Sustainability
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Editorial

Since the mid 1990s practically every government around the world has adopted the use of the word sustainability. It is a word that invites reflection, posing questions about how our actions can affect the wellbeing of this world. It comes from the simple word to sustain, that is, to support or bear. Such reflections include global discussions on whether current agricultural practices are sustainable, whether small regional communities are sustainable, whether the current global population growth is sustainable, and whether fragile ecosystems are sustainable. And it is a good word, for it encourages enquiry and research in the quest to find answers on how we can contribute positively to support fragile environments, nurture diverse cultural heritage, strengthen isolated communities, and aid the survival of many of the world’s threatened species.

If we identify what is not sustainable then perhaps we come some way in understanding what is sustainable. In this edition of Traidhos Quarterly we devote space to reflect on what is sustainable and what is not. A good example of what is not sustainable is the reflection on street dogs in Thailand, whereas articles discussing handicrafts and performance of local Mae Rim and hill tribe communities offer some hope for the longevity and sustainability of cultural traditions within the Chiang Mai region. In addition, student enquiry into sustainability practices has led to two contributing articles in this edition.

Sustainability is at the heart of Traidhos Three-Generation Community for Learning and Prem Tinsulanonda International School. Staff and students live by the community’s vision of ‘working together for a sustainable future’ through environmental enquiry, practices and field trips. They use the sustainability compass of nature, economy, society and wellbeing to monitor their progress. This approach takes learning into the real world; a world within natural environs that fully enrich both adult and student learning experiences, and which nurtures potential leaders to work towards a more sustainable future.

Editor

Cover image – Mae Rim rice fields, Chiang Mai Thailand
Remembering my teacher, my teacher’s teacher, my teacher’s teacher’s teacher….BOOM! The remembering and the giving of respect ends as contact is made with the huge victory drum, the vibrations passing through the performer’s body and causing a sharp intake of breath from everyone watching.

So begins the performance of a traditional Victory Drum Dance dating back to the days when it was used to prepare young warriors for battle. Today the tradition is continued, not by warriors or even military men, but young schoolboys from a small village outside of Mae Rim, who are part of the Sit- Wat -Sawangpetch troupe of performers. They have been together for about sixteen years under the leadership of villager Lung Noi.

The performance is much more than a concert to entertain. It has at its heart, the sharing of culture, the perpetuation of the stories and traditions that have been part of Thai society for hundreds of years. It is about an opportunity for young people to feel proud of their achievements in dance and drumming, and to connect with their heritage while sharing this ancestral link with an international audience.

Drumming in this village began at the temple, the centre of village life, when a donation led to Lung Noi and other elders being approached by the monk to start practicing the Victory Drum Dance. Soon the performers purchased their own drum and recruited young people from the village school to join. They began to enter competitions around the north of Thailand, and it was not long before they were recognized as champions in their art.

The beat of the drum becomes more agitated, joined by gongs and war cries. The audience feels its pulse and is mesmerized by the energy of the drummer. In a fast-moving world, where the impact of globalization seems to value commonality, it is as if the frenzy of the drummer is fighting for the voice of culture and tradition to remain heard.

The drummer is not alone. The recently published UN sustainable development goals, created to “transform our world,” dedicate Goal 4 to quality education. Interestingly, it goes beyond accessing formal education and includes “appreciation of cultural diversity and of culture’s contribution to sustainable development.”

The World Commission on Culture and Development, recognizes:

“Deep in our hearts, we all understand that the quality of our lives depends, to a great extent, on our being able to take part in, and benefit from our culture. We instinctively know, with no need for explanation, that maintaining a connection with the unique character of our historic and natural environment, with the language, the music, the arts and the literature, which accompanied us throughout our life, is fundamental for our spiritual wellbeing and for providing a sense of who we are. There is an intrinsic value of culture to a society.”

As we strive for a sustainable future, we must view the systems that we connect to. The importance of personal wellbeing and the continuation of society’s traditions and institutions are integral to our happiness and sense of community, and so contribute to a sustainable world. The
Sit-Wat-Sawangpetch group have ensured that the Victory Drum Dance will be recorded for posterity. They were invited to have their performance filmed at the UN building in Bangkok as part of an event designed to recognize the contribution of local culture in the world.

Traidhos Visiting Schools Program works with young people from around the world and is committed to sourcing activities and materials locally. This includes valuing the skill of the village dance group. The collaboration with the village musicians is a win-win situation. For our visiting global citizens it is the opportunity to enjoy an authentic, local cultural experience. For the surrounding villages it encourages young people to maintain an interest in their cultural heritage and to experience performing with older members of the community. It allows the performers to earn money to support their education or family, making it more favourable to stay in the village for longer, rather than to find extra work in Chiang Mai. More importantly, a new generation has reason to connect to their cultural heritage.

Performance leader Lung Noi believes another positive for the Victory Drum Dance is that it develops teamwork with the group practicing and performing together, each performer developing skills that they can share with others throughout their life.

The drummer appears entranced, now not only is he beating the drum with the cloth beaters, but he is using all parts of his body - arms, back, knees, head - to contact with the drum. His movements are fluid, his energy unfailing.

The world commission report on Culture and Development comments, "Culture is the fountain of our progress and creativity and must be carefully nurtured to grow and develop." ²

Here within this northern Thai village, creativity is being nurtured. Lung Noi reflects that the younger students are starting to bring changes to some of the dances. While traditional dances such as the Finger-nail Dance or the Umbrella Dance are passed down almost unchanged, the traditional moves are sometimes being set to more contemporary music, allowing today’s influences to become part of the village heritage.

1. UN Sustainable Development Goal 4
2. World Commission on Culture and Development – The contribution of culture to sustainable development

Lynda Rolph is Head of Programs at Traidhos Three-Generation Community for Learning and has been with the company for over fifteen years. She is a highly respected environmental educator with teaching experience in United Kingdom and Thailand. She is a former director of the Barge Program.

Photos supplied by Lung Noi and performers
One morning last June I found myself translating between small groups of students from around the world and the spirit doctor of a small Dara-Ang village in northern Thailand. The Dara-Ang is one of a large group of ethnic minorities in Southeast Asia often collectively referred to as hill tribes. They are typically animist and as such the spirit doctor holds a very important and respected position in the community. He (as it will invariably be a man) is involved in many areas of life, from leading ceremonies to healing the sick.

We were there to practice implementing a series of tools designed to guide users through making effective improvements in the sustainability of a system. In this case the system was Pang Daeng Nai – our host village – and the users were the students interviewing several members of the community, including the spirit doctor. Through these interviews and by analysing our findings back in the classroom, it was apparent that the biggest threat to the sustainability of Pang Daeng Nai was the stress cause by reliance on rainwater. Northern Thailand was experiencing an unusually dry monsoon season at the time and this had had detrimental consequences such as little to no natural running water in the village, failed crops, and even a mass exodus as many young villagers took up jobs in nearby towns in order to sustain themselves and their families. Some of the older members of the community were worried that their very culture and mutual identity was under threat as those who went to work outside the village might never return.

This is not an isolated occurrence.

In February of this year I was part of a team that took a group of students from a school in Singapore to a rural mountain town, again in northern Thailand. This time we were in Mae Kapiang, a Karen settlement. The Karen in Thailand are known for living harmoniously with nature and this is certainly the impression you get upon arriving in Mae Kapiang.
In the centre of the village are the communal rice fields. On the surrounding slopes you will find small, wooden houses interspersed with various edible plants such as fruit trees and medicinal herbs. Beyond the houses are small allotments where lychees, chayote, coffee and more are grown for commercial purposes, and behind that, is the forest.

The urban drift

As part of our visit we called on P’ Sa, a young and elegant woman with a forever-smiling face. She enthusiastically demonstrated how Karen women weave the iconic bags, scarves and shirts that can be found in craft markets all around the country. Selling handicrafts, which have been part of Karen daily life for generations, is a means of making a little money on the side. The production is complicated, but P’ Sa patiently assisted our students in trying their hand at various stages of the process. As she worked she answered questions from her audience. She explained that whilst the weaving is usually done within your own home, sewing the intricate designs into the patterned fabric is something of a social activity for the women in the village. As she said this, my eyes were diverted to a woman sat upon the floor of the small, open-walled building around us, known in Thailand as a sala. She had been silently observing us the whole time whilst busying herself with sewing her own design into a woven bag and sharing the occasional giggle with our passionate hostess. This gratifying scene may soon become a thing of the past, however, as P’ Sa described how the young girls in the village are no longer interested in learning the trade. To do so would involve them going against a growing trend in youngsters leaving the town to study or take up work in the city. There was a tinge of sadness in her voice, unabashedly betraying her smiling face.

But what are we to expect? Although the situation may tug on our heartstrings, the Karen are rightfully not exempt from a globalising culture – a culture that teaches young people that a good education, and ultimately, well-paid jobs are important for a satisfying life that is bolstered by material goods. Such a life is not easily achieved by working the fields and weaving in a small town.

Whilst on the surface places like Mae Kapiang appear to exemplify a sustainable way of life thanks to their strong community spirit and healthy environment, the true meaning of sustainability is far from trying to keep things as they were and fighting impossible fights against global trends such as urbanisation and technologification (a term I was pleasantly surprised to find already present in urbandictionary.com).

Sustainability is about managing these trends and trying to collectively follow a path that leads us into a future that we will all be happy to share. Trying to put on the brakes or turn back will only leave those that attempt to do so disoriented as their surroundings continue to change regardless. True pioneers of sustainability, rather than putting their frustrated efforts into persuading others to join them in staying put or retracing the very steps we just made, will instead lead the way forward. If P’ Sa wants to see the Karen weaving culture survive in her village she needs to give meaningful incentive to carry the tradition on in a changing world above and beyond the fact that it would be a shame to lose it.

Choosing a sustainability path

Imagine our journey into the future as trailblazing a route through the jungle. Many people will be looking for the quickest way to the nearest convenience store but I think I would be an excited squirrel jumping from tree to tree, trying to taste as many different fruit as possible. Every now and again I would drop one right in the middle of the path in the hope that an unsuspecting explorer might pick it up and taste it. If I’m lucky the explorer will enjoy its taste and look out for more of this fruit as they choose their path, but my real hope is that even if the taste is bitter, the explorer will notice that there are in fact many squirrels and other animals hidden in the treetops and to some of them this fruit is the mainstay of their survival, to others a simple enjoyment. When my newly enlightened explorer then progressively chooses his or her path they may very well continue just as before but at least they have the choice of whether or not to place importance on their new observation.
I will probably never know whether any of my student explorers will become pioneers, let alone pioneers of sustainability. As an experiential educator I usually only meet my students for a week before they return to their regular lives, but since many of the students that I come into contact with are the children of ambassadors, major business operators and even royalty, I believe that there is a good chance some of them will become important figures in their respective fields. By giving them new experiences and insights I try to expand the bank of information they have access to when making decisions, however big or small. And as they make their journey through life they will probably forget about the humble squirrel they met along the way but that’s fine with me because I know that I have done my part in trying to guide our world into a better future.

Side note: One initiative I am currently involved with is the running of the follow-up camp to the one that took me to Pang Daeng Nai last year – the Compass Youth Leadership Camp 2016. If you know a young person that might be interested in learning about bringing positive change to communities (especially their own!) please direct them to www.compasseducation.org/compasss-youth-camp-2016.

Mike Horrocks is a Senior Staff and Programs Coordinator at the Traidhos Visiting Schools Program. He has been working with youth in a variety of settings since the age of nineteen and in his spare time loves to immerse himself in nature and foreign culture.
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The fate of the world’s future is in our hands. Our actions now, individually and globally, will determine how future generations are able to live. While it is important for humanity to thrive and innovate, we must do so sustainably in order to provide for those who follow after us.

But how do we know what impact today’s actions have on the future? A key factor is awareness.

Everyone has different values, opinions and approaches to doing things. The more socially minded might highlight a cure for HIV as a priority for the world’s future, while the environmentalist could say bees are the key to survival.

Not everyone realises just how important bees are, although the bees themselves realise their importance! This resilient species is adapting to newly evolved habitats, places that are now full of plastic waste where forests once thrived. So while humans are impacting on the world in a negative way, bees are persevering, helping the environment survive through their adaptability and industriousness.

In order to live sustainably, we must value all things equally. We must realise the important connections between nature, economy, society and wellbeing, as suggested by AtKisson’s Compass of Sustainability, to ensure the most beneficial future.

Khao Yai National Park in Nakhon Ratchasima province is a thoughtful case study for considering sustainability. The park itself has gone through controversial times in its history, with a proposed golf course and changes to visitor movements within the park due to elephant activity. More recently there has been emphasis on education for park visitors to encourage them to become environmentally sustainable travellers.

By creating bike paths, Khao Yai National Park encourages people to use green transport. Art events for children develop their love for nature and a passion to care for it. Park signage instructs visitors on how to drive their car should they encounter an elephant and what the environmental impact is for feeding monkeys. Through this education Khao Yai National Park develops public awareness and encourages visitors to act in a more supportive manner in order to protect this important World Heritage site.

Environmental education activities in the park highlight many issues including the carrying capacity of habitats and factors that influence natural populations; habitat fragmentation through human interaction and environmental corridors; land clearing; and visitor behaviour. While surrounded by incredible jungle with passing barking deer, students play games that relate to these topics, gaining a deeper understanding of environmental problems and exploring connections to possible solutions.

Once we gain awareness of environmental sustainability concerns through education, such as the Khao Yai National Park, we are more likely to be inspired to take action, to make change for the better. We are encouraged to care for our lives and for the world we will leave for others. We develop a sense of global citizenship, and learn to live our lives sustainably.

Erin (Stan) Stanley is Head of Barge Program and has been working with the program for eight years. She has a Bachelor of Applied Science in Environmental Management from the University of South Australia and has been involved with education since 2003.
Street dogs in Thailand

Shifting perspective, Prem School Counsellor Amandine Lecesne questions the sustainability of the increasing number of street dogs in Thailand.

I wish I could reach through this page, take you by the hand, and bring you to the site of newly dumped street puppies. If you close your eyes hard enough, can you imagine them? Their warm breath, their excited tail wags, their eager licks and kisses? I encourage you to spend a few minutes with them!

But do you know what happens after you walk away from them?

Unfortunately, I know the answer to that question. As the Co-Founder of Care for Dogs and current member of Hand 2 Paw, I know that most of those puppies will not live to see their one-year birthday. A few of them will get struck and killed by cars. Some of them will die of parvo or distemper virus. And the rest will likely be poisoned.

Every female dog is capable of having two litters a year. Each litter can bring about six to eight puppies. Each female puppy can start having their own litter at six months of age. I won’t ask you to do the maths to figure out how many dogs that would be within six years, but I can tell you that this cycle is unsustainable. It is unsustainable to have dogs who without human intervention and care, are often unwell, malnourished, rummage through garbage, fight amongst each other for food, mate, and because they’ve been harmed, can be aggressive.

This never-ending cycle of dog neglect is unsustainable. It was also the conclusion made by Prem Tinsulanonda International school students after undertaking a study of the street dog situation in Thailand more than seven years ago.

Lynda Rolph, Head of Community at Traidhos, excitedly recounts the process that took place at that time. She remembers students using the AtKisson Compass of Sustainability to look at the effect of stray dogs on the community and thinking critically from the viewpoint of wellness, including the fear of being bitten by a stray dog, the impact of stray dogs on the natural environment, and disease entering water sources. Students also examined the affect of Thai culture and society, such as dogs being regularly dumped at temples and the need to educate the public about caring for dogs. In addition they discussed the
strain of excessive dog numbers on the economy, and the work and cost involved in sterilizing and vaccinating dogs compared to the cost of no-action, such as overpopulation, ill-health, and road accidents because of dogs.

Out of this reflection, Joy Huss, Sandy Clyburn and a group of Prem students decided that instead of waiting for someone else to come and change the situation they would take the initiative and start Hand 2 Paw with a focus on sterilizing, vaccinating, and helping find ‘forever-homes’ for street dogs in Mae Rim.

Sterilization is the only sustainable way to help reduce the street dog population.

Some governments have resorted to culling or mass killing in order to reduce street dog populations, but these techniques almost always result in population booms. In contrast, consistent sterilization programs work to effectively reduce the stray dog population.

To this day Hand 2 Paw has fundraised and successfully coordinated over a hundred sterilizations, vaccinations and adoptions of abandoned puppies.

This is what can happen when one person, or in this case a group of people, decide not to walk away. This is what happens when we acknowledge that though we are not directly responsible for the problem, we can be responsible for the solution. You too can help, especially with a direct donation to an organization whose main focus is on sterilization.

A long time ago, humans brought wolves into their home to protect property. We transformed wolves into dogs and made them dependent on our care and affection. Therefore, don’t we have a responsibility to these animals to hold up our part of the bargain? Wolves and dogs have for many centuries protected and watched over us. Now it’s our turn to protect and watch over them!

For more information on the volunteer groups trying to address the street dog problem please visit; www.carefordogs.org/donate, http://k9aid.org/hand-to-paw

Amandine Lecesne is School Counsellor at Prem Tinsulanonda International School Chiang Mai Thailand.

Illustrations supplied by: awfsandiego.org, companionsspayandneuter.com, kiringie.me
Grade 3 Prem students were given the opportunity to take their classroom out of the school and into a village north of Chiang Mai, Thailand to experience sustainability in action.

Working with Laurent and Manuero from the Sangob Foundation, a school trip was organised that would bring all the students’ previous school-based studies and experiments about sustainability to the range of activities, visits and events at the Grade 3 camp.

The students were in expert hands for understanding village life in Thailand for The Sangob Foundation is an organisation that is dedicated to supporting the preservation of ancient artistic, agricultural and cultural knowledge in Thailand.

Grade 3 students travelled to the Foundation centre and then to the Karen village which is supported by the Foundation located in the outlying hills of Mae Rim, north of Chiang Mai.

During their visit students learned that the action the Sangob group is taking helps preserve the environment in a holistic approach that is inclusive of all the people, animals and traditions of that area.

Since their inception, the Foundation has established a good relationship with the Karen village, understanding that it is best to work with, and listen to, the Indigenous people of the land who already have a wealth of knowledge about living sustainably. The villagers use only what they need from the environment to survive. A powerful example of this is that they always make sure that there is more of what they need before they use anything, including trees and the animals they raise.

During the visit students participated in the Great Sustainability Race. All the challenges were connected to living sustainably, the practices and traditions of the Karen people, and ultimately to the ‘Sharing the Planet Unit’ in which the students were engaged. One challenge included making compost. It was a relevant example of a sustainable practice as it is an alternative to burning off green waste or using chemical fertilizers. In order to complete the task, the students had to race to layer straw, manure and fresh banana leaves, over and over again, until they reached ten layers. All these compost ingredients are available in and around most villages, so it’s something everyone can do.

In the afternoon, we journeyed further into the scenic mountains to the Mae Kapiang Karen Village. It was a steep walk up the hill to the village but worth the effort, for once there, the group learned about the Karen people’s traditional way of life and were shown how the Karen weave cloth. While watching thread being made into balls and string being wrapped around sticks of bamboo, the students and teachers were told that at a very young age everyone in the village is taught how to weave. For centuries the Karen have made their clothes, scarves and bags, however, it’s mainly the women of the village that do the weaving.

Holistic approach to sustainability

Working with Laurent from Sangob Foundation, teachers Gillian and Kate showed students how a holistic view of sustainability can be achieved.
Finally the moment came when students were able to participate in each part of the weaving process. At the end of their practice there was much excitement about this very important cultural tradition, which prompted local woven goods to be purchased as mementos.

All woven goods made by the Karen women supplement the village income, and what was purchased on that day by staff and students was equivalent to two to three weeks worth of income from working in the rice fields or any of their other agricultural activities.

The scarves were a big hit and were worn at night to keep warm while practicing the Karen language, such as “Hello” “Goodbye“ and “Thank you“.

The visit was over and the deep learning experience the students walked away with was far superior to any amount of reading or talking on the subject of sustainability. It was a very powerful lesson to see a community engaged every day in sustainable practices.

We can learn a lot from the example of the Karen people. Furthermore, we can adapt and reflect on how these practices can fit into our own lives, to help push us forward into a future in which all people, animals, and living things can flourish.

Gillian Turner and Kate O’Connell are Grade 3 teachers at Prem Tinsulanonda International School in Chiang Mai, Thailand.
Sustainability on the farm

As the newest members of the farm team, Marta Prieto and Scott Burfiend found out, young international students are enthralled by the never-ending cycle of compost.

“Everything on the farm has a purpose!” This is how I greeted a group of Grade 5 students from an international school in Bangkok visiting the Traidhos Three-Generation Farm in Mae Rim Thailand.

It was early one January morning as the sun was breaking through the clouds that lingered from the previous cold night, when this seemingly simple statement led to a journey of discovery about the interconnectedness of everything.

It started with one particularly curious student; "What do you mean?"

Students are the ever-present enquirer, curious about life and its purpose, always willing to learn new ways and new ideas. I spoke to the group about sustainability; how practices are incorporated in everything we do on the farm.

Stepping into the warmth from the first rays of sun we began to explore the farm and to consider the concept of sustainability.

After leading the students to what appeared to be three piles of waste, I asked if anyone could tell me why these piles were on the farm. Several seconds of awkward silence followed, until one nervous voice piped up.

"Is it for compost?"
"Exactly", I enthused.
"But what is compost?" chorused several other students.

At this point I began my story. As I looked into the young eager faces I sang the praises of compost and its wonderful properties as a natural fertilizer.

To make compost, the farm uses the three piles of ingredients. The first pile is called ‘greens’ which consist mainly of fruit skins, vegetable peels and fresh green leaves - the main source of nitrogen. The second pile is known as ‘browns’ for it consists mainly of dry material and dead leaves – a wonderful source of carbon. And the final pile is manure - goat and buffalo manure. I told the students we called this the poo pile!

Of course I got the reaction I expected; “That’s disgusting! Why do you use poo?”, yelled one particularly squeamish student.

So I explained that manure supplies many valuable nutrients for the compost and also a large amount of organic matter. Manure is actually incredibly valuable for farming as it is a wonderful fertilizer.

I had twigged their interest now, so on I went. Compost is made of a formula of ingredients with a ratio of roughly 40% green, 40% brown and 20% manure. The layer of browns comes first, then the greens, and finally on top is the manure. Each layer is added in sequence to the pile until the compost heap is roughly three feet high.
“Just like a giant lasagne,” I said “with a sprinkling of Parmesan cheese on top, actually, a little more of the brown ingredient and some water. Now the clever part happens!”

Inside the pile of organic matter colonies of microorganisms do the work of decomposing all the material. Microorganisms like to live in a warm, wet and dark environment, so they stay in the middle of the pile. The compost must be flipped every three or four days to provide oxygen for the microorganisms, and to ensure the whole pile is being converted to compost, not just the middle. In total it takes about one month to go from the raw ingredients to a pile of compost.

Leading the group to the fresh compost heap I challenged them to each pick up a handful and smell it. After the usual protests and reluctance the entire group was soon enjoying the odour of our organic fertiliser.

“It doesn’t smell of anything, just a kind of earthy smell. So what happened to the poo, the manure, I mean? It doesn’t make sense!”

Almost every student who goes through this session has a similar response. The microorganisms that break down the raw ingredients of the compost are also breaking down the components that cause the smell. The result? Fantastic fresh smelling compost!

I invited the students to dig into the middle of the heap. After smelling a handful of compost they quickly began digging, releasing squeals of wonder and surprise.

“It’s so hot! Wow. That’s crazy!” exclaimed one student.

The explanation is simple, bacteria does all the work. As bacteria breaks down the ingredients it creates a huge amount of energy through respiration. This process heats the compost.

Students were then invited to create a new compost pile of their own. While they were doing so they were encouraged to think about the reasons for all this work. Why make the compost? What happens to these nutrients? What happens when we harvest the crops?

The answers came in a burst of enthusiasm – we make compost to fertilise crops and provide a fresh supply of nutrients to the soil; compost provides nutrients to enable our crops to grow and produce greater yields; we can use the leftover parts after harvest to make more compost!

Any green parts from the harvested plants can be added to ‘greens’. Fallen leaves and dead parts join the pile of ‘browns’. Any of this can also be fed to farm animals and become manure. The whole process is a cycle. What could be seen as the waste part of a plant can be used to make compost. This compost then helps to grow new crops; these crops in turn become the raw materials for the next round of compost, which feeds more crops that provide for more compost. A never-ending cycle.

Now the students understood – this is being sustainable, taking something that would normally be thrown away and finding a new use for it.

“If you didn’t make compost you’d just have a massive pile of manure on the farm!” piped up one previously shy student.

And that’s the basis of life. Being sustainable means minimising your impact on the planet and using all the resources you have to their full potential. Three piles of natural waste that would otherwise be discarded have been converted into one of the most useful products on the farm. Of course there are other examples of how our farm works sustainably, but this was a good starting point. We had arrived back at my first statement – everything on the farm has a purpose!

Scott Burfiend is the Farm Education Manager on Three-Generation Farm.
Marta Prieto is a Farm Education Facilitator on Three-Generation Farm.
Massive greenhouses are springing up around the globe. Their purpose is uniform; a place where some of the world’s most fragile plants and animals can thrive for the educational benefit of future generations. It is a different approach to sustainability, one that involves creating an ideal artificial environment in which to support a wide range of species.

Three examples come to mind, Singapore, Australia, and South Korea. Each eco-architectural project has its own distinctive quality, purpose and structure that offers a unique experience for visitors. The most recent of these developments is located in Seocheon, South Korea, while the oldest of this group lies in the heart of Adelaide, South Australia.

In 1988 for Australia’s Bicentenary, local South Australian architect Guy Marron designed a spectacular curvilinear building of steel and toughened glass that stood 100 metres long, 47 metres wide and 27 metres high. The whole appearance is that of a large glass shell resting among grassland adjacent to Adelaide’s central Botanical Gardens. It was a feat of architectural engineering at the time and one that attracted interest from around the nation.

In the driest state on the driest continent under a glass sky flourishes a tropical rainforest. For more than two decades the rainforest thrived until 2012 when concern for the environmental impact of maintaining warmer conditions during the cold winter, caused a re-think and a preference for subtropical rainforest species that required no artificial heating. Inside you will now find species from Australia, Papua New Guinea, Indonesia and the nearby Pacific Islands. Many of these species are at risk in their natural environment, giving the Bicentennial Conservatory an important role in the survival of these species. The conservatory heralds itself as the largest single-span conservatory in the southern hemisphere, increasing visitor experience by including a magnificent forest floor boardwalk as well as a stunning upper treetop canopy walkway.

Gardens by the Bay is Singapore’s showcase, bringing to life the National Park Board’s vision of creating a city within a garden. Beginning with the launch of a design competition in January 2006, it wasn’t until October 2011 that the gardens were open to the public. Water is at the heart of this concept where the Gardens’ lakes function as living ecosystems. The two main lakes act as natural filtration systems with aquatic plants filtering the water before being discharged into the city’s reservoir. The lakes also provide aquatic habitats for biodiversity such as fishes and dragonflies. It is a system that highlights the importance of aquatic plants in the healthy functioning of an ecosystem and the significance of clean water in sustaining biodiversity.
South Korea has created one of the most challenging of all eco-architectural projects. It is called the Ecorium and forms part of the National Ecological Institute in Seocheon, South Korea. Designed in 2013 by Grimshaw Architects, the main goal of the Ecorium is to highlight the importance of biodiversity and to explore the fragility of specific ecosystems. The massive 32,980 square metre nature reserve was completed in 2014. Within the complex there are four distinct glasshouses represented by tropical, subtropical, Mediterranean and temperate environments. The fifth zone maintains sub-zero temperatures similar to the Artic. As in the real world, each region or zone interconnects in order to form a complete biosphere.

A continuous walkway snakes around miniature mountains and waterfalls, passing an ancient fig tree, Amazonian rainforest, grassland and desert. Altogether there are 4,300 plant species and 240 animals living within the complex including penguins, pythons, fish and flying foxes.

It's both an interesting and valuable concept.

Some governments are shifting their thinking - from industrial zoning to eco-zoning, as happened in the case of the Ecorium. The three examples of Singapore, Australia and South Korea join an already impressive list of countries pursuing alternative approaches to sustainability and conservation of the world's endangered species.

As this global phenomenon continues we are possibly glimpsing our future – many worlds within our one world.

Thomas Petrie Scott is a freelance writer who travels and lives within Australasia and South East Asia supporting the belief in lifelong learning.

Images sourced: google.com/images from South Australia Tourism, Grimshaw Architects, and Grant-Associates-and-Wilkinson-Eyre
Environmental Sustainability at Prem Boarding

Year 12 Prem student Steven Qin finds an unexpected twist in his research causing him to reflect on changing student attitudes toward sustainability.

Studies have shown that world population has increased dramatically over the past decades and that the demand for natural resources has increased exponentially. Scientists claim that global temperature is rising due to extensive burning of fossil fuel. Research has shown that deforestation is occurring at a much faster rate than past projections, biodiversity is declining, and fresh water is being contaminated. So what is the cause of such rapid change? Many researchers and scientists believe human activity is at the heart of this escalating problem.

For decades we humans have been relying on the natural environment to support our existence. We are putting such enormous pressure on the Earth that one day it will come to a point where humanity cannot be supported.

We can make change by creating public awareness of this issue through conservation practice and education. One of the core tasks of Prem International School is to create meaningful connections for children in understanding sustainability practices.

A student research project was undertaken at Prem to find whether there was a correlation between Prem students’ length of study of environmental sustainability and their future behaviour. Thus, the research question was proposed: “To what extent does the amount of time a Prem senior school boarding student’s length of stay correlate to their behaviour in relation to environmental sustainability?” The thesis of this extended essay is “Student’s who have studied longer at Prem School are more knowledgeable about environmental sustainability.” In order to carry out research to support the hypothesis, primary and secondary data was collected both quantitatively and qualitatively.

A set of statement questionnaires were addressed to students in Prem Boarding to further explore the school’s mission statement “living and learning together for a sustainable future”. The electronic survey consisted of 20 statements where each of the statements linked to one of the following themes; waste management, noise pollution, water and electricity usage.

Further analysis was made using the rate of change and the Pearson’s correlation coefficient and rank correlation coefficient, allowing us to see if the level of support for sustainability among Prem students is ameliorating. Based on two critical analyses it was surmised that the methods of interpretation revealed a slight negative correlation between student length of stay and their behaviour towards environmental sustainability. The hypothesis was rejected because of this slight negative change. However, the results posed further questions about shifting attitudes of student sustainability practices the longer they boarded at Prem.

Based on my findings I believe further research could offer greater insight into the reasons for the change of attitude of boarding student towards sustainability over time. New research could examine a broader range of variables, such as senior course commitment and age, and a significant increase in the number of respondents would more clearly substantiate data outcomes. This new study can further aid Prem International School and boarding to improve education outlooks concerning environmental sustainability.

Qin is a Year 12 student at Prem Tinsulanonda International School and has been a boarder/studying at Prem for the past five years. He is currently taking Geography and Environmental System & Societies as two of his International Baccalaureate Diploma courses and desires to pursue his future career in sustainable businesses.

Photos by Lilly Yangchen and Steven Qin
Sustainability in the Prem Community
Student Project and CAS Activity

Prem Year 11 student Thesis Laohajaratsang writes about his experience in initiating and organising the ‘Sustainability at Prem’ seminar and other projects.

What does sustainability mean to you?

To me, sustainability is a lifelong commitment to recycling and managing waste effectively to ensure that the environment stays unspoiled for future generations. I am fortunate to attend Prem Tinsulanonda International School (Prem) in Chiang Mai, northern Thailand that focuses on the concepts of sustainability.

Sawasdee krub. My name is Thesis (Tata) Laohajaratsang and I am currently in Grade 11. I entered Prem in August 2014 with a Future Prem Scholarship, and ever since moving into this community I have received many opportunities to participate in a variety of school activities that include furthering my interest in sustainability. One main reason is the International Baccalaureate Programme (IB) at Prem and how it provides the chance for students like me to learn more than just from sitting in a classroom.

My interest in the idea of sustainability and waste management influenced me to initiate the “Sustainability at Prem” project in Grade 10 as my Personal Project. My goal then was to host an event about Prem’s Sustainability Goals and invite the Head of School along with other staff members to raise awareness of Prem’s existing sustainability levels. For this event to happen I raised almost 5,000 Baht by selling old toys at Meechok Plaza with special help from the owner, Mr. Narong Thananuwat. The income was then used to set up a seminar at school. Vice President Tanarak from Chiang Mai University accepted my invitation to present some ideas about his university’s role in managing its waste in a sustainable manner. The afternoon went by in a very professional manner with engaging conversations in a packed seminar room in the school library. One idea that stood out to me most was the discussion about ways that people in the Prem Community can contribute to ensure the school’s vision for a “Sustainable Future.” The seminar ended with an agreement that Prem must find some ways to improve its waste management levels. The most efficient method would be to begin raising awareness on this issue both at school and in the Boarding community.

Working together to make change

Knowing that the best way to initiate change is to be part of a group that can make it happen, I joined the Sustainability @ PREM session run by Donal O’Connell as part of my CAS Project. This proved to be a step in the right direction as a couple of other students from my grade and I designed a bin that was able to separate four different types of waste (plastic, glass, metal and paper) into one container. Analysing its effect prior to building, we figured that this was the best system for managing school waste in a sustainable manner.

Today the group consists of more members and has improved on the bin system. Evidence is shown through the development of signs in six different languages, translating the various types of waste, as well as several recently finished posters that will be put up around school in the near future.

Khun Viroj Daroon the Head of Maintenance at Prem agrees that separating rubbish is the right starting point for the Prem Community as it reduces the amount of time spent separating incorrectly disposed trash and increases the chance for recycling.

With the school’s emphasis on a “Sustainable Future” I began sharing some of my simple ideas regarding waste management to the Junior School students in the Boarding community. This was an opportunity to educate the youth and to make sure that they can grow up to be sustainable citizens themselves. The four students that I taught were able to gain a lot out of it as they worked together to brainstorm what “Sustainable” means to them and played games that allowed them to have a better idea of correct waste disposal. Their eagerness and engagement showed their keen interest in figuring out more about the topic. The drive that this group of students has is a big step forward, as educating the youth today will improve their lives tomorrow.

Having the opportunity to live in the Prem Community I have learned that sustainability is not created by doing simple tasks for a short span of time. Instead, it is generated by making a lifelong commitment to improving the world around us.

Hopefully my work over the past year and a half at Prem represents a small step forward in allowing Prem to reach its goal of a “Sustainable Future.”

Thesis (Tata) Laohajaratsang is a Year 11 student at Prem Tinsulanonda International School.

Photos. Thesis presenting the seminar on sustainability at Prem and junior school students working on their sustainability projects.
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