which with the pandemic, shifted online, and adapted through utilising innovative methods of communication. The university has to focus on incorporating blended/hybrid education and "internationalisation at home" to enable flexible and diversified qualitative learning. The pandemic has exposed the weaknesses of current socio-economic systems thus inclusion of "green economy" in curricula decoupling prosperity and environmental degradation is important.

4.10 Ateneo de Manila University and University of the Philippines Diliman (Virtual) 2021

Theme: ***"Planetary Health Perspectives: Lessons from COVID-19 towards Climate Action"***
Date: 22 October 2021
Hosts: *Ateneo de Manila University* and the *University of the Philippines Diliman*
Focus SDG: *SDG 3 – Good health and well-being; SDG 4 – Quality education;* and *SDG 13 – Climate action*

The discussion revolved around lessons learned from the COVID-19 pandemic that can help take action against global climate change, delving into the interplay between the pandemic and climate issues, the challenges faced and their potential solutions. HEIs have important roles to play in creating deeper understanding of the similarities and differences between the COVID-19 pandemic and climate action, and their societal impacts that could enable re-structuring of systems, processes and lifestyles for building back better. Impacts of the pandemic on climate change may go either way, beneficial or detrimental. But actions that result in yielding co-benefits in pandemic defense and strengthening climate adaptation and mitigation simultaneously, and vice versa, must be promoted in policymaking and practice. HEIs' roles in raising awareness to the public should be conducted in plain language and recognise that the pandemic is not only about health but also on equity and inclusion, socio-economic structures and technological divide. The pandemic opens opportunities for HEIs to rethink, redesign and recreate transformation not only of the university but of communities and the world at large, and to integrate sustainability in curriculum, research and outreach in response to the planetary emergency.

4.11 Synthesis

Undertakings of *ProSPER.Net* for policy advice are realised through outputs of Joint Projects where processes leading to curriculum development also have policy implications on higher education institutions and education systems. Policy advice derived from Joint Projects are contextualised according to project themes and explained in Chapter 2.

Moreover, the series of forums, with variable but relevant themes on *Sustainability in Higher Education*, organised in conjunction with important global, regional or network events, also offer policy advice (See Sec. 4.2 through Sec. 4.10, and Table 6). These potential policy interventions may entail further scrutiny and understanding before considering them for policy adoption. Policy issues emanating from the various sustainability forums were aligned with the themes of the respective main events such as on youth, localisation of SDGs, disaster risk reduction, climate change, water security, urban development, multi-stakeholder and community engagements, and the roles of HEIs in mainstreaming ESD; these were areas of policy advice derived from *ProSPER.Net* initiatives during the period 2015-2021.

Transforming HEIs to address the SDGs requires policies that support new methods of learning, teaching, research, governance, and outreach. HEIs must integrate topics of sustainable development in their teaching and learning curricula. To transform their education system, HEIs should initiate or join diverse stakeholder networks to exchange ideas and share good practices. Innovative approaches that transform their operations and curricula can then be piloted and up-scaled. To gain full benefit from these networks, HEIs must commit the entire faculty, staff and management, mainstreaming in all departments and at all operational levels. For HEIs to produce a new generation of innovative and sustainability-oriented leaders, they need to join hands with like-minded partners.

Table 6. **Summary of *ProSPER.Net* Forum Contributions**

Forum Year/Theme	***ESD for 2030* Priority Area**	**SDGs**	***ProSPER.Net* Action Area: Policy Advice**
2015: Higher Education for Sustainable Development – Advancing the Nagoya Declaration (Sec. 4.2)	Advancing policy; Transforming learning environment; Empowering & mobilising youth	SDGs 1, 4 & 12	Whole institution approach to integrating sustainability into curricula across HEI academic offerings; Transdisciplinary expertise for HEI leadership; Provide students' platforms for campus debates on SD/ESD.
2016: Higher Education and the SDGs (Sec. 4.3)	Advancing policy; Transforming learning environments; Accelerating local level actions	SDGs 2, 3, 4, 7, 9 & 13	HEIs in general should focus on modelling best practices, connect more with communities outside the campus, and emphasise collaboration rather than competition.
2017: Community-based Research in the Context of the SDGs (Sec. 4.4)	Advancing policy; Accelerating local level actions	SDGs 4 & 17	Harness synergies of community priorities and actions, creating a clear pathway from knowledge to practice through case studies, and developing pilot projects, utilising the ESD tools, especially if SDGs were to be localised or domesticated.
2018 (Bangkok Forum): Development of a Framework for the Local Implementation of the Sustainable Development Goals (SDGs) (Sec. 4.5)	Advancing policy; Accelerating local level actions	SDGs 4 & 17	Emphasise the importance of community outreach, and the concept of co-production of knowledge with local stakeholders to build curriculum for students and create a sustainable society; Multi-stakeholder engagement and local values embedded into the localisation of the SDGs.
2018: International Conference on Low-Carbon Asia and Beyond (presentation on SDGs) (Sec. 4.6)	Advancing policy; Accelerating local level actions	SDGs 4 & 13	Integrate ESD into low-carbon education and into sustainability research.
2019 (APFSD): Development of a Framework for the Local Implementation of the SDGs (Sec. 4.7)	Advancing policy; Transforming learning environments; Accelerating local level actions	SDGs 4, 17	Learning cases provide insights that facilitate the shared understanding in the community; Importance of putting the SDGs into local languages and institutionalising them; Importance of ESD and for HEIs to contribute towards understanding the interlinkages of the SDGs.
2019: Disaster Risk Reduction Education on the Perspective of ESD for 2030 (Sec. 4.8)	Advancing policy; Accelerating local level actions	SDGs 4 & 17	Promote DRR through school education; Establish learning centres for teachers; Integrate DRR/SD in both compulsory and elective courses.
2020: Accelerating transition towards achieving the SDGs during and after the COVID-19 pandemic (Sec. 4.9)	Advancing policy; Transforming learning environments	SDG 4	HEIs have to focus on modifying offerings and incorporating blended/ hybrid education and "internationalisation at home" to enable flexible and diversified qualitative learning within higher education towards sustainable development.
2021: Planetary Health Perspectives: Lessons from COVID-19 towards Climate Action (Sec. 4.10)	Advancing policy; Transforming learning environments	SDGs 3, 4 & 13	HEIs to play important roles in creating awareness and deeper understanding of the similarities and differences between COVID-19 pandemic and climate action, and their societal impacts; harness co-benefits that could enable re-structuring of systems, processes and lifestyles for building back better.

Chapter 5
Next steps – ways forward

ProSPER.Net supports the implementation of the *UN Agenda 2030 and the SDGs* through the *ESD for 2030* framework taking on thematic areas that reflect the interests of network member institutions. Moving forward, *ProSPER.Net* programmes will be synergised across priority action and thematic areas in a holistic fashion. Having a conducive policy environment is crucial for mobilising education and learning for sustainable development as well as for up-scaling and accelerating ESD actions in formal, non-formal and informal education sectors. The various initiatives of *ProSPER.Net* in curriculum development, capacity building, and in providing platforms for sustainability processes will be stepped up to support policymaking and implementation of the SDGs. During the past seven years, about one-quarter of members have led Joint Projects or hosted YRS/LP/Forums, and nearly half of members have participated in one or more network activity. *ProSPER.Net* aspires for more network members to be involved in joint projects and other initiatives.

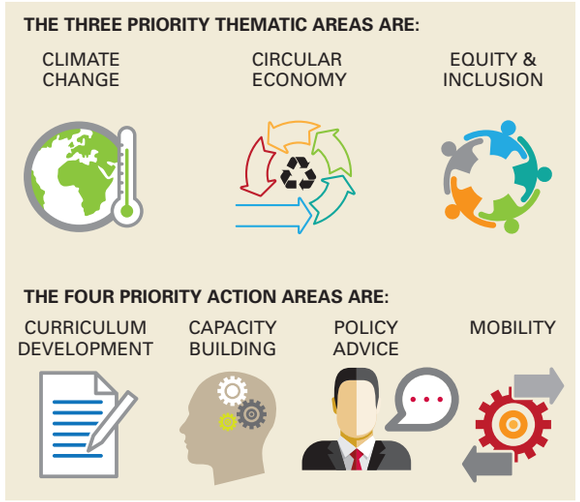
To this end, *ProSPER.Net* commits to strengthen its transdisciplinary principles for cross-cutting multiple, interrelated SDGs and launches a holistic approach to the new priority thematic areas: *Climate Change, (Planet); Circular Economy (Prosperity)*; and *Equity and Inclusion (People),* for the next five years, subject to a biannual review. The priority thematic areas will be reviewed and may be modified in subsequent years depending on how the network visualises future collaborative research, education and outreach. *Curriculum development, capacity building, policy advice* and *mobility* will be the priority action areas to demonstrate synergies among *ProSPER.Net* initiatives (See Figure 4).

Pursuant to *ProSPER.Net* decentralisation and devolution of governance, the system of *Expert Advisory Panels* has been established. An *Expert Advisory Panel* is tasked to review and evaluate the thematic technical aspects of programmes and projects, as well as related events. Specifically, the Panel performs the following tasks: (i) Review joint project proposals and project reports and outputs; (ii) Review proposals for organising the *Young Researchers' School* and *Leadership Programme*, as well as other events on the thematic area; (iii) Host webinars on their respective thematic areas; and (iv) Provide advice on any other related issues as called by the Secretariat.

There will be a group of *ProSPER.Net* member institutions forming the *Expert Advisory Panel* for each thematic area or programme. Institutional members will bring in particular areas of expertise and share knowledge and information; it will provide benefit to the network and support in building relationships and opportunities for network members. Better communication with the network would help, which needs buy-in from the network partners.

Going forward to 2030 and beyond, *ProSPER.Net* welcomes leading HEIs in Asia and the Pacific region to join the alliance together in pursuit of transformation to sustainability of higher education.

Figure 4. ***ProSPER.Net* Priority Thematic Areas and Priority Action Areas**



ISBN 9789280846522