Promotion of Sustainability in Postgraduate Education and Research

ProSPER.Net

ProSPER.Net:
DEVELOPING A NEW GENERATION OF LEADERS 2008-2013

UNITED NATIONS UNIVERSITY

UNU-IAS
Institute of Advanced Studies

ProSPER.Net

Promotion of
Sustainability in **P**ostgraduate **E**ducation and **R**esearch
Network

**"As Higher Education institutions
are to a large extent responsible
for the training of teachers at the
primary and secondary level, they
are ultimately responsible for the
development of new methods and
new approaches to explaining
sustainability to everybody, from
pre-schoolers all the way to adults."**

Prof. Konrad Osterwalder, Ph.D.
Under-Secretary General of the United Nations;
Rector of the United Nations University

UNITED NATIONS
UNIVERSITY

UNU-IAS
Institute of Advanced Studies

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FOREWORD

After its founding in 2008, ProSPER.Net has been developing various network activities that aim to support the mission of transforming higher education and further contribute to a more sustainable future in the region and beyond.

From projects that integrate sustainability issues in fields such as business and engineering, to capacity development undertakings that provide opportunities for learning more sustainable practices with great potential to impact local communities, ProSPER.Net is consolidating its presence as an innovative platform for higher education institutions to collaborate with each other on a multilateral basis.

The steady expansion of the network to involve institutions in diverse countries across Asia-Pacific is an indication that ProSPER.Net activities are attracting interest through a regional approach that influences the way higher education institutions view their role of nurturing a generation of leaders capable of tackling the complex sustainability challenges that we face.

The ProSPER.Net Young Researchers' School and the ProSPER.Net-Scopus Young Scientist Award are two additional flagship initiatives that are fostering research capacity for sustainable development in the region. Through these initiatives, young scientists and researchers are encouraged to transform their academic work into meaningful actions in their communities, thus developing new insights and scientific approaches to common problems.

These are only snapshots of the exciting and highly relevant work that ProSPER.Net members are developing since the network was founded four years ago. As some projects are completed, new ones emerge, in areas such as biodiversity, sustainable consumption and production, health and food tradition. Other projects are entering a new phase of development, such as a project focused on business and its intersections with biodiversity and climate change, and a university appraisal system that is becoming operational.

In addition, an entirely new leadership programme is being conceived, through which some ProSPER.Net members are attempting to create a platform for policy science applications. The expected outcome is that this new programme will assist the nurturing of future local leaders for a sustainable Asia-Pacifc.

ProSPER.Net has become an inclusive and unique network that not only congregates differentiated members, but also produces distinctive and exceptional work that will be shared with similar global and regional networks through new partnerships that are being developed.

Looking at prospective plans and always privileging innovation, ProSPER.Net will continue to ensure that members learn from each other through local perspectives that incorporate national, regional and international frameworks, going beyond institutional and geographical boundaries, and promoting significant transformations towards a more sustainable future for all.

With the second edition of this book, we hope to offer a more comprehensive look at the remarkable work of ProSPER.Net, which is made possible through the great support we receive from the Ministry of the Environment of Japan and ProSPER.Net members. It is indeed the high level of strategic, innovative thinking and scholarly ensemble that provide the foundation for the groundbreaking activities that are the core of ProSPER.Net.

Kazuhiko Takemoto
Programme Director for ESD
ProSPER.Net Secretariat, UNU-IAS

THE ProSPER NETWORK

Institute of Applied Ecology –
Chinese Academy of Sciences, China

Yonsei University, Republic of Korea

Tongji University, China

TERI University, India

Vietnam National University
- Ho Chi Minh City,
Vietnam

Chulalongkorn University
Asian Institute of Technology
Prince of Songkla University, Thailand

University of Peradeniya,
Sri Lanka

Universiti Sains Malaysia

University of the
Philippines

Chubu University
Hokkaido University
Hosei University
Iwate University
Keio University
Miyagi University of Education
Nagoya University
Okayama University
Rikkyo University
Shinshu University
Tohoku University
University of Tokyo
Yokohama National University,
Japan

Universitas Gadjah Mada,
Indonesia

RMIT University, Australia

ProSPER.Net is an alliance of leading universities in the Asia-Pacific region that are committed to integrating sustainable development into postgraduate courses and curricula.

The network, dubbed ProSPER.Net: Promotion of Sustainability in Postgraduate Education and Research Network, is developing a new generation of leaders who can best tackle global sustainability challenges in the face of rapid environmental degradation.

By changing the way higher education institutions (HEIs) teach students about sustainability, ProSPER.Net improves the ways in which future professionals manage sustainability issues across a wide variety of disciplines.

East-West Center, Hawaii

University of the South Pacific

THE HISTORY OF ProSPER.Net

In response to the UN Decade of Education for Sustainable Development (UNDESD 2005-2014), the United Nations University Institute of Advanced Studies (UNU-IAS) embarked in 2007 on a noble mission to build an alliance of leading higher education institutions in the Asia-Pacific region to promote the sustainability paradigm in postgraduate education and research. Inspiration for this initiative came from regional policymakers' calls for producing a new cadre of leaders for Asian sustainability, in recognition of the need to strengthen higher education for sustainable development and the importance of networking of higher education institutions (HEIs) in facing the challenges resulting from rapid and uneven growth in the Asia-Pacific region.

An inception meeting was held on 19-20 November 2007 in Yokohama, Japan. The participants were representatives of UNU-IAS, 11 HEIs that had a history of collaboration with UNU, and a number of partner organizations including the Ministry of the Environment of Japan (MOEJ). Together, they mapped out a strategy and pathway toward establishing what would become ProSPER.Net, an academic and research alliance. Under the leadership of UNU-IAS, the group developed the concept upon which the network charter was framed and the by-laws formulated. The timing was opportune since MOEJ was also shaping its own Environmental Leadership Initiatives for Asian Sustainability (ELIAS) and both UNU-IAS and MOEJ initiatives shared a similar vision. It was the consensus to name the network 'Promotion of Sustainability in Postgraduate Education and Research Network' with the acronym 'ProSPER.Net', and for the network to be under the auspices of UNU-IAS. Participants were asked to develop joint projects aligned with the purpose of the network and addressing the goal of integrating a sustainability paradigm into postgraduate courses, curricula and research.

On 5-6 March 2008, an organizational meeting was held in Yokohama where further discussions on proposed joint projects were conducted and the by-laws discussed and endorsed. It was at this meeting where planning for the launch of the network began. Three joint projects were initially identified, on business school curricula, postgraduate curriculum on public policy and faculty training. These inaugural joint projects have been completed and to a certain extent implemented.

The final organizational meeting was held on 19 June 2008 followed by the first meeting of the network's General Assembly on 20 June which, among its other actions, elected member institutions to serve on the Board. The Board also held its first meeting on the same day at Hokkaido University.

It was on 21 June 2008 in Sapporo, Japan where representatives of all founding member institutions and partners gathered for the official launching of ProSPER.Net. The auspicious event was held in conjunction with Hokkaido University's 'Sustainability Week 2008 – G-8 Hokkaido Toyako Summit Round' celebratory activities leading to the G-8 Summit held in Hokkaido in the early part of July 2008. Eighteen HEIs throughout Asia-Pacific expressed their strong commitment to the new alliance and formally approved the network's concept, charter and by-laws.

Present to witness the ProSPER.Net launching were representatives of partner organizations, namely UNU-IAS, MOEJ, United Nations Environment Programme (UNEP), Ministry of Environment of Australia, Institute for Global Environment Strategies (IGES), Elsevier Japan, and Yokohama National University which later became a member of ProSPER.Net.

Great collective efforts were invested in the shaping and functioning of the alliance, but the vital question is, then and now, how to make the network not only sustain but also thrive and prosper through the cooperation and dedication of members and partners. The network, indeed, has withstood the test of time and now, five years hence, the alliance has continued to expand and is getting stronger.

ProSPER.Net ACTIVITIES

ProSPER.Net members are each, individually, leaders in their field. Together, they are a force for transformative change in the field of higher education. Using ProSPER.Net as a platform of collaboration, ProSPER.Net members pursue groundbreaking research on sustainable development, with a strong emphasis on education for sustainable development (ESD). They also launch innovative partnerships and programmes to foster leadership in postgraduate education and ensure high quality and ongoing research in the field of ESD.

ProSPER.Net SCOPUS YOUNG SCIENTIST AWARD IN SUSTAINABLE DEVELOPMENT

The ProSPER.Net-Scopus Young Scientist Award (YSA) is annually given to young scientists and researchers in recognition of their outstanding work for sustainable development. The award is the result of a partnership with Elsevier, responsible for Scopus, the largest database of peer-reviewed literature.

ProSPER.Net strives to integrate sustainability issues in different fields. In order to positively influence the widest possible range of topic areas, the YSA award categories change each year. Therefore, categories such as energy, water, agriculture and food security, economics, business and management, science and technology with a focus on poverty eradication, information and communications technology (ICT) for sustainable development, biodiversity and natural resource management have been chosen in the past three years.

Candidates need to be affiliated with an institution in Asia-Pacific, to have completed their Ph.D. studies within a span of five years and they must demonstrate their contribution to sustainable development. The top three finalists in each area are invited to present their work in a symposium. A panel of three experts in each category selects the winner, who is awarded a cash prize and a prestigious fellowship provided by the Alexander von Humboldt Foundation.

With this initiative, ProSPER.Net has been rewarding young scientists and researchers who creatively think about our current complex problems and apply their cutting-edge research in concrete initiatives that promote community development, social and economic inclusion, efficient use of natural resources, improved livelihoods, better health care and more.

2012 Winners

Tanapon Phenrat, from Naresuan University in Thailand was the winner in the category of Sustainable Infrastructure. The YSA panel of experts described Phenrat as a scientific researcher, communicator and problem-solver who developed new knowledge, regulations and capacity to lead the search for solutions to important environment-related infrastructure problems. His work focuses on remediation of contaminated groundwater and soil using nanotechnology. But the real impact on restoration of natural resources is perceived through implementation of the developed solutions using a multistakeholder approach that involves governmental agencies, industries, local communities and researchers in other fields such as geology and health. This experience led him

Tanapon Phenrat

to start working on practical guidelines and a database that could be used throughout the country, allowing various stakeholders to understand the processes of remediation and its effective implementation, improving technical capacity and providing a management tool to solve contamination problems.

"This award is very meaningful to me. It goes beyond the personal honor. It is in fact recognition of the scientific and social impacts of our research attempt to the sustainability area of practice. In addition, it is not an overstatement to say that this award provides me with a great motivation and substantially influences the direction for my future research. I have no doubt that this award is a great encouragement for other young scientists –

especially in Thailand – to shape their research project to address both their own curiosity and the need of the society for sustainable development."
Tanapon Phenrat

Yodi Mahendradhata from Universitas Gadjah Mada in Indonesia won the prize in Health with a Focus on Poverty Eradication. He has been working with poverty-related diseases such as tuberculosis, HIV, dengue and other less-studied tropical diseases. His approach follows the idea that health is a pre-condition for and an outcome of sustainable development, playing a central role amongst the social, economic and environmental pillars of sustainable development. He has been working with policymakers in Indonesia, contributing

to important national policy documents such as the national strategy for the control of tuberculosis (2013-2014) and malaria (2013-2014). He has also touched upon capacity-building through the development of training modules – within the framework of the World Health Organization and TDR (The Special Programme for Research and Training in Tropical Diseases) – that focus on combating major diseases of the poor and disadvantaged. This work is sponsored by the United Nations Children's Fund, the United Nations Development Programme, the World Bank and the World Health Organization.

"I am really thrilled to receive the Scopus Young Scientist Award. The award celebrates the importance of rigorous science for addressing real-

Yodi Mahendradhata

world problems. It's a validation that our research work has contributed significantly to sustainable development. The award will have huge implications for my future works. It is certainly no excuse to be satisfied. On the contrary, the award is a drive to do more meaningful scientific works in sustainable development. It means working on my current and future research at least as hard as I did on my previous works. It means continuously striving to ensure that my current and future works truly make practical positive impacts on the health of the community."
Yodi Mahendradhata

Affiliated with the Institute of Plant Physiology and Ecology of the Chinese Academy of Sciences, **Jun Yang** was the winner in the category of Sustainable Consumption and Production. His work is a reflection of his goal to integrate bioinformatics and genetic engineering for crop improvement. Yang has been genetically transforming sweet potato to enhance its tolerance to droughts and salt, its virus resistance and its production of a better quality of starch. His research results made it possible to cultivate sweet potato in areas otherwise not appropriate for agriculture

because the salt contained in the soil normally prevents this type of activity, such as in coastal reclamation areas. A higher yield and improved quality of starch are results that contribute to improving the production of raw materials for the biofuel industry. In connection to this, Yang is also working on a model factory using sweet potato as a base for bioethanol production.

"The ProSPER.Net – Scopus Young Scientist Award is a great encouragement for the young researchers to get better results, to make advanced progress, to pay more attention to sustainable development. This award makes me more confident with my research work. I was very glad and honored to win this award as it would be a huge positive

impact on my future research career. Hopefully, in the future, my vision can be fulfilled: to integrate bioinformatics and genetic engineering for crop improvements for the benefit of mankind."
Jun Yang

Jun Yang

ProSPER.Net YOUNG RESEARCHERS' SCHOOL

The ProSPER.Net Young Researchers' School (YRS) is an annual activity that furthers knowledge, understanding and skills in sustainability research and practice by promoting a network of researchers and future professionals working with sustainability-related projects.

ProSPER.Net members started discussing the best approach and format for a summer school in sustainable development in 2009. The primary goals were to offer a differentiated experience to enhance doctoral students' understanding of sustainable development and foster a network of researchers in the region.

From earlier discussions it was recommended that the programme should be designed to expose participants to sustainability issues, while offering them ample opportunities to discuss local challenges in light of their field of expertise and background. The programme would focus on specific needs of the Asia-Pacific region, given ProSPER.Net thrust and regional approach, providing a forum to address relevant issues that have transdisciplinary dimensions.

With a mixed programme that includes lectures, field trips and group work, participants develop a research proposal on ideas emerging over the course of the programme. Students, under the supervision of resource persons within different groups, prepare a focused and structured research proposal.

A component to assist participants in developing research communication skills was added, including activities such as a three minute thesis competition, an exercise in which researchers present an outline of their research in three minutes using only one slide, and an Our World 2.0 workshop offered by UNU Media Centre, where participants are invited to rethink the way research is disseminated and new possibilities opened by web-based tools like Our World 2.0, UNU's web magazine.

With all this, ProSPER.Net managed to design a unique programme to assist students in enhancing their knowledge on sustainable development, developing presentation skills, research planning and networking.

The programme was originally piloted by Royal Melbourne Institute of Technology (RMIT) University, at their Vietnam campus in Ho Chi Minh City in 2010. The idea to rotate locations to expose students to different sustainability challenges in Asia-Pacific is an integral part of the school. In 2011 Hosei University welcomed students in Tokyo,

> **"When you spend two intensive weeks with a group of strangers you have to step out of your comfort zone and almost speak in a different 'language' – people are from a variety of disciplinary and cultural backgrounds and have different senses of humor. In the process of doing this what often happens is that we come to learn a little more about ourselves, which certainly happened with me."**
>
> **Jessica Siva**
> *RMIT University, Australia*

"I would highly recommend other Ph.D. students to apply for ProSPER.Net summer school as I feel this is an event that helps one grow both personally and professionally. It also aids in developing a network for young researchers and encourages them to pursue further in this field of research."

Richa Sharma
TERI University, India

Japan and in 2012 the YRS was held in Yogyakarta, Indonesia, hosted by Universitas Gadjah Mada (UGM).

With each new location, there is a new theme: in 2010, RMIT proposed 'A Sustainable Future for the Mekong Delta Region'; in 2011, Hosei University chose 'Learning from Japan's Experience on Urban Sustainability'; and in 2012, UGM discussed with students local development initiatives for 'Building a Resilient Society in Asia'.

Resource persons and participants are invited from ProSPER.Net member institutions and spend two intensive weeks immersed in sustainability-related discussions, conducting fieldwork, developing research and communication skills, and also working in groups to develop research proposals based on focused lectures and field trips.

The YRS also benefits from a collaborative partnership with the German Federal Ministry of Education and Research, through which winners of the Green Talent programme have been joining ProSPER.Net students, enriching the exchanges with different perspectives, experience and background.

The programme attracts doctoral students from across the world through their

affiliation with ProSPER.Net members. The participation of Green Talent winners, the prestigious award from the German Federal Ministry of Education and Research, also ensures that promising researchers from other countries take part in the activities and engage with ProSPER.Net students. Faculty members join these individuals at the school, engaging and fostering a wide range of discussion on transdisciplinary issues, all within an environment that favors interactions that transcend cultural barriers and differing perceptions and perspectives.

According to Professor Yuji Suzuki, Chair of the Organizing Committee for the 2011 YRS, for Hosei University, the YRS hosting was a significant opportunity to reinforce the meaningfulness of being a ProSPER.Net member. For all involved, it was an excellent occasion to exchange ideas, methodologies and activities, a challenge for the research and teaching staff to lecture and to discuss with students from diverse disciplines and an enlightening experience for ProSPER.Net members' students to consider learning from diversity.

ProSPER.Net YOUNG RESEARCHERS' SCHOOL – BUILDING A RESILIENT SOCIETY IN ASIA

When asked to summarize in one word their experience during the 2012 YRS, students said:

open-minded
democratic
multidisciplinary
complex
rewarding
diversity
diligent
adventurous
Yogyakarta
interesting
friendship
valuable

The meaning behind these words can certainly be interpreted according to their personal perspectives, experience and academic background, but it demonstrates the variety of opportunities that the YRS provides.

The 2012 YRS, hosted by UGM, provided snapshots of community life and development that are an integral part of the university's outreach activities and that comprised the core elements of lectures and field trips. Through these, students were able to experience sustainable solutions for local communities' challenges and how resilience can also be fostered through academic activities and research.

Some images of the field trips include a community recovering from the Merapi Volcano eruption, with villagers still living in shelters but in the final stage of building their new homes and starting new economic activities such as cattle breeding and production of cassava pie. The group also visited an organic farm where low-cost technologies and simple sustainable practices are fostered to achieve food security through local production and religious beliefs that provide the context for implementation of sustainable practices. In this farm, increasing elements for energy self-sufficiency are being developed through biogas production and solar cell panels. The last field trip took the students to experience waste management projects – from a fruit market generating biogas from the local waste to a village living the green dream of managing waste for subsistence and recycling activities to transform waste into products, household goods and so on.

Students from seven ProSPER.Net members joined the YRS – the Chinese Academy of Sciences-Institute of Applied Ecology, TERI University, the University of Tokyo, RMIT University, Hosei University, Hokkaido University and UGM – in a programme that offered a unique opportunity to learn and experience how Yogyakarta has been developing the resilience of its local communities, supported by the scientific work being produced at the university. The group also welcomed two Green Talents coming from Stellenbosch University and the University of Hong Kong.

Resource persons from AIT, Hokkaido University, Hosei University, RMIT University, UGM, UNU-IAS and UNU Media Centre supported the programme through lectures and research group work that led to the preparation of three distinct but complementary research proposals by the students: the first one about a model for community resilience, the second one touching upon policy implementation strategies of the first group's model, and the third one focusing on disaster risk management and preparedness.

Within this environment, where people from all parts of the world gathered to learn with and from each other, students were able to see theory being put into practice, complementing their research. As stated by one YRS student, Ali Kharrazi: 'I have always read on how technological improvements and lifestyle changes can in theory promote sustainability, but never had the chance to see these concepts practiced in real life.'

For some of the students, the YRS means a life-changing experience, not only in terms of the richness of the substantial inputs they receive for their own research, but building inter-personal and communication skills within a diverse group, making friends and establishing networks that will certainly be useful at some point in their careers.

ProSPER.Net LEADERSHIP PROGRAMME

Given the current sustainability challenges and the need to foster dialogue involving various stakeholders, including innovative ways of implementing adapted solutions for different problems in diverse contexts, some ProSPER.Net members, together with UNU-IAS, started thinking about a programme that highlighted specific competences for academics.

This new programme would create an inclusive platform for dialogue involving different stakeholders, informed policy-thinking and decision-making, new ways of managing knowledge, and implementing research solutions.

The idea was also to complement ProSPER.Net's Young Researchers' School (YRS) and Young Scientist Award (YSA), whose primary objectives are to build research capacity and to recognize relevant research for sustainable development. The new programme would also contribute to promoting a growing network of YRS graduates and YSA winners.

With these basic features in mind, Hosei University and the East West Center, with support from UNU-IAS, started working on the concept of an advanced programme that would involve the participation of not only academics but young

public officials and business practitioners. The programme would provide an opportunity for developing and practicing skills to enable participants to become agents of change through a transformational and experiential learning process.

The programme, to be piloted in late 2013, will offer possibilities for reflection and enhance understanding of complex governance issues that arise from a multitude of frameworks and initiatives through interaction in a multicultural and multidisciplinary environment. During field trips, participants will connect with relevant stakeholders, especially the local community, endeavoring to work as a team, adding value to local initiatives making use of their strong scientific, policy-related and practical background.

Through this new programme, participants will also be provided an opportunity to reflect on and develop leadership skills, with an understanding of the context in which the exercise of leadership is needed, work at multiple levels and with a variety of stakeholders, privileging a participatory approach that fosters ownership and collective responsibility for the implementation of more sustainable practices.

Ultimately, the leadership programme will function as a platform to build a bridge between science and policy, generation of knowledge and its application, research and implementation. It will also promote networking amongst the various participants coming from academia, public and private sectors, bringing together distinct groups of future local leaders of a more sustainable Asia-Pacific.

The Leadership Programme in Detail

Focusing on the training process, experiential learning and development of leadership skills, participants will experience sustainability challenges faced by the local community, both in class and in field trips. In groups and upon discussions and visits to interact with locals and collect information, participants will work on possible recommendations for local actions, adding value to ongoing activities or eventually suggesting new approaches.

The group work output will be a collective contribution from researchers, policymakers and practitioners, combining different perspectives that might provide new insights for local challenges in view of participants' own experiences, background and research.

The programme will provide a guided open space for learning from and with each other, where participants can have ample discussions of possible and adaptive solutions, how to reach consensus in a situation of diverging interests, diverse cultural and scientific contexts, social and economic development, and environmental challenges.

The expectation is that this experiential learning process will support participants' activities in the future, equipping them with soft skills that will be most valuable in their personal and professional undertakings, allowing them to understand the reality of implementing ideas generated in academia, how these ideas can be harnessed and transformed into relevant policies and how various stakeholders are able to support and contribute to turn ideas into concrete and viable projects for the community.

Moving Forward
Sustainability challenges differ according to geographical location and specific social, cultural and economic contexts. Because the essential component of the programme is to provide a platform for dialogue amongst various stakeholders about common and local challenges, the initial plan is to create a model of the programme that could be replicated by other ProSPER.Net members in other localities.

The leadership programme would then locally address sustainability challenges, with participation from academia, public and private sectors, bridging the gaps among society, government, academia and industry, thus contributing to more collective actions towards sustainable development.

Besides providing a space for interaction, the programme would also contribute to capacity, building of local leaders and fostering transfer of knowledge amongst the various sectors. Eventual exchanges of resource persons and participants from different programmes could also be conceived, with a view to further sharing information, innovative practices and new approaches to learning.
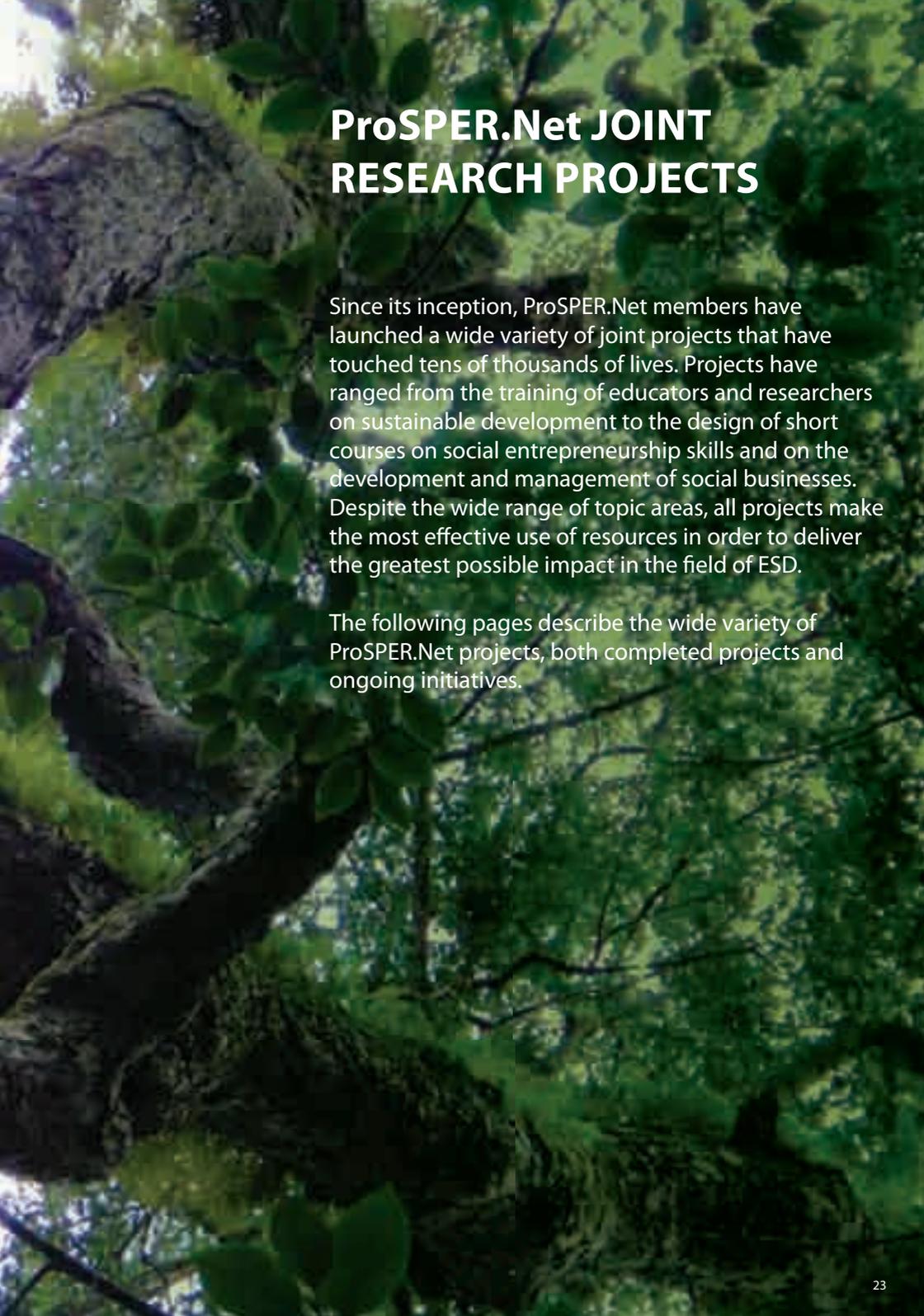
ProSPER.Net JOINT RESEARCH PROJECTS

Since its inception, ProSPER.Net members have launched a wide variety of joint projects that have touched tens of thousands of lives. Projects have ranged from the training of educators and researchers on sustainable development to the design of short courses on social entrepreneurship skills and on the development and management of social businesses. Despite the wide range of topic areas, all projects make the most effective use of resources in order to deliver the greatest possible impact in the field of ESD.

The following pages describe the wide variety of ProSPER.Net projects, both completed projects and ongoing initiatives.

INTEGRATING SUSTAINABILITY IN BUSINESS SCHOOL CURRICULA

Summary:
The Integrating Sustainability in Business School Curricula project encourages and supports the incorporation of Asia relevant sustainability topics into business school learning curricula.

By providing easily accessible, locally and regionally relevant materials for use in the classroom, lecturers are given the opportunity to introduce and expand sustainability in their curricula. Meanwhile, students have opportunity to access business relevant sustainability topics that will have an impact on their interface with sustainability throughout their future careers. Entering its third year of sponsorship from the Ministry of the Environment of Japan, this initiative has benefitted from curriculum inputs and teaching material inputs from Yonsei University, Universiti Sains Malaysia, Universitas Gadjah Mada, as well as the Asian Institute of Technology (AIT); AIT also serves as the lead coordinator of the project.

Background:

Although issues, contributions and successes around sustainability are significant for Asia, in terms of the extent and depth of business and business school activity it is still very much an emerging topic. This is particularly true when compared with business school activity in Europe and North America, where the role of business schools in facilitating the transition towards a more sustainable world is much more established. As such, Asian business schools are potentially less able at present to facilitate the need for increasing awareness, knowledge, understanding and the business acumen needed to be a more proactive participant in required transitions.

Globally, a number of leading business and management schools have incorporated sustainability into their curricula. Many have established or are in the process of setting up Centres of Excellence in research and management development training around sustainability issues and topics. Thus, a rich academic literature base and range of teaching case materials exist to enrich the educational development aspect of sustainability and management. In Asia, there is a relatively low level of Asia-specific curricula, management research and teaching case studies. This is due to a wide range of issues that, overall, have led to fewer experienced teaching professionals and active managers who are able to dedicate their time and energy to furthering the depth of knowledge around sustainability and business.

Easily accessible, Asia relevant sustainability materials and curriculum structures would help Asian business schools become more proactive and engaged on the topic. The materials can be customized and developed to fit each school. This would allow less-experienced but motivated lecturers to more easily and readily provide or expand learning for their students within a sustainability context. In turn, students will be more aware and more knowledgeable about sustainability issues, and be better able to acquire further knowledge, make appropriate decisions and act in support of organizational change towards more sustainable solutions.

By providing relevant curriculum structures, templates and, importantly, relevant teaching cases and complementary teaching materials and teaching notes, this project provides immediate opportunities for Asian business schools to incorporate sustainability into their programmes. This is a catalytic project, providing the basis for Asian business schools to enhance, develop, create and ultimately share more of their own area-specific sustainable business management materials for the benefit of Asia.

Although issues, contributions and successes around sustainability are significant for Asia, in terms of the extent and depth of business and business school activity it is still very much an emerging topic

ProSPER.Net Joint Project In-depth:

This ProSPER.Net initiative has three key areas of contribution:

1. The generation of relevant, Asian-orientated classroom teaching materials and cases;
2. The provision of curricula and teacher-support materials to aid their delivery; and
3. Encouragement and guidance on how best to approach the topic pedagogically.

To enable these three important and inter-related aspects, the project enlists the help of more experienced ProSPER.Net members and related organizations to provide knowledge, experience, research skills and guidance on relevant and teachable cases, useful curriculum and teacher support materials, and awareness-raising around the project's relevance and best practices. As such, the main categories of activity centre on: relevant case studies and useful teaching support materials; providing awareness-raising pedagogical aspects via relevant journals; and hosting a year-end conference event to share sustainability knowledge and understanding around the newly developed cases, teacher support materials, curricula structures and their modes of delivery.

With sustainability being a broad topic, it was decided to systematically create a critical mass of materials on a topic-by-topic basis, rather than any arbitrary sustainability subject. The topics are chosen based on their current relevance to the depth of sustainability practice in Asia, as well as their significance and contribution to sustainability more generally in Asia. With Asia having a strong sense of societal contribution within the current perspective of sustainability, social business and social entrepreneurship were selected as topics to kickstart the project.

A broad range and volume of cases and materials have already been developed. Thirteen social business case studies have been collectively produced by the Asian Institute of Technology, Yonsei University, Universiti Sains Malaysia and Universitas Gadjah Mada. These include activities conducted by established companies, such as POSCO in Japan, Hewlett Packard in China, and DHL in Thailand. It also includes activities by social entrepreneurs involved in topics such as online cultural crafts, cookie manufacturing involving less abled people, eco-tourism, and animal husbandry employment initiatives. In addition, for ten of the cases, the Asian Institute of Technology provided a complementary set of teaching notes, class activities and PowerPoint slides to support teachers and aid classroom-based delivery.

Universiti Sains Malaysia and the Asian Institute of Technology each contributed three UN Global Compact Teaching Cases. The six cases explore and highlight UN Global Compact's ten principles around stakeholder engagement, human rights, child labor, supply-chain factory inspections, environmental issues, and anti-corruption. The Asian Institute of Technology provided additional UN Global Compact and Sustainable Development Curriculum teaching material as integration support guidelines.

Lessons Learned and Next Steps:

Having successfully delivered on the first set of topics focused on social aspects of business and sustainability, the next stage will focus on important environmental dimensions. The topics selected are biodiversity and climate change, which have generally become more prominent and topical in Asia. This makes it a timely moment to explore the issues as awareness and interest is on the rise and there should therefore be useful and good examples of business-related activities to highlight.

In terms of developing and adding to the quality of delivery and curriculum selection choices, the focus for the next topic themes will include creating a small but more comprehensive set of teaching study packages that retain the relevant case-study approach but incorporate teaching notes, presentation slides, and a curriculum outline as part of a complete package for off-the-shelf use. This is also intended to include the production of smaller, single session learning modules, which can be added within an existing programme, as well as longer, more in-depth teaching modules that can serve as a stand-alone course programme. This increased flexibility and total package availability should enhance the appeal and applicability potential of the materials produced.

As well as harnessing the excellent skills of the founding partners and related organizations, the project will be more open to engagement and participation by all ProSPER.Net members. This should help increase the self-sustaining capacity of the network as an entity for collaboration and networking. To this end, the end-of-year conference event will be opened up as a more practical workshop event, with support for the participation and engagement of members who might not normally be able to attend such an event.

Key Takeaways:

- Business schools have a duty to help future managers and leaders become more able to recognize the relevance of sustainability issues and incorporate them into decision-making and actions.

- Although there is a plethora of U.S. and European case studies, reading resources and experienced teachers, this is more scarce, fragmented and lacking in consistent quality and quantity in Asia.

- In order to support the integration and implementation of sustainability in Asian business schools, over time, this ProSPER.Net initiative seeks to provide Asia-relevant case studies, curricula structures and teaching materials in relevant business and sustainability topics to help enable a lecturer to select and apply this learning in their business school classes.

- This should be a catalyst for the development and creation of more case-studies, curriculum and teaching note materials relevant to and produced by Asian business schools.

INTEGRATING SUSTAINABILITY EDUCATION INTO EXISTING ENGINEERING AND BUILT ENVIRONMENT CURRICULUM

Summary:

The ProSPER.Net project Integrating Sustainability Education into Existing Engineering and Built Environment Curriculum is primarily aimed at developing a guide for university academics and curriculum developers, which integrates sustainability thinking and practice into built environment disciplines such as engineering and architecture at undergraduate and postgraduate levels. This project is tasked with drawing from the experiences of academics in built environment programmes. Furthermore, the project espoused a collaborative inquiry process wherein the role of the industry was considered to be vital in assisting to achieve outcomes and ensuring that sustainability goals of building projects are met.

Project Objectives

The central objectives of this ProSPER.Net project are as follows:

1. To integrate sustainability thinking and practice into engineering and built environment curricula through a professional development programme for university academics.

2. To identify key priorities for inclusion in the professional development programme.

3. To contextualize the priorities within global and local policy commitments for sustainability in the built environment.

Project partners

The immediate partners and the audience for this project are:

1. Faculty members in engineering and built environment curricula in ProSPER.Net institutions.

2. Industry stakeholders (including government bodies) of ProSPER.Net institutions.

The rationale for the project is:

- Capacity building in education for sustainability for the built environment; and

- Skills development and enhancement for graduates in an increasingly globalized market.

The intent of the project is to:

- Integrate sustainability principles and practices in existing built environment education curricula;

- Offer professional development opportunities for existing academics;

- Expand/develop further courses/offerings; and

- Forge links and partnerships with industry.

Background:

Buildings and cities are measures of economic health in most developed and developing economies across the globe. The built environment is constantly changing, reflecting government policies, legislative changes and community expectations. The building sector has major impacts not only on economic and social life, but also on the natural and built environment. In this carbon-constrained world, the importance of the built environment to society places a high level of responsibility on those professionals who plan, design, construct, manage and maintain that environment. Educators in the built environment have become increasingly aware of their environmental responsibilities and the impact of buildings upon the quality of life, health and resource consumption (Edwards 2004; Graham 2009).

Strategies to deliver low carbon resilient built environments require a range of different stakeholders to work effectively. Government targets, both voluntary and mandatory are putting pressure on new graduates to be fully abreast of relevant global and local issues. This in turn, is putting pressure on the academic staff to ensure that a fine balance of theory and practical knowledge within the constraints of other issues such as accreditation requirements are maintained.

Further, increasing globalization is finding graduates and senior professionals working on projects away from their home bases. This is putting additional pressures on graduates to understand not just the requirements for meeting the local regulatory minimum but also best practice requirements for sustainability in these regional centres.

As already stated in the project objectives, this project addresses an urgent need for integrating sustainability thinking and practice in built environment curricula.

ProSPER.Net Joint Project In-Depth
Education has long been recognized internationally as fundamental to addressing the global challenges society faces (ARIES 2009). The unique features and issues of sustainability have a profound effect on the way academic curricula are structured. The general direction of education for sustainability is moving increasingly towards integration and innovation. However, the slow progress of the integration of sustainability in the built environment curricula may have been due in part to the practice-led approach, which is a hallmark of the discipline, and by the assumption that sustainability already permeates the curricula by its nature.

In focusing on the main issues about applying the principles of sustainability in the built environment and the tensions with regulatory and best practice approaches, a regional approach is required for this project. This regional approach considers international, national, local and sub-regional concerns in relation to sustainability teaching and expectations of both graduates and the industry.

The core activity of the ProSPER.Net project was a workshop that brought together the participants and shared knowledge and experiences to recommend practical approaches for integrating sustainability issues whilst understanding the theoretical dimensions of sustainability and sharing experiences about what approaches best work for all stakeholders. The colloquium contextualized the current state of sustainability integration in the existing built environment curricula in the Asia-Pacific region and established opportunities for networking and building close links within academia and the industry. The survey of literature demonstrated that using an inquiry process which involves stakeholders from both academia and the industry will not only help build the capacity of institutions but also maintain enthusiasm and interest in change and sustainability issues through partnerships, linkages and networks established, which in turn further enhances opportunities for collaborative actions (Lyth, Nichols & Tilbury 2007).

Dissemination of the project will not just be through UNU-IAS and the participant universities but also through other fora such as regional and international conferences, learning and teaching expos, industry bodies and groups such as national and international engineering/ architecture/building peak bodies as well as Green Building Council bodies in the respective countries.

Key activities
This project commenced in January 2011; it is currently underway and in its final phase. Key activities include:

- Desktop research;
- A three-day workshop in RMIT University, Ho Chi Minh City in April 2012;
- Integration of learnings into existing curricula; and
- Evaluation and monitoring leading to a report (incorporating the guide).

Expected Project Outcomes
With a long-term view to a change in the curricula, the primary output of this project is a guide. The information collected throughout the various stages will lead to the development of this guide for curriculum developers, programme/ course coordinators and teachers in the engineering and built environment discipline. It is expected that the guide will catalyze change in existing curricula. The education framework informing the guide will be set within an industry context where possible.

The guide will outline key priorities to be included in the built environment curricula of participating institutions, with attendant suggested content information. Monitoring these priorities for a whole year and seeking academic, student and industry feedback will determine which of these priorities have the best impact from academic, industry and student perspectives.
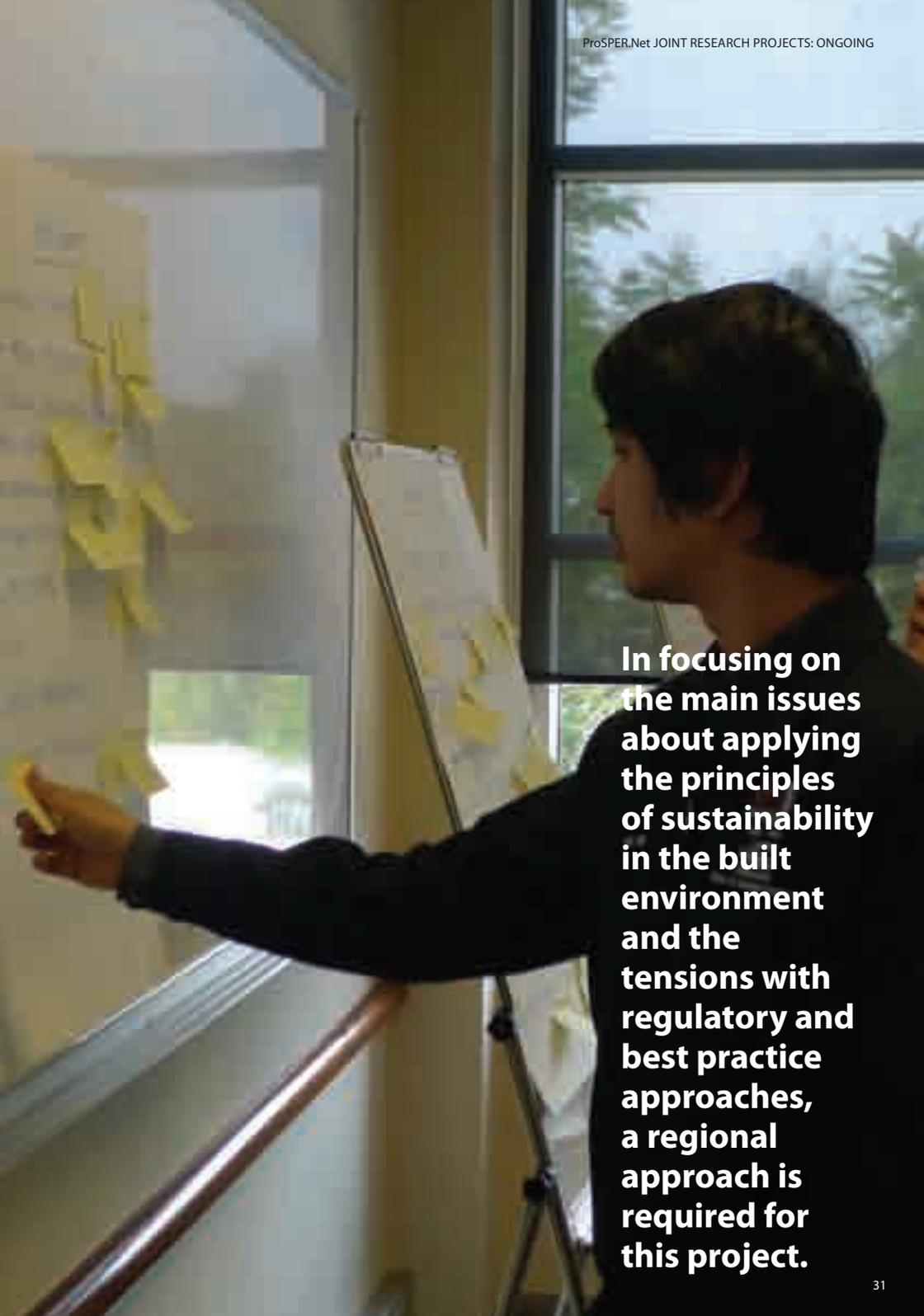
In focusing on the main issues about applying the principles of sustainability in the built environment and the tensions with regulatory and best practice approaches, a regional approach is required for this project.

Lessons Learned and Next Steps:
The project commenced in January 2011. The literature review was the first stage of the project, followed by the three-day workshop held in Ho Chi Minh City, Vietnam in April 2011.

There were nine teaching academics, who participated in the workshop. These academics were invited by the ProSPER.Net Board and their representatives. The core group of three universities (Asian Institute of Technology, University of the Philippines and Tongji University) were identified by the ProSPER.Net Board and the remaining universities were selected through discussions with the Board. The aim was to select a mix of universities from the Asia-Pacific region because growth in the building and construction sector is expected to occur most in this region, with attendant growth in population (World Bank 2012). The invited industry participants were selected from a mix of international and national participants in Vietnam.

The universities/institutions who participated in this project were:

- Asian Institute of Technology (Thailand)
- Tongji University (China)
- University of the Philippines (Philippines)
- National Institute of Advanced Studies in Architecture (India)
- Universiti Sains Malaysia (Malaysia)
- Universitas Gadjah Mada (Indonesia)
- International University, Vietnam National University – HCM (Vietnam)
- University of Tokyo (Japan)
- RMIT University (Australia)

Industry participants included:

- World Green Building Council
- Vietnam Green Building Council
- Sino-Pacific Construction Consultancy Co. Ltd (Vietnam)

- Vietnam Centre for Research and Planning on Urban and Rural Environment (CRURE)/ Vietnam Institute for Architecture and Urban-Rural Planning (VIAP)/Ministry of Construction (MOC)

To achieve the objectives of the research project, an action research framework was adopted. The workshop functioned as a participatory action research process, whereby progressive problem solving (in this case, curriculum development) occurred with participants working with others in teams or as part of a "community of practice" to improve the way they address issues and solve problems. Using participatory action research (Argyris 1993) in collaboration with the industry practitioners, the workshop identified how best to integrate sustainability thinking and practice into curricula. It identified the key priorities for inclusion, within global and local policy commitments.

The unique features and issues of sustainability have a profound effect on the way academic curricula are structured. For the ProSPER.Net project, to contextualize the current state of sustainability integration in the existing built environment curricula in the Asia-Pacific region, the workshop participants provided a list of programmes and attendant courses currently taught in their respective universities and institutions. The information collected throughout the workshop and the subsequent post-workshop survey informed the development of the guide for curriculum developers, programme/course coordinators and teachers in the engineering and built environment discipline.

Project Outputs

- Professional development for academics
- Guide for Education in Sustainability for ProSPER.Net members
- Networks/linkages between members and wider industry
- Change in curricula

Informed by the literature review and the workshop outcomes, the framework of the curriculum guide drew on seminal and foundational reports and key text references (Graham & Booth 2010, Lyth, Nichols & Tilbury 2007, CIB 1999) which focus primarily on the built environment and construction sector and point to sustainability education in the built environment.
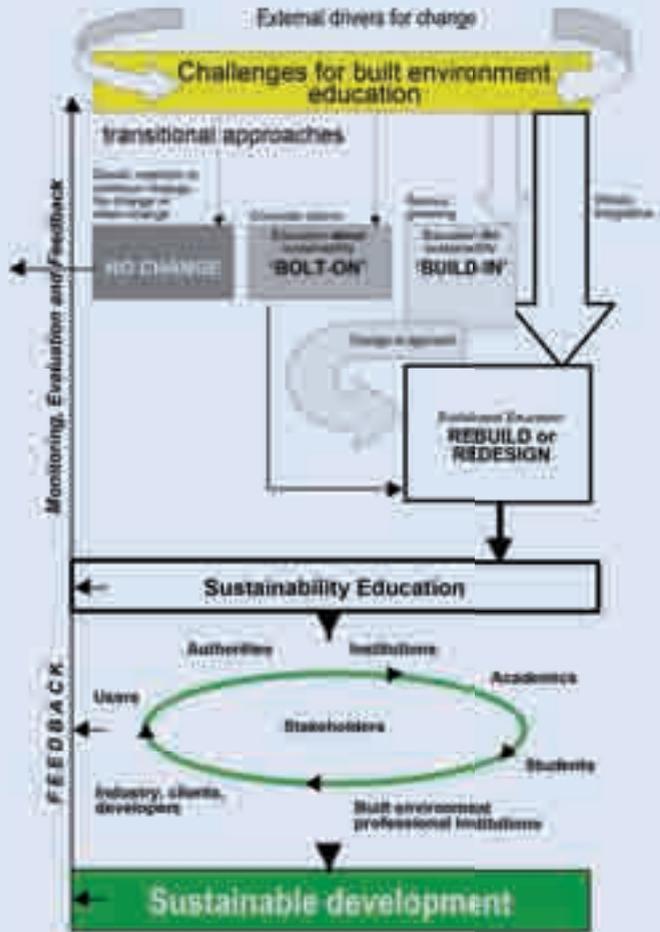
SUSTAINABLE PRODUCTION AND CONSUMPTION LEARNING CASES PROJECT

Summary:
This project draws inspiration from UNU-IAS' annual offerings, since 2008, of the ASEAN-Plus-Three Leadership Programme on Sustainable Production and Consumption (SPC) for government and private sector decision makers. Building capacity and influencing decision makers cannot be achieved by providing awareness and learning concepts on SPC alone. It is imperative to expose them to real-life cases that demonstrate a change process from a business-as-usual scenario to one which effectuates, or has the potential to, change in behavior and systems – cases that influence, or has the potential to influence, policymaking and change practices.

The project started in mid-2012 under the coordination of Universiti Sains Malaysia (USM) and participated by several ProSPER.Net-member institutions, namely Prince of Songkla University (PSU), TERI University (TU), University of the Philippines (UP), and Yonsei University (YU), each one contributing at least one learning case. Other partner organizations – UNEP, UNIDO, and WWF Philippines – as well as some Regional Centres of Expertise on Education for Sustainable Development (RCEs) in the region also provide support to the project by contributing cases, the development of which being made using their own resources. The product of the project is not only to provide resource materials for the ASEAN-Plus-Three Leadership Programme on SPC but also for other capacity building initiatives of UNU-IAS and partners on SPC and related fields including those offered by the RCE and ProSPER.Net communities.

Background:

The cases dwell on sustainable production and consumption and related sustainable development problems in the context of a green economy. There is a lack of good multidimensional problem-oriented learning cases available in this area especially those written in an engaging story that is relevant for the decision makers (within both public and private sectors) that build not only awareness of good practices but also ones that enable policymakers to position the choices being taken, e.g. formulation of a particular policy/action, in the context of other possible policy dilemmas and decisions.

Cases taken up in the projects reflect the priorities of countries in the region including those under the following areas: Effective collaboration among government agencies and multi-stakeholders; Sustainable procurement; Monitoring and disclosure; Financial instruments for SPC projects; Building SPC into educational systems; Innovation and development; Sustainable and community entrepreneurship; and Sustainable production, product and resource management.

ProSPER.Net Joint Project In-depth:

ProSPER.Net believes that the pathway to sustainability is through education for sustainable development and that knowledge and competencies are required to fulfill the SPC challenge. Policy and other decision makers would need to be guided by competencies related to values, attitudes, knowledge, skills to apply such knowledge and ability to engage in required partnerships. SPC complexity would require broadening learning orientation, first, from understanding of the problem, analyzing it, to identification of solution and, further, from focusing on the proposed solution to understanding of the consequences of such an intervention by broadening the scope of the system. While this is absolutely critical for some areas, such as policymaking and strategic development, it remains relevant for any field of work. Engaging policymakers in discussions on learning cases would be effective in imparting knowledge and experience sharing.

The project picks up cases of good practice or a real-life case where lessons can be learned and converts these into learning cases. The specific objectives are to develop learning cases on SPC to be used for capacity development programmes for policymakers and produce these cases in a publication that serve as teaching and training materials to equip policymakers with the necessary knowledge, skills and tools for integrating sustainable thinking and practice and developing strategies for sustainable development. Learning cases to be developed by ProSPER.Net institutions are in the following SPC areas:

- Impact assessment of a processing plant (USM)
- Sustainability-led university (USM)
- Greening a university campus through collaborative research and development (PSU)
- Financial policy in sustainable development action (TU)
- Participatory development of indigenous people (UP)
- Sustainable restoration in an urban area (YU)
- Business, sustainability and biodiversity in iron ore mining (UNU-IAS)

Learning cases to be developed by partner organizations are in the following SPC areas:

- Improving energy efficiency in housing colonies (UNEP & Indian Railways)
- Resource efficient, cleaner production for rice milling (UNIDO)
- Supply chain integration for sustainable rattan and bamboo crafts (UNIDO)

Continued from overleaf

- Toward a sectoral strategy for coal production (UNIDO)
- Multi-stakeholder collaboration towards green economy
  (WWF Philippines)
- Green mining (SEAMEO BIOTROP & RCE Bogor, Indonesia))
- Promoting sustainable rural development (RCE Greater Phnom Penh, Cambodia)

Project activities comprise of: development of learning cases; gathering inputs pertaining to issues on SPC, as they relate to policy issues and on potential country-level change initiatives; presenting draft write-ups of cases at the 5th ASEAN-Plus-Three Leadership Programme; and from comments and experience make revisions of cases and prepare cases for online publication and publication of a ProSPER.Net working paper. It is expected that the whole project will be completed by October 2013, although some completed cases might be done by March 2013.

**Lessons Learned and
Next Steps:**
The project is still in progress but its impact can already be felt. At the 5th ASEAN-Plus-Three Leadership Programme on SPC held in Metro Manila, Philippines in October 2012, drafts of the cases were mainly used as learning tools. The participants' evaluation made at the end of the programme depicted a good learning experience on their part. The case writers as well learned from the experience which could lead to improving the writing of the cases. The cases also provided inspirations for the participants to develop planned initiatives for their respective organizations. At the concluding session of the 5th ASEAN-Plus-Three Leadership Programme, participants presented proposed initiatives on SPC which they plan to embark on in their respective organizations. The next step would be to produce a publication which could serve as a foundation and platform for sharing future SPC learning cases developed.

The project is expected to contribute to capacity building and learning processes for, primarily, policymakers. Policymakers would be able to link knowledge with change practice and enhance their ability for deeper engagement to explore policy alternatives which could lead to rational choices. Policymakers would have the opportunity to be exposed to group, multidisciplinary and multicultural settings. Case writers in both formal and non-formal education and training sectors learn how to write effective learning cases, to convert good practice cases to learning cases. The project could initiate a platform for sharing cases in the region and beyond.

SUSTAIN: SUSTAINABILITY APPRAISAL FOR ACADEMIC INSTITUTIONS

Summary:

The SUSTAIN, or the SUSTainability Appraisal for Academic INstitutions, is a new project that started in 2012. Its aim is to develop a service model for an assessment product of the Alternative University Appraisal (AUA) project, launched in June 2009, that created a new collaborative system to enable colleges, universities and other higher education institutions to better assess their education for sustainable development (ESD) activities. Proposed by Hokkaido University as a joint ProSPER.Net initiative, SUSTAIN is expected to create a learning community to advance ESD, in which higher education institutions can consult and share concerns, as well as best practices.

SUSTAIN, an ESD assessment service model, succeeds the spirit of the AUA system and aims to be used by higher education institutions (HEIs). This consists of three components: Benchmarking Indicators Questions (BIQs); Self-Awareness Questions (SAQs); and Dialogue. BIQs and SAQs serve as a data source and make up the foundation for dialogue among universities. Dialogue is the component through which the institutions share concerns, best practices and generally foster an ESD learning community. In addition to these three components, the AUA project also created an ESD Archive, which is a repository of ESD activities conducted by HEIs.

Hokkaido University assumed the role of secretariat for the SUSTAIN project. Other participating member institutions are Asian Institute of Technology, TERI University, Universiti Sains Malaysia, Yonsei University, the University of Tokyo, UNU-IIST and UNU-IAS. The project is funded by ProSPER.Net as well as Hokkaido University, and the initial AUA project was, in addition to the two donors above, also funded by the International Cooperative Initiative 2009–2011 of the Ministry of Education, Culture, Sports, Science, and Technology of Japan.

The SUSTAIN project responds to the demands from HEIs for an alternative to their current appraisal systems

Background:
HEIs have expressed a strong desire to be recognized for sustainability initiatives. While creating assessment tools for universities has long been an object of study, there has been little agreement on the evaluation methods, frameworks and indicators that would be appropriate for the assessment of ESD performance in HEIs. The SUSTAIN project addresses that gap.

The recent increase in popularity of HEI comparisons, rankings and classifications can be attributed to the growth in the number of HEIs and fast-growing competition among those institutions. Higher education stakeholders, such as heads of HEIs and academic and administrative staff, closely monitor such comparisons and cite positive results when possible. However, the higher education community continues to contest the value and question the methodology utilized in many of these rankings.

HEIs have expressed a need for new, alternative and more comprehensive tools for university appraisal systems that would better address the multiple roles of higher education. In addition, there is a desire for these systems to better respond to the needs of the 'users', to increase transparency about institutional differences of mission and performance, and to provide a new way of collecting and presenting objective and comparable data.

ProSPER.Net Joint Project In-depth:
The SUSTAIN project responds to the demands from HEIs for an alternative to their current appraisal systems. It reorients higher education and society toward sustainability, valuing HEIs that strive for sustainability, improving ESD practices, and creating forums for the exchange of ideas. The ultimate goal of the project is to establish strong relations among HEIs to help further ESD as a whole.

The strategic vision of the project is to:

1 Evaluate and assess an institution's ESD activities by using the new assessment tool;

2 Enable the institution to consult with SUSTAIN's Dialogue committee on ideas, concerns, problems and solutions based on the results of the new assessment; and

3 Invite the institution to an ESD learning community where they can provide, receive and share best practices with other institutions and partner organizations.

In order to provide the SUSTAIN service with more effectiveness, several existing ESD assessment tools were carefully analyzed and evaluated by the AUA project team: the College Sustainability Report Card, the Earth Charter (EC)-Assess, Monitoring and Assessing Progress during the UN Decade of Education for Sustainable Development (UNDESD) in the Asia-Pacific Region, and the Sustainability Tracking, Assessment, and Rating System (STARS). Several meetings in Japan, Malaysia, and India were held and extensive tours undertaken to collect feedback and promote the new

model. Dialogue with a variety of stakeholders at local and international conferences, meetings, and other events helped shape the system, as did dialogue within sustainability-related networks such as the International Association of Universities (IAU), Association for Advancement of Sustainability in Higher Education (AASHE), International Conference on Sustainability Science (ICSS), and Higher Education for Sustainable Development (HESD) Forum in Japan. Thanks to these efforts, the AUA Project was recognized by more than 150 institutions. AUA core member meetings also helped shape the design of the system.

The system has three main components:

Benchmarking Indicators Questions (BIQs)
BIQs are an objective assessment tool that evaluates the quality of institution in the general field of sustainable development and is expected to be the first to be completed in this assessment procedure. Designed to provide quantitative data, indicate sustainability trends and visualize the location of individual institutions, there are four indicators under this concept: Governance, Research, Education and Outreach. UNU-IIST's GRBS (Global Research Benchmarking System) plays a critical role in research assessment. Result of this analysis is returned to the participating institution in the form of the BIQ Outcome Report.

Self-Awareness Questions (SAQs)
SAQs are a set of self-awareness questions designed to help interested HEIs enhance their ESD-related activities and identify their strengths and weaknesses. A participating institution is expected to respond in a descriptive style to 22 narrative questions of four categories of Governance, Research, Education, and Outreach. In responding, one is strongly recommended to refer to the BIQ Outcome report, reveal frank opinions and introduce concrete examples.

Dialogue (Peer-Consultation)
The Dialogue Model is the Peer-Consultation Model and helps HEIs share ESD practices and activities. Dialogue takes place within a framework made up of six consecutive steps, organization of a Dialogue committee of the participating institution that consists of its multi-stakeholders and the Dialogue partners that consists of SUSTAIN members and experts of the assessment field. It usually requires a few months for preparation and half a day for the actual Dialogue.

In 2010, an ESD Archive was added as part of the project. The archive is a web-based ESD resource library that collects and offers examples of good practice developed throughout the SUSTAIN/AUA projects, as well as by other ProSPER.Net projects and external sources.

Together, the SUSTAIN system addresses a number of key challenges, including:

- How one can standardize the definition of SD and ESD;
- How much BIQs can be really objective and fair in a way that is relevant to various subjects;
- How much SAQs allow the participating institution to express their strengths and weaknesses explicitly;
- How much Dialogue allows the participants to effectively exchange ideas with Dialogue partners in a given time period; and
- How useful the recommendation report can be for the institution's sustainable development.

Lessons Learned and Next Steps:
To date, both SUSTAIN and AUA project members have reported satisfaction with the overall self-assessment process. The system has afforded them an opportunity for critical self-reflection, helped them reconsider their ESD practices and helped pinpoint various strengths and weaknesses.

There have been several concerns raised throughout the project regarding quantitative

data. Feedback suggested that it is often difficult to answer only by yes/no basis and that some terms and expressions, such as "ESD courses", "full time positions", and "ESD-related jobs after graduation," were not defined clearly enough and understood across countries, institutions, and even individuals. Those questions have since been revised and will be reflected in the latest version. However, it should be noted that the objective BIQs are a gateway and that SUSTAIN is more focused on narrative and qualitative questions of SAQs that can be used as a passageway to interactive Dialogue.

The objective of the SUSTAIN project is first to transform the learning of the AUA project to a service in 2013 and finally to create the ESD learning community, raising the quality and impact of sustainability-related activities. Greater discussion is required in order to better define this new direction. In addition, financial organizational endorsement will be critical if this project is to sustain itself as a business model. The Dialogue component, which has been piloted three times, especially requires further financial support and greater assistance from external ESD specialists. Recognition system, be it a certificate or labeling, needs to be settled by avoiding ranking and rating. The ESD Archive also needs to be refined

and operated well as it should remain available for basic and comprehensive ESD references.

As the SUSTAIN members recognize diversity, innovation and change towards sustainable development, the project will continue to develop for its own sustainability and others. Thus, we hope this continual improvement can help the SUSTAIN service becomes a guiding force that shapes the universities of today and tomorrow.

Key Takeaways:
- The SUSTainability Appraisal for Academic INstitutions (SUSTAIN) is one of the ProSPER.Net's new projects approved in 2012, followed by the Alternative University Appraisal (AUA) project launched in 2009, which was developed as a viable alternative to existing and conventional university ranking systems.
- The SUSTAIN enables colleges, universities and other HEIs to better assess their ESD activities.
- Universities can aspire to be rated highly according to both traditional and ESD measures.
- While project members have reported satisfaction with the overall self-assessment process, there have been several concerns raised regarding transformation of the AUA model to a service model.
- With continuous refinement, the SUSTAIN can become a guiding force to shape the universities of today and tomorrow towards a more sustainable future for all.

SUSTAIN: Image
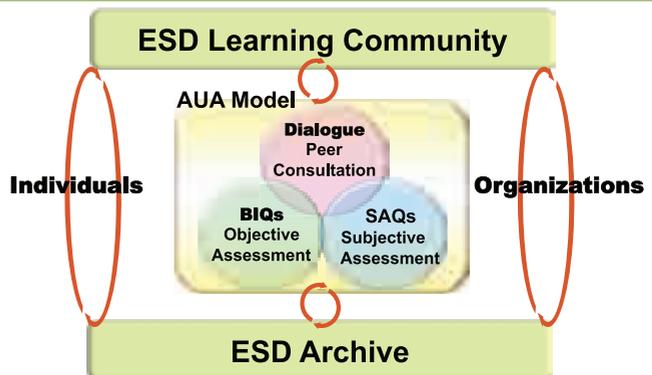
EDUCATIONAL PROGRAMME FOR SUSTAINABLE DEVELOPMENT OF REGIONAL SOCIETY WITH A FOCUS ON BIODIVERSITY

Summary:

For the sustainable development of human society, social systems must be established in harmony with nature and the environment. Human resource development is the key to accomplishing this goal. People with an understanding of the concepts and skills for sociological management, as well as scientific knowledge and monitoring methods of biodiversity, will be able to contribute to sustainable development. Launched in July 2012, the Educational Programme for Sustainable Development of Regional Society with a Focus on Biodiversity project trains experts in sustainable development, with a focus on biodiversity.

The project focuses on suburban and rural areas, where local people sustain traditional culture based on rich biodiversity and seek social development through the sustainable use of natural resources. The biosphere reserves of UNESCO's Man and the Biosphere (MAB) Programme were chosen as learning sites, thereby incorporating MAB into the project.

The project is led by Yokohama National University (YNU) and has the participation of three other ProSPER.Net universities: Hokkaido University, Shinshu University and Yonsei University. The project also works closely with the Japanese Coordinating Committee for MAB and domestic biosphere reserves, Shiga Highland, Mt. Hakusan, Mt. Ohmine and Mt. Ohdaigahara, Aya, as well as Rikkyo University, University of Tokyo, Nara University of Education, Nature Conservation Society of Japan, Tadami Town and Katsuyama City.

Background:

After the Industrial Revolution, social activity grew quickly and traditional lifestyles quickly evolved into a more productive, modern style. While this led to a better standard of living, traditional ways of living with biodiversity were lost in the process. For thousands of years, humans sustained life wisely using natural resources and keeping a balance with nature, suggesting the viability of building a sustainable society by using biodiversity. Therefore, this project focuses on biodiversity as a key function for sustainable development. However, loss of biodiversity is now a world trend. National or local biodiversity is rapidly lost in developed and developing countries alike. Such loss can be a serious problem in the context of conducting sustainable development.

A methodology for wise use or conservation of biodiversity must be region dependent. Biodiversity and natural resources themselves must be differentiated between regions. Backgrounds such as human population or economic condition also vary in each region. In such a situation, leaders are required to help develop a suitable strategy for their region, from a multidimensional viewpoint.

This education programme has thus been created in order to develop leaders in this arena providing them with information and knowledge for the wise use of biodiversity, as well as giving them actual experiences in the field.

For thousands of years, humans sustained life wisely using natural resources and keeping a balance with nature, suggesting the viability of building a sustainable society by using biodiversity

ProSPER.Net Joint Project In-depth:
The project will offer two Master's and Doctoral courses at the Graduate School of Environment and Information Sciences at YNU. One course is on the methodology and technique for regional management, focused on biodiversity. This course will have lectures both on campus and in the field. The on-campus lecture will provide the latest knowledge on the interaction between biodiversity and human society, such as law, ecology, management, education, etc. In the field lecture and exercise, students will explore biodiversity and its wise use.

The second course is on Geographic Information Systems (GIS) training for implementing regional management. GIS is a system of creating, storing, analyzing and managing spatial data and associated attributes. It is a powerful tool for site management and scientific evaluation of sites and GIS is used daily in the study fields of Conservation Biology, Ecology, Land Use Planning, etc. In this course, students learn how to use GIS for sustainable development activities.

Lecture notes and exercise notebooks will be produced for these two courses, with an expected completion date of March 2013. A workshop is also scheduled to be held in early 2013 to discuss and improve the project and the teaching materials.

The two courses will be offered at YNU in 2013. At the end of the year, an analysis will be undertaken to further improve the courses. The courses would then continue in the third year, though the field lectures will be held in different locations each year in order to improve the general learning in the programme. At the end of third year, results of the courses will be summarized and the lecture and exercise notes will be updated. The newsletter and website of the Japanese Coordinating Committee for MAB will be used to advertise the programme.

The key activity in the programme is the development of teaching materials in the first year. In developing a new generation of leaders of sustainable development activities, a multidimensional viewpoint is necessary. Students will learn both sociological management and scientific knowledge about nature and the environment. They will also have access to the domestic biosphere reserve sites for hands-on training. The programme is designed in such a manner to allow students to discover how to connect each knowledge to build sustainable developing societies by themselves, since most of the problems are situation dependent creative problem-solving is required. Through the programme, students will become leaders for sustainable development and will help create a sustainable future for all.

The project will create two major outcomes:
1. The development of teaching materials, including lecture notes and exercise notebooks, to be used all over the world; and
2. The development of potential leaders who will contribute to achieving sustainable development in their own communities.

Although developing a training course along these lines is not new, there are still a limited number of opportunities and/or educational facilities at which individuals can study this field. Materials and courses that will be developed in this project include international case studies as well as theories and methodologies that people should know when tackling the challenges of sustainable development with a focus on biodiversity. This series of courses and materials will be one of the first curricula of this nature in Asia.

Sustainable development cannot be achieved without people who actually take initiative and actively engage in problem-solving in each situation. Students of this programme will come from all over the world and will be committed to being an active partner in building a sustainable society. Those participants who take the courses and study in the programme will acquire the necessary knowledge and skills regarding sustainable development and will eventually be able to apply those skills for solving the issues in their own communities.

Lessons Learned and Next Steps:

The first year of the project was spent building partnerships with other researchers and institutions, discussing what a sustainable society where people live in harmony with biodiversity would look like and how those ideas and tools could be included in the lecture note and exercise notebook. Throughout the process, there were found to be more similarities than differences; although the partners worked in different regions and, at times, countries, the challenges in achieving sustainable development were comparable. Realizing this fact made it easy for partners to characterize what theories, philosophies, methods, and case studies should be included in the teaching materials.

After developing the teaching materials, the next step will be the implementation of the courses using those materials. Monitoring the effectiveness of the courses and materials in fostering students' knowledge and skills will also be a priority in order to understand which part of the programme could be improved in the future.

Key Takeaways:

- A new project, "Educational Programme for Sustainable Development of Regional Society with a Focus on Biodiversity" has been launched by Yokohama National University, in partnership with Hokkaido University, Shinshu University, and Yonsei University.

- The main objective of the project is to develop potential leaders who contribute to achieving sustainable development with concepts and techniques for sociological management as well as scientific knowledge and monitoring methods of biodiversity acquired through this project.

- Two courses offered through this programme are 1) methodology and technique for regional management, focused on biodiversity, and 2) GIS training course for implementing regional management.

- Teaching materials, including lecture notes and exercise notebooks, have been developed in 2012 and the courses will start in 2013.

- Main outcomes of the programme will be 1) development of teaching materials that can be used all over the world, and 2) production of potential leaders who will contribute to achieving sustainable development in their communities.

SUSTAINABLE BUSINESS AND SOCIAL RESPONSIBILITY COURSE DEVELOPMENT

Summary:
Since its launch in 2010, the Sustainable Business and Social Responsibility Course Development project has delivered a useful and practical framework for the development of course materials and case studies in its respective fields. A key element of the initiative is the development of educational materials for both short courses and degree programmes in sustainable business and social responsibility. Aligning course materials closely with the United Nations Global Compact – a strategic policy initiative of the United Nations for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment and anti-corruption – is also a major part of the partners' work on the project.

Throughout the three-year project a large body of course material has been generated and refined. Among its significant outputs are:

(a) the development of new courses related to sustainability that also helped in launching stand-alone sustainability-focused degree programmes in business schools;

(b) a collection of case studies on corporate social responsibility and social businesses;

(c) an exploration on the integration of sustainability in business curricula in the Asia-Pacific region;

(d) the development of a new set of courses/ training materials and case studies, available for teaching as stand-alone courses or for integration into other sustainability-related courses in business education; and

(e) the development of specific materials covering the contemporary challenges of sustainable development, such as climate change and biodiversity strategies for the private sector.

The Asian Institute of Technology (AIT) led this project in collaboration with Universiti Sains Malaysia (USM), Universitas Gadjah Mada (UGM) and Yonsei University. Shinshu University participated only in the first year of the project and there are plans to continue collaborating from the third year on.

Many of the materials and case studies created thus far have been used by a wide variety of institutions in their teaching for both degree courses and short courses.

Background:

In the field of corporate sustainability there has long been a lack of good, quality course material and teaching case studies. There has also been an absence of strong experiential learning elements that build suitable skills, particularly in the field of social business.

This joint project helps fill that gap through the development of quality teaching case studies on the successful development and operation of social businesses, as well as other materials that address social enterprise within the context of poverty alleviation and pro-poor development. The project also links traditional literature on entrepreneurship to the particular task of developing and managing a social business, something that had also been absent in previous course material.

Prior to the project, there was a dearth of usable materials that closely aligned the ten universally accepted principles of the United Nations Global Compact with the needs of business and management education. As such, part of the project's objectives was to resolve that absence.

ProSPER.Net Joint Project In-depth:

In rolling out the three-year project, partners are ensuring a strong connection between the outcomes of years one, two and three. For example, in the first year, there was a substantial amount of fieldwork done to build case studies on social business and poverty alleviation. During that first year, partners were able to develop new courses related to sustainability that helped launch stand-alone sustainability-focused degree programmes in business schools. They also developed a collection of case studies on corporate social responsibility and social businesses and began to explore the integration of sustainability in business curricula in the Asia-Pacific region.

In the second year, the course development built upon those initial efforts to further enrich the body of knowledge on sustainability in business education. A new set of courses, training materials and case studies were developed and made available for teaching as stand-alone courses and for integration into other sustainability-related business education courses.

The project partners took curricula development initiatives that had been undertaken by partners and further aligned those initiatives with the ten principles of the United Nations Global Compact. Embedding those initiatives into management education was seen as a way to encourage future managers to align companies with the global standard. It would then be possible to further develop the project's work on integrating sustainability into management education curricula through a tangible corporate social responsibility initiative.

As well as developing the teaching materials described above, a particular area of cooperation between partners was in the writing of practical in-class case studies for teaching purposes. The case studies on social businesses in particular could be used as material for social enterprise and corporate social responsibility courses.

For example, findings from social businesses in Malaysia offered some understanding of how businesses there operate.

The case study showed that the owners of those businesses were comprised of young and energetic entrepreneurs and the challenges they faced, especially in regard to financial and human resources, were well-documented along with their strategies for overcoming those challenges.

The case studies on the integration of the United Nations Global Compact showed mixed results in terms of the level of integration. Out of three companies, only one had highly integrated the principles of the Compact. The drivers, challenges and benefits of practicing the principles in the Compact were also investigated. A common driver found across all three cases was the commitment of the top executives and management to the Compact's integration. In addition, that case study showed the difficulties in translating principles into practices, despite the fact that all three companies were practicing some form of corporate social responsibility before they signed onto the Global Compact.

Lessons Learned and Next Steps:

Many of the materials and case studies created thus far have been used by the partners in their teaching for both degree courses and short courses. In particular, the materials have been used on the new AIT Master's Degree on Corporate Social Responsibility with very positive feedback from students. The case studies have also been used by other institutions outside of the group of partners.

While the first two years of the project delivered a useful and practical framework for the development of course materials and case studies, it became apparent that there remained a great need for more specific materials covering some of the contemporary challenges surrounding sustainable development and the role of the private sector. During year three of the project, these more specific materials and case studies were developed, specifically around climate change and biodiversity strategies for the private sector.

The partners involved in the project expect that all materials will be used more widely in the future by all institutions, providing a deep and positive impact on their students' learning and development.

Key Takeaways:

- In the field of corporate sustainability there has long been a lack of good, quality course material and teaching case studies. There has also been an absence of strong experiential learning elements that build suitable skills, particularly in the field of social business.

- The Sustainable Business and Social Responsibility Course Development project has delivered a useful and practical framework for the development of course materials and case studies in sustainable business and social responsibility.

- Through this project, course materials have also been closely aligned with the United Nations Global Compact, which is a strategic policy initiative of the United Nations for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment and anti-corruption.

- Many of the materials and case studies created have been used by a wide variety of institutions in their teaching for both degree courses and short courses.

- While the first two years of the project delivered a useful and practical framework for the development of course materials and case studies, there is a need for more specific materials covering some of the contemporary challenges surrounding sustainable development and the role of the private sector.
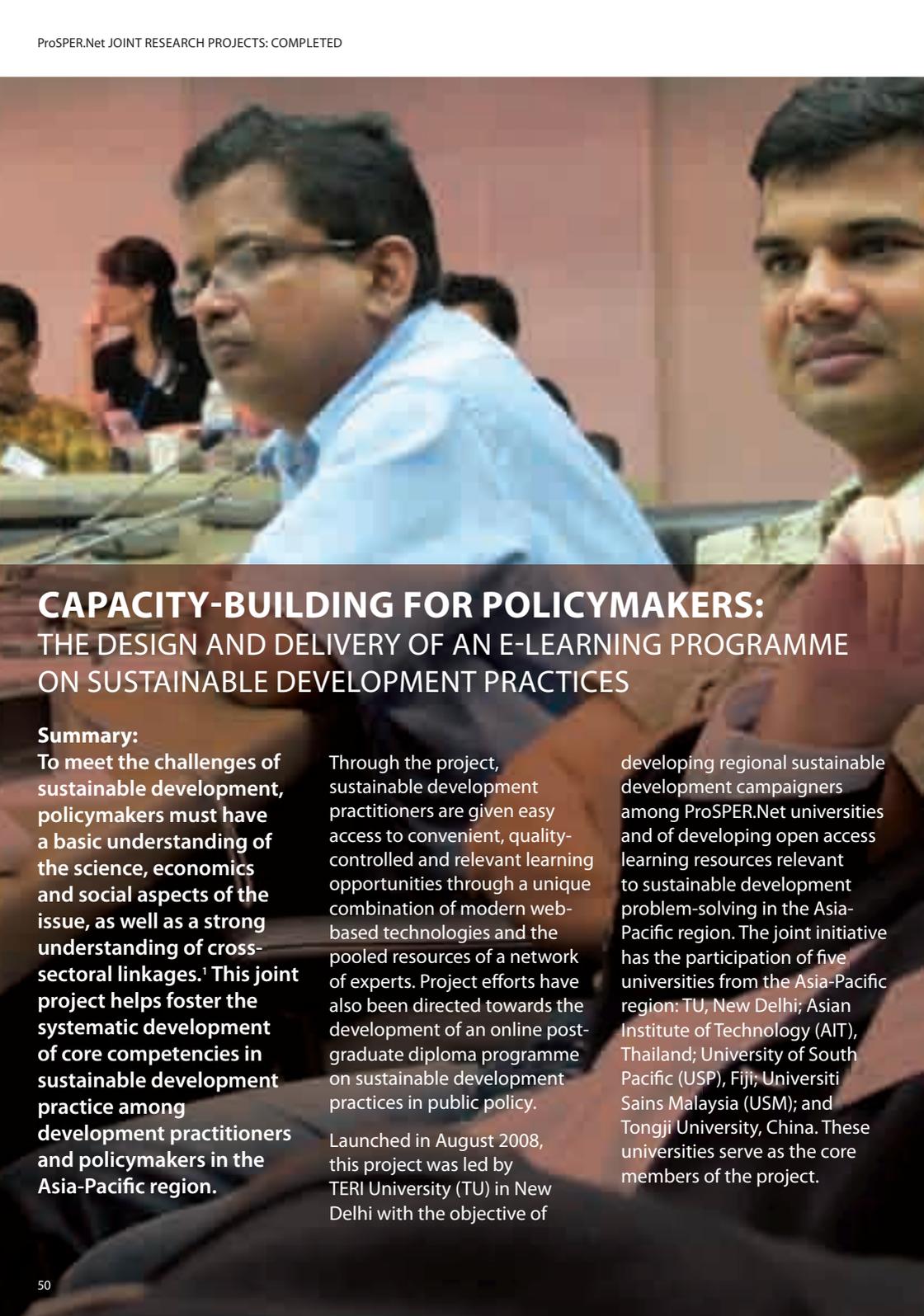
CAPACITY-BUILDING FOR POLICYMAKERS:
THE DESIGN AND DELIVERY OF AN E-LEARNING PROGRAMME ON SUSTAINABLE DEVELOPMENT PRACTICES

Summary:
To meet the challenges of sustainable development, policymakers must have a basic understanding of the science, economics and social aspects of the issue, as well as a strong understanding of cross-sectoral linkages.[1] This joint project helps foster the systematic development of core competencies in sustainable development practice among development practitioners and policymakers in the Asia-Pacific region.

Through the project, sustainable development practitioners are given easy access to convenient, quality-controlled and relevant learning opportunities through a unique combination of modern web-based technologies and the pooled resources of a network of experts. Project efforts have also been directed towards the development of an online post-graduate diploma programme on sustainable development practices in public policy.

Launched in August 2008, this project was led by TERI University (TU) in New Delhi with the objective of

developing regional sustainable development campaigners among ProSPER.Net universities and of developing open access learning resources relevant to sustainable development problem-solving in the Asia-Pacific region. The joint initiative has the participation of five universities from the Asia-Pacific region: TU, New Delhi; Asian Institute of Technology (AIT), Thailand; University of South Pacific (USP), Fiji; Universiti Sains Malaysia (USM); and Tongji University, China. These universities serve as the core members of the project.

Background:

To help focus the project, TU carried out a needs assessment survey in the South Asia region. The assessment was a modified version of an exercise carried out by TU for the International Commission on Education for Sustainable Development (ICESD).[2] The survey revealed that there is a dearth of training resources that are truly cross-disciplinary in nature. The conventional lecture-based training methodology rarely provides the stimulus to find innovative solutions and has been ineffective for trans-disciplinary aspects of sustainable development, as faculty imparts subject-specific information to participants and does not help draw linkages with subjects in other sectors.

With the emergence of e-learning, there are now new, innovative tools and techniques that help transform the learning process and facilitate learning. Resources can be developed with the active participation of faculties from various knowledge domains to produce learning resources that: explain the trans-boundary nature of natural resources; describe limitations and opportunities at regional-level resource-sharing; and are in coherence with sectoral issues. The e-learning method can also be more effective than traditional learning as it can be less demanding on time and it can progressively add to professional competencies. This project takes advantage of the asynchronous nature of e-learning to make it easier for professionals to easily access quality, cross-sectoral resources.

The survey revealed that there is a dearth of training resources that are truly cross-disciplinary in nature

[1] Report from the International Commission on Education for Sustainable Development Practice, 2008.

[2] Report on South Asia Regional Consultations on Development Policy & Practice, TERI University, June 2008

ProSPER.Net Joint Project In-depth:
In June 2009, after much preparation, the project partners launched a website (*http://elearn. teriuniversity.ac.in/showcat.php?itemid=2&id=6*) with a call for online applications of candidates for a programme consisting of courses on Natural Resource Management, Economic Reasoning for Public Policy, and Science and the Policy of Climate Change (Figure 1). More than 100 applications and expressions of interest were received. Thirty-eight students representing 13 countries and diverse ages, experiences and professions were eventually selected for the programme.

The programme delivered content in a variety of ways, all online and interactive. E-mails, chat sessions and continuous engagement through assignments were all part of the three-semester course.

Figure 1. Home page of the programme

Prior to the programme's launch, a workshop with all partner universities was organized to develop the structure and pedagogy for the three courses. Dissemination workshops were also carried out by the partner universities in their respective regions to get feedback on the programme's course design and to publicise the programme amongst mid-career policymakers. That, combined with a series of video conferences with partner universities and faculty brainstorming sessions, helped to create the design of the model curriculum. The underlying principle in the design of individual course content was the need to:
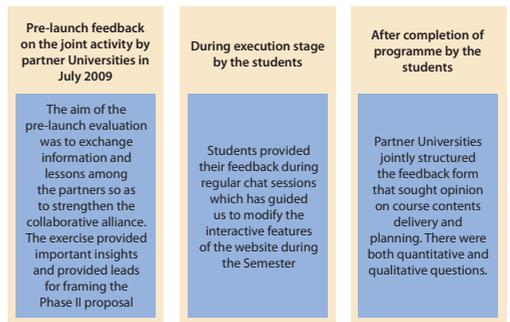
- Impart an understanding of the global context;
- Address regional capacity needs;
- Emphasize critical enquiry;
- Enhance problem-solving skills;
- Provide the impetus to creative thinking;
- Provide cross-sectoral linkages;
- Illustrate key topics through case studies; and
- List useful web links and other resources for in-depth information.

The programme was developed on a Moodle platform version and supported by a back-end server with a dedicated firewall for security.

Each course was created with well-structured assignments, descriptive in nature and designed to test students for conceptual clarity. Of the 38 participants, eight successfully completed the programme and were awarded a degree by TU.

The project was evaluated at three stages: pre-launch, during implementation and after completion of the programme by the students. The pre-launch evaluation helped partners exchange information and lessons. During the mid-project evaluation students provided feedback about the programme, the courses and on any problems they faced. That feedback guided changes in the interactive features of the website during the semester.

Project evaluation

Pre-launch feedback on the joint activity by partner Universities in July 2009	During execution stage by the students	After completion of programme by the students
The aim of the pre-launch evaluation was to exchange information and lessons among the partners so as to strengthen the collaborative alliance. The exercise provided important insights and provided leads for framing the Phase II proposal	Students provided their feedback during regular chat sessions which has guided us to modify the interactive features of the website during the Semester	Partner Universities jointly structured the feedback form that sought opinion on course contents delivery and planning. There were both quantitative and qualitative questions.

Figure 2. Continuous evaluation for programme development

Lessons Learned and Next Steps:
One of the key challenges in the development of an online programme is the need for a significant investment of professional time and money for the development of useful learning resources. Without upfront budgetary provision or immediate future tangible benefits, the commitment from top management may be lacking. Another challenge proved to be the high dropout rate of students. This might have been due to the lack of face-to-face interaction and the absence of tuition fees for learning. In the future, having a minimum fee to join the programme might reduce the dropout rates to a significant extent.

Overall, this project has enriched the understanding of professionals in the region for sustainable development problem-solving. The learning resources from the project can be put into an open pool where practitioners have easy access. Many of the programme participants have been from developing nations, particularly from small island nations such as the Solomon Islands, Fiji, and Tuvalu, among others. Information-sharing and providing access to best practice case studies will have long-term regional impacts in such areas.

The results of the programme have strengthened the belief that this activity can benefit other ProSPER.Net member universities. The learning resources and training material can also be shared by other universities in the region. In the long-term, universities can convert the material into local languages, customize it to make it relevant to local and regional priorities and issues, and run the programme in their country at a decentralized level. The initiative can be further advanced by adding to the online resources and developing additional course modules. TU in collaboration with partner universities can also offer a capacity-building programme for faculty of non-participating universities of ProSPER.Net who are interested in adopting such programmes.

Key Takeaways:
- Policymakers must have a basic understanding of the science, economics and social aspects of sustainable development, as well as a strong understanding of cross-sectoral linkages in sustainable development.

- This project provides sustainable development practitioners with easy access to convenient, quality-controlled and relevant learning opportunities through a unique combination of modern web-based technologies and the pooled resources of a network of experts.

- The programme consists of courses on Natural Resource Management, Economic Reasoning for Public Policy, and Science and the Policy of Climate Change and delivers content in a variety of online and interactive ways.

- The programme's results have strengthened the belief that this activity can benefit other ProSPER.Net members and universities outside of the network.

- In the long-term, universities can convert the material into local languages, customize it to make it relevant to local and regional priorities and issues, and run the programme in their country at a decentralized level.

GENERIC MODULES AND RESOURCE MATERIALS FOR EDUCATION FOR SUSTAINABLE DEVELOPMENT

Summary:
This project involved the publication of a book entitled "Education for Sustainable Development – Issues, Principles and Practices for Global Application", which is a joint effort by ProSPER.Net institutions to aid teachers and researchers in their endeavors to integrate a sustainable development paradigm in courses and programmes.

The book consists of a collection of diverse case studies and sustainability endeavours that have been and are currently being carried out by ProSPER.Net members, as well as the best practices of other sustainability-driven organizations that have made integration of sustainability a priority. This publication will function as a manual, playing the role of a working handbook which will assist readers in better understanding the implementation and inclusion of sustainability in areas as diverse as business, education, health and technology. It is also hoped that the manual will provide readers with the inspiration and practical know-how needed to make sustainability integration an integral part of their respective institutions.

The project is mostly designed for the academic community, with the hope that the book can contribute positively toward helping the academic and research communities attain global sustainability goals. The modules in the book are generic and inclusive in nature and contain introductory level material that can be used by faculty members from any academic discipline. Overall, the handbook is not meant to be an exhaustive reference that pushes new approaches or advocates new principles and practices but rather an easy, readable compilation of references and materials developed by many

An extensive review of the literature and case studies from various resources was undertaken and the most suitable ones were selected for inclusion in the book

researchers and practitioners in the area of sustainable development.

In November 2008, a group of experts and practitioners met at Universiti Sains Malaysia (USM) in Penang to develop the major framework for the book. Other meetings and exposure workshops were held at TERI University in India in February 2010 and Universitas Gadjah Mada in Indonesia in April 2010 to further discuss the content of the book. USM acted as the secretariat for the book's publication throughout the project.

Background:
Despite an abundance of resources on education for sustainable development (ESD) – including some on good teaching practices and the integration of sustainability into curriculum – there was no handy and practical manual available when this project was launched that could function as a quick reference for ESD initiatives. Resources and publications that were available at the time this project was initiated were either on sustainable development (SD) alone or on the implementation of ESD and SD; there were none that encompassed all three components. Realizing this gap, the partners in this project developed a book with a module that included resource materials which would improve one's understanding of SD as well as define its meaning in relation to faculty members and the possibilities through which they can teach SD in their various disciplines.

ProSPER.Net Joint Project In-depth:
A group of academicians, experts, practitioners and activists gathered in a workshop at USM in November 2008 to produce the first major framework for this project. Later, a series of exposure workshops were held at TERI University in India in February 2010 and Universitas Gadjah Mada in Indonesia in April 2010 to further discuss the content of the book.

It was decided that the book would cover a wide range of challenges, complexities, benefits, theoretical concepts and case studies in terms of sustainable development and its relations with higher education. With a host of practical approaches as well as theoretical concepts, it would expand the knowledge of the institutions of higher education over the current sustainability trends.

The hope was that the book would act as an essential guide for its readers - especially practitioners and those at higher education institutions - who are trying to wade through the myriad terms, frameworks, claims, counter-claims and case studies about the importance of sustainability initiatives. The book would thus be useful for academics and practitioners new to sustainability, as well as to well-seasoned sustainability professionals.

Following the initial series of workshops, an extensive review of the literature and case studies from various resources was undertaken and the most suitable ones were selected for inclusion in the book "Education for Sustainable Development – Issues, Principles and Practices for Global Application". The book was finalized 2012.

Lessons Learned and Next Steps:

Prior to the publication of this book there had been no handy and practical manual that could function as a quick reference for ESD, despite an abundance of resources on education for sustainable development. This book will now be the go-to manual to assist readers in obtaining a better understanding with regard to the implementation and inclusion of sustainability in different areas and fields.

It includes resource materials that provide general reading to improve understanding of sustainable development and define the meaning of sustainable development in relation to various disciplines. It also helps faculty members understand the many ways in which sustainability can be taught in their diverse subject areas.

A multi-disciplinary approach was taken to creating this book and the outcome of the project has shown that similar collaborative approaches should be encouraged in the future. The thoughts and ideas collected from experts in different disciplines have extensively enriched the final output of this project. Future projects should build on this highly successful approach.

Key Takeaways:

- Despite an abundance of resources on ESD, there was – prior to this project – no handy and practical manual that could function as a quick reference for ESD initiatives.

- The book created through this joint project functions as a manual which will assist the reader in obtaining a better understanding with regard to the implementation and inclusion of sustainability in different areas and fields.

- The book also provides inspiration and the practical know-how needed to make sustainability integration an integral part of a reader's institution.

- It will hopefully become an essential guide for its readers – especially practitioners and those at higher education institutions – who are trying to wade through the myriad terms, frameworks, claims, counter-claims and case studies about the importance of sustainability initiatives.

- A multi-disciplinary approach was taken to creating this book and the successful outcome of the project has shown that similar collaborative approaches should be encouraged in the future.

INNOVATIVE PEDAGOGIES IN POVERTY REDUCTION

Summary:
Following the successful implementation of the Poverty Reduction and Agricultural Management (PRAM) Programme by the Asian Institute of Technology (AIT) and local partners of the Wetlands Alliance, AIT proposed, in early 2010, a project aimed at distilling lessons learned from the PRAM programme.

PRAM focuses on poverty reduction as a priority and measurement of success. The programme targets local governmental officers - often based in remote rural areas - and offers them an educational platform with a practical programme of professional competency development. The programme suits local needs and has the potential to positively impact poverty levels.

With this model as a case study, AIT and partners, namely the University of the Philippines, Universitas Gadjah Mada and Universiti Sains Malaysia, developed a project whose main objective was to identify innovative educational approaches to improve postgraduate curricula, incorporating the needs of the region's poorer groups and serving as a guide to change educational practices.

Providing a comprehensive overview of the PRAM initiative and its educational processes, partners worked on analyzing opportunities and constraints of implementing such an innovative programme.

Training people to solve problems is a far more effective and empowering long-term strategy

Background:

The lack of capacity of government officials has been cited as one of the main hindrances to the further development of some regions in Asia-Pacific, particularly in Lao People's Democratic Republic (PDR), one of the poorest countries in Southeast Asia. Although some training programmes were offered by internationally supported initiatives, none of them were specifically designed with a particular attention to local challenges and needs.

As the PRAM concept describes, the programme was developed under the vision that 'rather than solving problems for people, training people to solve problems is a far more effective and empowering long-term strategy'.

The successful implementation of the PRAM programme stimulated ProSPER.Net members to develop a research project in which key lessons would be identified to guide changes in curriculum transformations, which could create meaningful educational initiatives that address existing needs with a specific focus on reducing poverty levels in the region.

ProSPER.Net Joint Project In-depth:

With a view to identifying innovative pedagogies that may assist curriculum transformations of educational activities primarily focused on poverty reduction, members engaged in consultations and a workshop with partners of the PRAM initiative, conducting field research and interviews.

The workshop and field visit were organized in Savannakhet Province, Lao PDR, from 20 to 23 October 2010. The main purpose of the workshop was to document its achievements and challenges, and to discuss future developments. Distilling lessons learned from the implementation and assessment of the PRAM initiative was also an objective of the workshop.

Participants started with a field visit to a Technical Service Centre located in one of the poorest areas in Laos. Divided into groups and sent to observe projects being implemented by PRAM students, participants engaged in an assessment exercise complemented by presentations on elements pertaining to the PRAM initiative and discussions.

A number of positive outcomes were readily identified following the field visits: improvement of local people's livelihoods; stronger and closer ties with the local community; use of local and inexpensive solutions to improve their activities; multiplying effect in terms of creating alternative solutions; establishment of local networks that can provide useful information, improving the sharing of information and awareness raising on simple measures that can be taken to secure food and a better livelihood.

These first-hand observations stimulated discussions and assessment of the PRAM initiative with regards to its teaching and learning methods, its multi-partner approach and expertise, its contribution to the development of curriculum, identification of challenges, needs and possible solutions, as well as future steps.

One of the outstanding conclusions was that the same characteristics that make the PRAM initiative unique and effective also pose challenges for its improvement and development. The diversity of stakeholders involved in the project (i.e. government, universities, non-governmental organizations) ensure creativity and a fresh approach to traditional ways of thinking, teaching, learning and doing things; at the same time there is a need to establish a clear governance mechanism with well-delineated roles and responsibilities.

Flexibility of curriculum design to meet the needs of poor communities and to bridge educational gaps among students is also highly desirable. However, a minimum standard should be determined not only for the subsistence of the initiative, but also to comply with quality control requirements. In this connection, constant evaluation of both student and community needs is indispensable for the overall design, development, implementation and outcomes of the initiative and should be regularly carried out.

Project-based learning and problem-based learning methods used by PRAM teachers require openness, constant evaluation for improvement and adaptation to changing realities. Since this approach was identified as the key to the successful impact observed among students and the implementation of their projects, it was strongly recommended that these methods continue to be used and improved.

The PRAM initiative is a multi-stakeholder endeavor that empowers government officials through a capacity-development programme designed to attend to local needs of both students and the community. It promotes an efficient use of existing resources, complemented by teaching and learning methods and project implementation towards improving livelihoods and food security for poverty reduction.

Although some aspects should be further developed to increase accountability, improve the implementation process and ensure its continuation through regular quality assessment control, the model has been successfully implemented and ProSPER.Net members may consider replicating it in their countries, thus contributing to the overall development of local and poor communities.

Lessons Learned and Next Steps:
The project highlighted the importance of partnerships to design and deliver a tailored programme that builds capacity whilst addressing local community needs. Also, it emphasized the importance of creativity and flexibility to adapt to different circumstances that may, for example, bridge educational gaps amongst students, as well as methods such as project-based learning and problem-based learning, which stimulate students to work with a participatory approach, use existing resources efficiently and implement meaningful actions.

Key Takeaways:
- This project has helped to identify important elements for designing and delivering tailored programmes focused on poverty reduction.
- By involving various stakeholders in the project, partners were able to ensure that all perspectives were fully encompassed.
- It is necessary to ensure the use of creative, open and flexible tactics to address community needs and bridge educational gaps.
- The use of project-based and problem-based learning methods helped secure a "fit-for-purpose" approach.
- Constant evaluation is required to improve and adapt the programme to a dynamic reality.

ALTERNATIVE UNIVERSITY APPRAISAL

Summary:
The Alternative University Appraisal (AUA) project, launched in June 2009, created a new collaborative system to enable colleges, universities and other higher education institutions to better assess their education for sustainable development (ESD) activities. Proposed by Hokkaido University as a joint ProSPER.Net initiative, the AUA project has also created a learning community to advance ESD, in which higher education institutions can consult and share concerns, as well as best practices.

The AUA system consists of three components: Self-Awareness Questions (SAQs); Benchmarking Indicators Questions (BIQs); and Dialogue. SAQs and BIQs serve as a data source and make up the foundation for dialogue among universities. Dialogue is the component through which the institutions share concerns, best practices and generally foster an ESD learning community. In addition to these three components, the AUA project also created an ESD Archive, which is a repository of ESD activities conducted by higher education institutions.

Hokkaido University assumed the role of secretariat for the AUA project. Other participating member institutions are Asian Institute of Technology, TERI University, Universiti Sains Malaysia, Yonsei University, the University of Tokyo, UNU-IIST and UNU-IAS. The project is funded by ProSPER.Net, as well as Hokkaido University and the International Cooperative Initiative 2009–2011 of the Ministry of Education, Culture, Sports, Science, and Technology of Japan.

With continuous refinement, the AUA system can become a guiding force to shape the universities of today and tomorrow towards a more sustainable future for all.

Background:

Higher education institutions (HEIs) have expressed a strong desire to be recognized for sustainability initiatives. While creating assessment tools for universities has long been an object of study, there has been little agreement on the evaluation methods, frameworks and indicators that would be appropriate for the assessment of ESD performance in HEIs. The AUA project addresses that gap.

The recent increase in popularity of HEI comparisons, rankings and classifications can be attributed to the growth in the number of HEIs and fast-growing competition among those institutions. Higher education stakeholders, such as heads of HEIs and academic and administrative staff, closely monitor such comparisons and cite positive results when possible. However, the higher education community continues to contest the value and question the methodology utilized in many of these rankings.

HEIs have expressed a need for new, alternative and more comprehensive tools for university appraisal systems that would better address the multiple roles of higher education. In addition, there is a desire for these systems to better respond to the needs of the 'users', to increase transparency about institutional differences of mission and performance, and to provide a new way of collecting and presenting objective and comparable data.

ProSPER.Net Joint Project In-Depth

The AUA project responds to the demands from HEIs for an alternative to their current appraisal systems. The AUA system reorients higher education and society toward sustainability, valuing HEIs that strive for sustainability, improving ESD practices, and creating fora for the exchange of ideas. The ultimate goal of the project is to establish strong relations among HEIs to help further ESD as a whole.

The strategic vision of the project is to:

1) Evaluate and assess an institution's ESD activities by using the new assessment tool;

2) Enable the institution to consult with the AUA dialogue committee on ideas, concerns, problems and solutions based on the results of the new assessment; and

3) Invite the institution to an ESD learning community where they can provide, receive and share best practices with other institutions and partner organizations.

In order to create the AUA assessment tool, several existing ESD assessment tools were carefully analyzed and evaluated: the College Sustainability Report Card, the Earth Charter (EC)-Assess, Monitoring and Assessing Progress during the UN Decade of Education for Sustainable Development (UNDESD) in the Asia-Pacific Region, and the Sustainability Tracking, Assessment, and Rating System (STARS). Several meetings in Japan, Malaysia, and India were held and extensive tours undertaken to collect feedback and promote the

new model. Dialogue with a variety of stakeholders at local and international conferences, meetings, and other events helped shape the system, as did dialogue within sustainability-related networks such as the International Association of Universities (IAU), Association for Advancement of Sustainability in Higher Education (AASHE), International Conference on Sustainability Science (ICSS), and Higher Education for Sustainable Development (HESD) Forum in Japan. Thanks to these efforts, the AUA Project was recognized by more than 150 institutions. AUA core member meetings also helped shape the design of the system.

The system has three main components:

Self-Awareness Questions (SAQs)

SAQs are a set of self-awareness questions designed to help interested HEIs enhance their ESD-related activities and identify their strengths and weaknesses.

Benchmarking Indicators Questions (BIQs)

BIQs are an objective assessment tool that evaluates the quality of institution in the general field of sustainable development. Designed to provide quantitative data, indicate sustainability trends and visualize the location of individual institutions, there are four indicators under this concept: Governance, Research, Education and Outreach.

Dialogue (Peer-Consultation)

The Dialogue Model, previously known as the Peer-Consultation Model, helps HEIs share ESD practices and activities.

In 2010, an ESD Archive was added as part of the project. The archive is a web-based ESD resource library that collects and offers examples of good practice developed throughout the AUA project, as well as by other ProSPER.Net projects and external sources.

Together, the AUA system addresses a number of key challenges, including:
- How one measures ESD and the ESD knowledge of graduates from HEIs;
- How one best teaches sustainable development's multidisciplinary concepts in a way that is relevant to various subjects;
- What the barriers are for including sustainability-related content in HEI curricula and how one overcomes those barriers;
- How one implements sustainable development and reporting within academic institutions; and
- How one creates incentives to further innovation in pedagogy that incorporates sustainable development in education.

Lessons Learned and Next Steps:

To date, AUA project members have reported satisfaction with the overall self-assessment process. The AUA system has afforded them an opportunity for critical self-reflection, helped them reconsider their ESD practices and helped pinpoint various strengths and weaknesses.
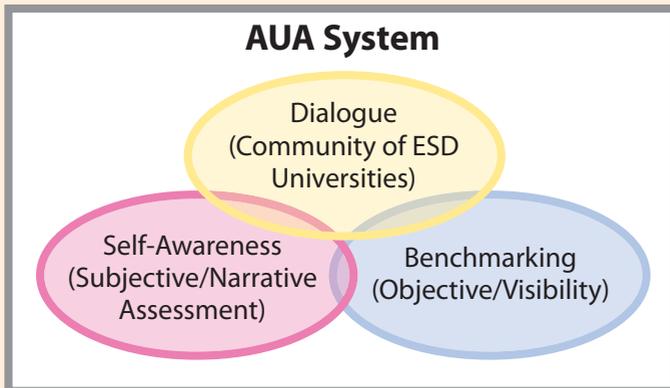
There have been several concerns raised throughout the project regarding quantitative data. Feedback suggested that it was not possible or too labor-intensive to collect information dating back to 2005 and that some terms and expressions, such as "ESD courses", "full time positions", and "ESD-related jobs after graduation", were poorly defined and understood across countries, institutions, and even individuals. Those questions have since been revised and the latest version is more focused on narrative and qualitative questions that can be used as a gateway to dialogue by a growing number of institutions.

The AUA system was transformed from a project to a service in 2012. The new service is known as SUSTAIN (SUSTainability Appraisal for Academic INstitutions) and expands the ESD learning community, raising the quality and impact of sustainability-related activities. Greater discussion is required in order to better define this new direction. In addition, the Dialogue component requires further financial support and greater assistance from external ESD specialists. The ESD Archive continues to operate well and will remain available for basic and comprehensive ESD references.

As AUA members recognize diversity, innovation and change towards sustainable development, the project will continue to be refined. This continual improvement can help the AUA system become a guiding force that shapes the universities of today and tomorrow.

Key Takeaways:

- The Alternative University Appraisal (AUA) project, launched in June 2009, was developed as a viable alternative to existing and conventional university ranking systems.

- The AUA system enables colleges, universities and other higher education institutions to better assess their education for sustainable development (ESD) activities.

- Universities can aspire to be rated highly according to both traditional and ESD measures.

- While project members have reported satisfaction with the overall self-assessment process, there have been several concerns raised regarding quantitative data.

- With continuous refinement, the AUA system can become a guiding force to shape the universities of today and tomorrow towards a more sustainable future for all.

AUA System

Dialogue (Community of ESD Universities)

Self-Awareness (Subjective/Narrative Assessment)

Benchmarking (Objective/Visibility)

NOTES

BECOMING A ProSPER.Net MEMBER

Membership in ProSPER.Net is limited to higher education institutions located in the Asia-Pacific region that offer postgraduate education and research in sustainable development and in education for sustainable development related fields. ProSPER.Net also has an affiliate membership category. Affiliate members of ProSPER.Net are higher education institutions located outside the Asia-Pacific region working together with the network for the benefit of the region. Application for membership should be made through the network's Secretariat (UNU-IAS). The application should include a statement of intention and should be accompanied by a formal dossier demonstrating the institution's strength and expertise in the areas of SD and ESD at the postgraduate level. The ProSPER.Net General Assembly (GA) takes decisions on membership. There may also be ProSPER.Net partners representing higher education institutions or other stakeholders such as private sector, governments, research institutions and international organizations, who would work with the members of ProSPER.Net to achieve the network's goals.

To find out more about becoming a ProSPER.Net member, please contact *prospernet@ias.unu.edu*

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