

Global Forum



*For
Environmental Education*

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CEI 2014 Conference Delegate Issue
Huey-Deng High School, Yilan Taiwan 6-12 July 2014
Nature, Culture and Future



Caretakers of the Environment International
A global network for teachers, educators, and students

President's Message

Greetings to CEI 2014 delegates -colleagues, teachers and students

"Nature, Culture, Future" is the theme for the 28th annual CEI conference held in Yilan in Taiwan July 6-12, 2014. It is organized by the core team for CEI 2014 consisting of the strong environmental education organizations Earth Charter Taiwan, Taiwan Ecological Stewardship Association (TESA), Sun Foundation, and Huey-Deng High School well supported by youth and teachers as volunteers. It is a great pleasure to meet here - thank you for hosting this important conference!

The long-standing activity of Caretakers of the Environment International, an independent organization established in 1986, embracing secondary school students and teachers whose interests focus on environmental education, is crucial. Experienced and new caretakers from the entire world have been invited to the CEI conferences through the years. During the meeting in Taiwan, young people from various countries of the world will have an opportunity to present the results of the environmental projects that they carried out in their countries over the past year. They will also be able to become familiar with the environmental challenges and the local community's achievements in the field of sustainability in Taiwan.



What is so special with the Caretakers, is that we have the capability, the experience, and the commitment to communicate and meet across cultural, geographic and political borders to find solutions, to share successful and innovative environmental education programs, to facilitate joint educational projects that encourage international data exchange and transdisciplinary activities, to develop strategies enabling delegates to act as ambassadors for CEI in their own country, to promote environmental awareness and to develop national education for sustainable development (ESD) networks, and to encourage the building of trust, friendship and cooperation among people of different cultural background.



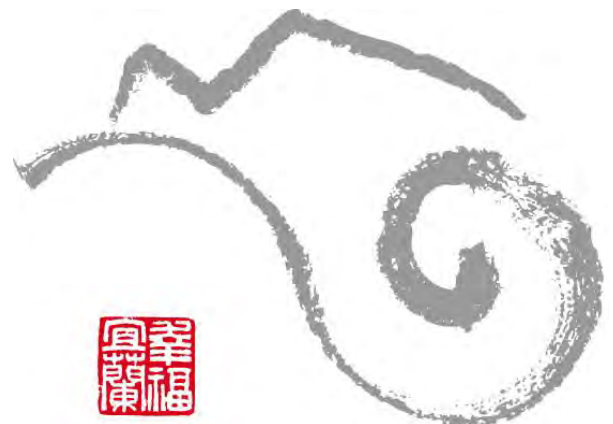
So, thank you all for being here! Thank you all teachers for continuously engaging new upper secondary school students and colleagues - facilitating for all to be a part of the Caretakers' network. The network that intends to continue to be a podium for upper secondary school teachers and students to exchange concerns, ideas, strategies, actions and projects in the field of environmental education. Beyond CEI 2014 we head for enriching challenges aiming to strengthen our worldwide established network of secondary school teachers and students, who are concerned about sustainability issues and who are willing to do something about these issues through their education and by acting towards sustainability - now and in the future. Thereby, making it possible for all to learn how to be a part of and actively support the CEI globally and - not the least - when you get back home again, locally! Spread the message!

Take care!

Birgitta Nordén

Birgitta Nordén

President, Caretakers of the Environment International
Chair for the Swedish CEI Branch





We are doing the right thing at the right time in the right place

It is a great honor and pleasure to welcome all Caretaker Delegates to the 28th Conference of CEI on behalf of Earth Charter Taiwan. And congratulations to all for participating in CEI 2014 in Yilan, Taiwan, because it is a right thing which happened at the right time in the right place.

Right Thing Caretakers from 18 countries are gathering to share our visions and actions to integrate the principles, values and practices of sustainable development into all aspects of our education and learning projects. We are doing the right thing in a flat, warm and crowded world, looking for new ways of collaborating with each other.

Right Time 2014 is the end of the ten-year period for education action on sustainable development, the UN Decade of Education for Sustainable Development (UNDESD) 2005-2014. 2014 is also the International Year of Family Farming, with the goal of feeding the world and caring for the earth. The 28th CEI conference theme "Nature, Culture and Future" reflects our efforts to connect sustainability education with the Agro-ecology movement. 2014 is the right time for us to share our common vision.

Right Place The conference takes place in Yilan, which is the most eco-friendly county in Formosa Taiwan. The organizers offer field trips to sites of natural and cultural diversity, community preservation programs, appropriate technology based industry and family farming fields. Yilan is the right place for CEI 2014.

Thank you all for coming to Taiwan, we hope you will enjoy these few days and wish you all a pleasant and successful journey.

Nancy Tzu-Mei CHEN, General Secretary of Taiwan Ecological Stewardship Association (TESA)
Eric CHEN, Chair of Sun Foundation



Nancy Tzu-Mei CHEN, CEI 2014 Host, General Secretary of TESA
Ning Wei, CEI 2014 Assistant
Ali Chou-Li LIN, CEI 2014 Coordinator
Esther Yi-Ying JIANG, CEI 2014 Assistant

我們在對的時間和對的地方做對的事

陳慈美 生態關懷者協會秘書長
陳澄芳 日和教育基金會董事長

我們非常榮幸也十分高興代表台灣地球憲章聯盟，歡迎各位參加國際環境守護組織第 28 屆年會。更要恭喜大家能夠藉由參與 CEI 2014，在對的時間和對的地方做對的事。

對的事

來自 18 個國家的環境守護者，將永續發展的原則、價值與實踐，整合到教育學習計劃中的各個面向，共同在一起分享我們的願景和行動。面對又熱、又平、又擠的世界，我們正在做對的事，也尋找彼此合作的新途徑。

對的時間

2014 是聯合國「永續發展教育十年計劃」（2005-2014）的最後一年，2014 同時也是聯合國所頒布以養育世界、守護大地為目標的「國際家庭農業年」。第 28 屆 CEI 大會主題「自然、文化與未來」，正好見證我們嘗試邁向將「永續發展教育」與「生態農業運動」整合的努力。2014 年正好讓我們一起分享大家共同的願景的一年。

對的地方

大會地點選擇在美麗島台灣最為綠色友善的宜蘭縣。主辦單位提供的戶外參訪點，涵蓋下列特色：自然與文化多樣性、社區保育成果、採行適切科技的產業、小農農家生活體驗。宜蘭的確是舉辦 CEI 2014 大會最為適合的地點。

感謝各位來到台灣，也祝福大家在會中能夠享受所有節目內容，旅途愉快、滿載而歸。

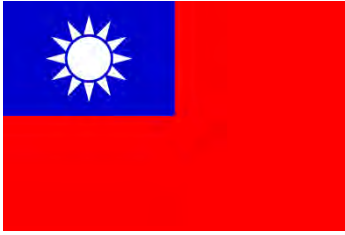


財團法人日和教育基金會



Eric CHEN, Chair of Sun Foundation. Working in his field

A Greeting from Our Host



Huey Deng High School would like to welcome student delegates, teachers, and mentors from around the world to the CEI 2014 conference in Yilan, Taiwan.

Huey Deng and the Yilan community are honored to be chosen to host this conference. The theme of this year's conference is *Nature, Culture, Future*, and our students, staff, and community members look forward to making you welcome as we consider how to preserve and sustainably interact with the natural world.

While most people in Taiwan live in urban areas, nature is never far away, and nowhere is this more true than in Yilan. Natural hot and cold springs and riverside parks dot the cityscape, and the mountains and the sea are both nearby. Yilan's Taipingshan National Forest is a popular bird watching site and harbors a variety of rare or endangered plant species, including the Taiwan Red Cypress and Taiwan Beech trees. Guishan Island, which dominates the seascape almost anywhere along Yilan's coast, is the only active volcano in Taiwan. Many whale and dolphin species can be found nearby.



Yilan's often rainy weather feeds the many rivers and streams which wind across the Lanyang Plain, and they replenish the soils that have made this county the breadbasket of

Taiwan. Thousands of years ago, the aboriginal Kavalan tribe cultivated crops in the Lanyang Plain and caught fish from the rivers and the sea. More recently, industrial fisheries and rice farms provided reliable quantities of these staple foods for much of the country. As Taiwan's culture changed, so have farming and fishing practices. Today, the people involved in these important tasks are adopting sustainable practices to preserve these resources for future generations.



Jiun-Yng WU, Chair of the School Board

It is against this backdrop of nature and culture that we come to consider the issues of our environment and our future. In today's world, people from every nation and

culture are united by a common need to balance human needs with the protection of our natural environment.

The Caretakers Conference provides all of our students – the leaders of tomorrow's world – with a forum to learn more about these issues while building international friendships and a global perspective.

On behalf of the students and staff of Huey Deng High School, it is our pleasure to welcome you to CEI 2014. We hope you will enjoy your time in Taiwan and look forward to the opportunity to build relationships and explore issues of nature, culture and future together.

Jiun-Yng WU, Chair of the School Board
Sung-Hsi WU, Principal of Huey Deng High School

慧燈中學歡迎您蒞臨 第 28 屆 CEI 2014 台灣宜蘭年會！

吳君瑩 私立慧燈中學董事長
吳松溪 私立慧燈中學 校長

謹此代表慧燈中學全體師生，向遠道而來的各國師生代表們，致以最誠摯的歡迎，歡迎您蒞臨國際環境守護組織 2014 台灣宜蘭年會。我們十分榮幸能接待各位，為這場盛會提供一個交流平台。誠如今年年會主題「自然、文化與未來」，我們期待與您分享宜蘭在地自然文化資產，並透過交流討論，激盪出更多落實環境永續發展的可能性。

台灣是座有著豐富面貌的美麗島國，城市林立卻俯拾皆是大自然之美，坐落於山巒與海洋間的宜蘭城，更是城市與自然和諧共生的典範。宜蘭除了有豐富的天然冷泉、溫泉外，型塑宜蘭水與綠的河濱公園，已儼然成為這座城市的意象。林木蓊鬱、山巒疊翠的太平山國家森林公園，不僅是遠近馳名的賞鳥聖地，更孕育許多珍貴、稀有如台灣原生紅檜與扁柏的植物。屹立在宜蘭外海的龜山島，是迤邐綿延的海岸線外最吸引人的在地面貌，這座台灣僅有的活火山島，周圍海域生態多樣豐富，常有鯨豚聚集優游，隨著四季的更迭，交織出美麗多變的景致。



Sung-Hsi WU, Principal of Huey Deng High School



宜蘭的雨水終年豐沛，水自山巒匯聚，經河流水川孕育滋生蘭陽平原，讓宜蘭成為台灣農產最富饒的縣市之一。宜蘭的歷史追溯至數千年前，一群名為噶瑪蘭的族群，在此傍水而居，以簡易農耕、狩獵、捕魚等向自然取食的方式維生。直到近代，在大量現代農業科技的輔助下，蘭陽地區的漁獲、米糧等主食的產量已相當充足。台灣的農耕漁獵生態，在時代的推移中呈現不同的面貌，如今，有越來越多的人憂心因工業及文明所帶來的資源耗竭，從而投入農耕漁獵的永續經營，把大自然留給下一代。

今天我們聚集在此，是為了集合各方智慧與期望，使珍貴的自然資源與歷史文化能夠更有效的被保存與運用。慶幸的是，守護環境的理念，已在不同的國家、不同文化區域形成新的社會認知，我們共同的目標，是在平衡並建立人類需求與生態共生的體系。一直以來，國際環境守護組織致力提供平台，結合有志之士，探討環境議題，建立全球思維，藉此鼓勵許多即將成為未來世界領導者的青年學子們，一起加入守護環境的行列。

再次代表慧燈中學全體師生，歡迎各位蒞臨國際環境守護組織 2014 台灣宜蘭年會，我們非常期待和與會代表們，就「自然、文化與未來」主題，進行深入交流探討，期待能激起燦爛的火花，為全球環境帶來助益。最後，預祝您有個豐富愉快的台灣之行。



Greetings from the Magistrate of Yilan Welcome to Yilan, Taiwan – Beautiful Mountain and Clean Water

I cordially welcome CEI teachers and students from around the world to Yilan, Taiwan. Located in the northeastern part of Taiwan, Yilan's north, west and south are surrounded by the Central Mountain Range and the Snow Mountain Range. The east of Yilan faces the Pacific Ocean, and the Lanyang River flows between two mountains which shapes the Lanyang Plain. Yilan is blessed with beautiful mountains and



Tsung-Hsien LIN, Magistrate of Yilan, Taiwan

forests, vast plains and marine resources. Environmental sustainability, diverse creativity and social justice have always been the three core values of Yilan. In recent years, following the "Yilan Experience" of the three core values, we aim to achieve the goal "New Organic Yilan, Good Happy Life" through three Spindles of Administration: Ecological City,

Creative City and Friendly City.

Around 300 international and local delegates will participate in the 28th Caretakers of the Environment International Conference with the motto "Nature, Culture and Future". During the one-week conference, delegates will present their projects which cover topics including food sovereignty, eco-friendly diets, inspiration from traditional knowledge and culture, reducing waste and ecological footprint, appropriate technology and renewable energy, and sustainable development. These contemporary and important environmental issues also correspond with our country's policies such as the banning of chicken manure and herbicides, promoting eco-friendly farming, recognizing healthy diet as a basic human right, maintaining the agricultural environment and residents' health. We look forward to encouraging new sparks of creativity and inspiration through the interactions between different countries.

Being chosen to host the CEI 2014 Conference is an acknowledgment of Yilan's sustainable development. Yilan is grateful that Caretakers of the Environment International and Earth Charter Taiwan gave Yilan this opportunity to offer our resources to all delegates. Also, local teachers and students from Yilan and other parts of Taiwan appreciate this chance to interact with and learn from other international caretakers.

On the field trip to the “Wulaokeng Environmental Education Center”, the first environmental education institution certified by the Yilan government, there will be a special outdoor project called the “Wulaokeng River Ecological Exploration”. In this project, delegates will learn about the environment and biodiversity of a river through observing and learning. By discovering the natural and cultural diversity in Yilan, we hope all CEI caretakers will be inspired to develop new ideas of sustainable development. May you have a successful CEI 2014 conference and lovely memories from Yilan, Taiwan.



林聰賢

Tsung-Hsien LIN, Magistrate of Yilan, Taiwan



縣長歡迎詞 歡迎蒞臨好山好水的臺灣宜蘭

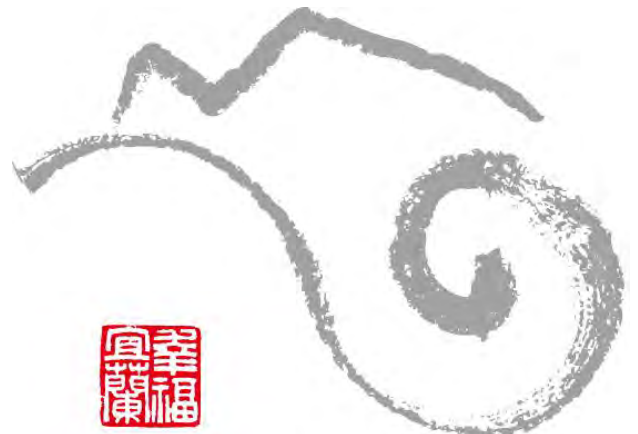
林聰賢 宜蘭縣長

滿心歡喜、誠摯歡迎來自全球各國的師生代表蒞臨臺灣宜蘭。宜蘭地處臺灣的東北部，地形上，北、西、南三面是雪山山脈和中央山脈，東邊面向太平洋，而蘭陽溪在兩山之間穿流而出，沖積成蘭陽平原。宜蘭擁有得天獨厚的山林美景、廣闊平原與海洋風貌，環境永續、多元創意及公平正義，一直是宜蘭的核心價值。近年來，我們也持續透過生態城市、創意城市及友善城市三大施政主軸的建構，延續「宜蘭經驗」，朝著「有機新宜蘭、幸福好生活」的目標前進。

本屆大會主題為「自然、文化與未來」，有來自各國及臺灣約 300 位師生，共同參與這為期一週的年會。各國代表們於會中報告所研究的專題。其議題包含：糧食主權、友善環境飲食、傳統智慧與文化的啟發、降低生態足跡、適切科技與再生能源、永續發展（兼顧三生 - 生活、生產、生態 - 的發展模式）等...。都是當前環保的重要議題，也與本縣禁用生雞糞、除草劑、推動友善耕作、揭示飲食健康為基本人權等實際行動，維護農業生產環境及住民健康的作為相契合，期盼透過跨國間的交流，能夠激發出新的創意火花。

第 28 屆 CEI 2014 年會能選擇在臺灣宜蘭舉辦，是對宜蘭堅持環境永續一貫價值的肯定。感謝大會給宜蘭機會提供本縣場域與豐富的环境資源，讓世界各國師生代表進行環境議題的討論與交流。同時也讓宜蘭及臺灣各地的師生有向各國學習的機會。

而本縣第一個由公部門申請設置並經認證的環境教育場域—「武荖坑環境教育中心」，也特別在本次年會中以戶外教學的方式提供了「武荖坑溪流生態探索課程」，希望使各國師生們能透過認識、體驗與觀察等方式，了解宜蘭的溪流環境與水中生物的種類。也歡迎各國師生透過在宜蘭境內各項自然生態與文化特色的探討，啟發對環境永續發展的新思維。期盼 CEI 2014 年台灣宜蘭年會圓滿成功，各國師生代表能在宜蘭留下一個美好的回憶。



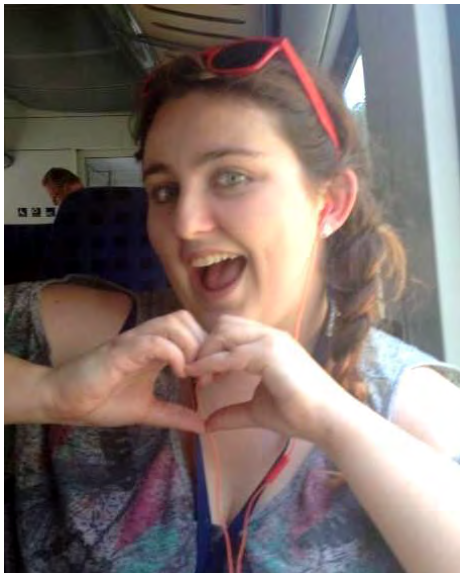
Alumni Team 2014

This year, we have 10 alumni, which is, I believe the largest number of alumni we've ever been fortunate to have! We are excited to be helping in Yilan in July and to see both old and new faces!

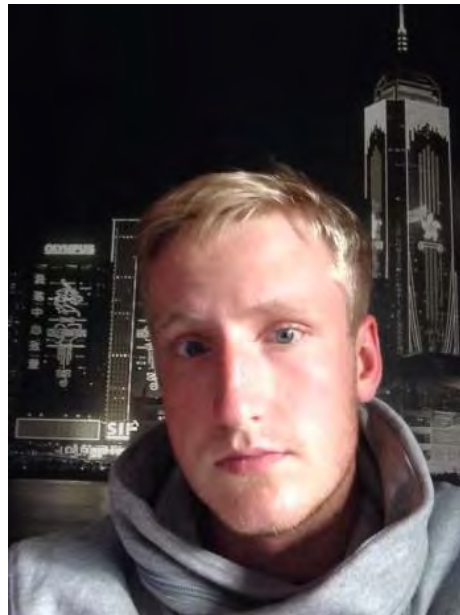
You can now follow us on Twitter @IMCEI and Instagram @imcei – Please use it during the conference, telling us and showing us all the best parts of the conference!

Facebook groups are always made during and directly after the conference for the following year so just friend one of your alumni team to be added to the group! For more information about us, CEI and becoming alumni, check out our website www.alumnicei.org

Who we are:



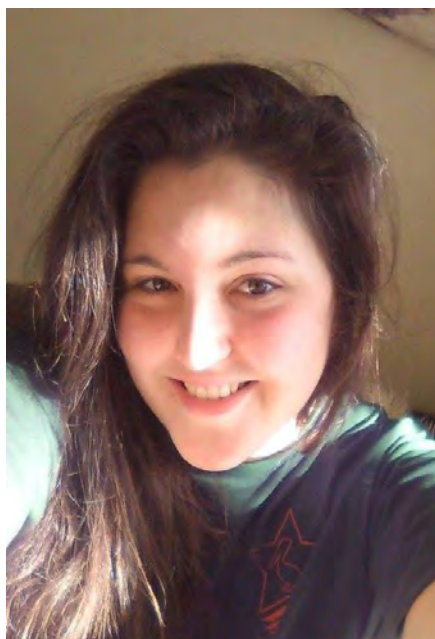
Laura
(Ireland)
Alumni
Media Team
Poland 2006
Hong Kong 2007
Denmark 2008
Scotland 2009
The Netherlands
2012 (alumni)
Scotland 2013
(alumni)



Robin
(Sweden)
Alumni
Media Team
Hungary 2011
Scotland 2013



Julien
(The Netherlands)
Alumni
Chairperson
Scotland 2009
The Netherlands
2012 (alumni)
Scotland 2013
(alumni)



Jana
(Ireland)
Alumni
Head Secretary
Denmark 2008
Scotland 2009
The Netherlands
2012 Scotland 2013
(alumni)



Natasha
(Indonesia)
Alumni
Media Team
Hong Kong 2007
Scotland 2009
Indonesia 2010





Stan
(The Netherlands)
Alumni
Entertainment
team
Scotland 2009
Hungary 2011
(alumni)
The Netherlands
2012 (alumni)



Sammi
(Hong Kong)
Alumni
Secretarial team
Hungary 2011
The Netherlands 2012
Scotland 2013



Jessica
(Indonesia)
Alumni
Entertainment
team
Hungary 2011
The Netherlands
2012



Errikos
(Greece)
Networking
Scotland 2009
Hungary 2011
The Netherlands 2012
(alumni)
Scotland 2013
(alumni)



Tony
(U.S.A.)
Volunteer
Project Facilitator
Hungary 2011
The Netherlands
2012
Scotland 2013



Criteria for Becoming a Registered Alumni

- You must be aged between 19 and 25 years old
- You must have attended at least two conferences as a delegate
- You must apply using the application form found on our website at this address:



<http://www.alumnicei.org/who-we-are.html>
and send it to alumnicei0000@gmail.com

For more details...

Ask us or check out our website. We shall also be giving a short presentation at CEI 2014 with some more information.

Thank Anne Marie for CEI 2013

Organized by Anne Marie, the CEI 2013 conference in Scotland was a memorable conference in many ways. From teachers to students, from volunteers to board members, everybody contributed organizing and coordinating this self-sustaining conference in the stunning scenery at the banks of Loch Lomond. From doing dishes to running workshops, from field-trips to projects and entertainment events, every delegate took part in all aspects of the conference and made it a praiseworthy success.

Thanks to Anne Marie, Chris, the Alumni Team, and many others for this amazing conference. In CEI 2013 we learnt about collaboration, sustainability, wilderness, creativity and cultural diversity.

Here are some reflections from the Oregon delegates

"The direction of the 27th caretakers of the environment international conference was sustainability in wild places. Anne Marie, the director of this piece, took this to a new level few had any privy knowledge to. Instead of being given sponsorship in return for spewing propaganda to the mass, the whole conference was paid for by the entrance fee everybody paid to participate and donated help. Instead of caterers cooking, serving and cleaning all of our meals, we did it for ourselves. Instead of janitors sweeping, washing and setting everything up, we did it for ourselves. We gained a sense of ownership because through our action, this conference became ours."

Haleigh Patten-Trujillo

"Stepping away from the past, stepping into the future, Anne Marie framed another idea in her conference. "Give to receive" and it wasn't understood by many students, but that theme is something that has always been a part of CEI. The fact she highlighted that in her conference is a blessing. It helps to maintain the circle... To make us, as individuals, sustainable, it takes a community united through a culture of trust, strength, and honesty. It is strange how the collaboration works. The feeling we share, will help to make us stronger people, and help us protect nature. We cannot forget that diversity is integral to the process. It's the spice of life."

Tony Currier-Reagor



"Some people underestimate the power behind our youth, but there are many teens out there who make their opinions matter, and change the public opinion in ways that are unimaginable..."

One of the most powerful messages I took from my trip to Scotland was that even when teens are countries or even oceans apart, the more hours spent to help the environment, the better global citizens they will become."

Ana Garabay-Mares



The Arolla Pine Region in Austria Tries to Become Energetically Independent

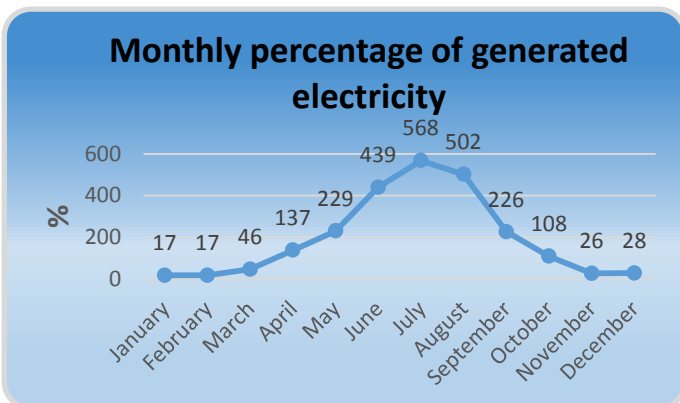
Renewable energies are commonly used in the Arolla Pine Region for heating and generating electrical energy.



Typically biomass such as wood is used traditionally in tiled stoves, or as a more modern form of biomass, households are heated with pellets, which are locally produced by various companies.



Therefore you can get the most eco-friendly usage of those energies. On the one hand, the biomass is produced locally, so the transport CO₂-emissions can be kept as low as possible. On the other hand, by using biomass you can keep the whole process CO₂-neutral, since the CO₂-emission caused by heating is naturally absorbed by trees due to photosynthesis.



Another eco-friendly way is the use of solar energy. The solar collectors of solar thermal systems absorb the sun's rays, convert them to heat and transfer the heat to a heat-transfer fluid. The heat-transfer fluid is then pumped into a heat exchanger, where it heats the water or is used for space heating.

Additionally, photovoltaic systems are a sustainable method of generating electrical power by converting solar radiation into electricity. In the following diagram you can see the monthly percentage of generated electricity by a photovoltaic system (10 kW plant) of a single-family house.



From April to November the whole energy needed is generated by the photovoltaic system, during winter up to one third. The overall energy demand of this well insulated single-family house is about 10.000 kWh, 90 % from that are generated by the photovoltaic system.

Summing up, the municipalities of Arolla Pine Region support the use of biomass and solar energy. By using solar energy, you make an effective contribution in preserving our energy reserves and environmental protection by reducing CO₂ emissions. A 10 kW plant is able to sustain 1 tonne crude oil in a year. Therefore this region is on a good way to become energetically independent.



Sven Reiter .Bianca Scharf, Angelika Polster, Judith Steinwiddler, Georg Pickl. Johann Mischlinger, Laura Wenzl, Florian Steinwiddler, Elisabeth Pferschy



The Climate League



This year the Danish delegation has been interested in how to communicate climate change and an environmental lifestyle. The students decided that the best way to do it was

to establish a group/unit, which would initiate small activities in their local community. They founded their own



environmental charity called: "The Climate League". Their goal is to initiate activities and events focused on climate change and an environmental friendly lifestyle. Descriptions of all the activities they develop and initiate will be gathered on their web page and Facebook group, and thereby be available to others who likewise would be interested in initiating projects and activities in their communities. The descriptions will be in both Danish and English, to secure an international angle on the project. The past year the students have developed different activities. They started out with "the Tree of Wishes", where they asked citizens of Aalborg City to put new fresh leaves and wishes regarding the environment and climate



change on a withered tree. This event was part of a sustainability conference, hosted by the municipality of Aalborg. Later on the students gathered the leaves/wishes, and handed it over to the municipality with hope for a better future. Next they created a teaching program for

children in the age of 14-16 years. They made climate politics more understandable through a role-play structure, where the pupils had to discuss as if they represented different international players in the political arena. Also they have initiated an ecological test and a waste management game for children in the age of 13-16 years.

All the activities has been tested on different target groups and then evaluated before being described on the Facebook group. The students intent to make the Facebook group accessible for the public on CEI14 – and hopefully many will try to do similar activities in their home countries.

Students: Jonas L. Andreasen, Trine P. Rosengren, Emilie C. Jensen, Rikke Krogsgaard and Diana S. Fayed
Teachers: Elisabeth J. Brun and Sophie B. R. Mortensen
Aalborg Youth School, Aalborg, Denmark

Organic Farming

Hong Kong is famous for being a gourmet paradise, but behind the scenes, Hong Kong actually faces two food problems. Firstly, an overwhelming proportion of Hong Kong's food supply is imported, so the lack of local food production and the low status of local small scale peasants weaken Hong Kong's food sovereignty. Secondly, similar to many first world regions, the materialistic lifestyle in Hong Kong has caused the diets of her citizens to not be eco-friendly. Our group believes there is a single solution to both problems: promoting the production and consumption of eco-friendly foods in Hong Kong.



There are two stages in our project, investigation and promotion:

Firstly, our group has done a comprehensive research on the agriculture industry of Hong Kong. This includes a field trip to the Kadoorie Farm, one of the few farms in Hong Kong that produces organic food. We have managed to pinpoint the difficulties local peasants face and offer



Organic farming in the Kadoorie Farm



boards in the school campus to educate schoolmates as well as growing certain vegetables in the school campus to



From left to right, the names are Tristan Lau, Eugene Leung, Herman Ho and Thomas Chow

allow schoolmates to see the possibility of developing the local agriculture industry.

While Hong Kong people love to eat, food sovereignty and eco-friendly diets are not hotly discussed topics in the city. Through the project, our group is delighted to be able to stir some thoughts regarding these topics among the people around us.

Students: Yue Ching Eugene LEUNG, Yui Ming HO
 Chun Shing Tristan LAU, Chun Hei CHOW
 Teacher: YIU Wai
 St. Paul's College, Hong Kong, China

Interaction among Men and Nature Variations of Chemical Pollutants and Heavy Metal along River



Striking a balance between conservation and development has long been a controversial issue raising the awareness of people from all walks of life. It is essential for Hong Kong as a metropolis which lacks nature conservation, to promote sustainable development.

Lam Tsuen River is one of the few

possible solutions to the problems. Secondly, our group has launched a school-based campaign to promote eco-friendly diets. It includes setting up exhibition

remaining undistributed rivers in Hong Kong. It is a 10.8 km long river located in the northern part of the city. There are 26 villages with more than 10,000 people living along. The River is also an important site for the commercial farming of flowers and vegetables. The River also carries cultural significance: The "Wish-making Tree" in the middle course attracts thousands of local and overseas tourists. Tourists throw offerings tied with oranges onto the tree branches, making their wishes and hope to have good luck in every New Year of Chinese.



In the present study, the river water are sampled bi-weekly at three checkpoints from November 2013 to May 2014. Nine water quality parameters, namely temperature, acidity, turbidity, dissolved oxygen, total dissolved solid, ammonia, nitrate, nitrite and nickel, are examined in the school laboratory through various apparatus, chemical reagents and spectrophotometer.

Through analysing these water samples, the impact of human activities along the River have been shown. Some pollutants that are hazardous to the ecosystem like ammonia, nitrate, nitrite and nickel are found in the River. It is shown that, among the nine parameters examined, three have exceeded the standard of drinking water advised by the World Health Organization.

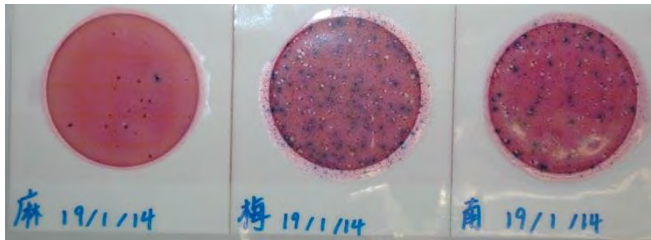


Lam Tsuen River is a river with significant agricultural, cultural and ecological importance. To alleviate the problem of water pollution, timely actions should be taken by the government and residents along the River, for a sustainable development of the River and the basin.

Students: Angel CHENG, Kelvin CHU, Jason LAM
 Teacher: Tony Wing Kin LEUNG, Pui Yee CHANG
 Po Leung Kuk Laws Foundation College, Hong Kong, China

River Resource Conservation: A Study of E. Coli Level of Lam Tsuen River

Lam Tsuen River is a river located in northeast Hong Kong. It has been documented since the Han Dynasty (BC202 – AD220). More than 25 rural villages are still found today in the middle course, and agricultural activities, e.g. flower and vegetable farming, are common. Unlike urban settlements, sewage systems are often absent in rural areas. Sewage is often discharged directly from farms and



houses to the channels.

In the present study, the amount of E. Coli at three different points of the river are investigated. E. coli is proven to pose health hazards to human beings. Excess number of E. Coli can cause serious digestive system upset.

River water are sampled bi-weekly at three checkpoints along the river from November 2013 to May 2014. The 3M Petrifilm E. Coli Count Plate is used for the tests. One millimeter of water sample is pipetted to this growth platform. The Plate is then incubated at 35°C for 24 hours. The indicator dye on the Plate colors the colonies and they are being counted.

It is shown that the number of E. Coli colonies increased downstream, reflecting that there is a discharge of sewage containing E. Coli along the river course. According to the



World Health Organization, there should have no E. Coli to present in drinking water.

With complete coverage of tap water, villagers along the River are unlikely to drink the water. Still, the impact of such contamination are in twofold, firstly, the River is a

source of irrigation for the farm. Irrigating produces with contaminated water pose health hazards to consumers; Secondly, the contamination by E. Coli implies that the aquatic ecosystem would be upset.

Lam Tsuen River is rich in historical and cultural values. With more in-depth investigation in the future, the sources of E. Coli can be more accurately determined, and this makes the planning of remedial and recovery work easier.

Students: Leo CHAN, Ryan CHUNG, Kenny HAU, Cecilia YU, Sunny YU

Teachers : : Tony Wing Kin LEUNG , Pui Yee CHANG
Po Leung Kuk Laws Foundation College, Hong Kong, China

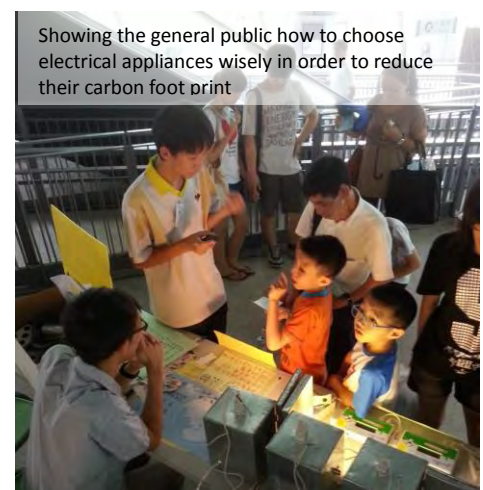
Low Carbon Life Style

Due to the upgrade of living standard, the demand of energy and natural resources elevate sky-high. At the same time, natural environment is deteriorating seriously because of pollution. In order to tackle with this problem, “Low Carbon Life Style” is needed. In Hong Kong, our emphasis is being put on the economic growth rather than living in a sustainable way. Therefore, we want to draw the attention of various school stakeholders to reduce carbon footprint by understanding and participating in “Low Carbon Living Style”



To start with, we carried out energy audit in the school and houses of our schoolmates. After that, we discussed types or ways of living which cause serious resources consumption and carbon emissions, and then designed strategies to tackle them. Next, we implemented various ways and methods of “Low Carbon Living Style” in our school and various stakeholders of our school. In order to further promote the sense of environment protection, we shared our findings in the forums at “Climate Youth Network”, which was organized by the UNESCOHK and Green Power. Apart from sharing, we also held a booth that shares our project to the public. Up to the present moment, we have reduced approximately 11000 kg carbon emissions.

In this project, we would like to thanks for the following organizations for their partnership



Showing the general public how to choose electrical appliances wisely in order to reduce their carbon footprint

and support including Hong Kong Professional Teachers' Union, Queen Elizabeth School Old Students' Association Primary School, Elderly Academy, United Nations



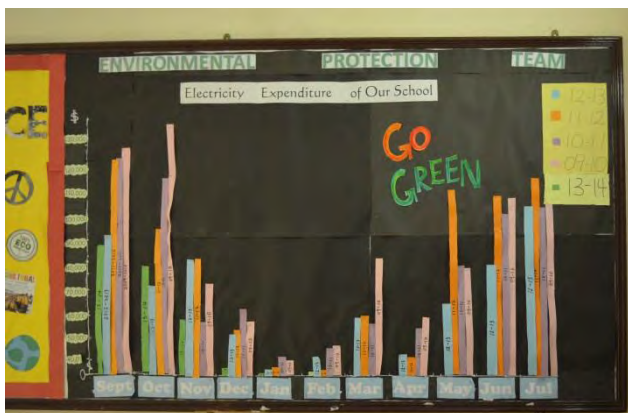
Environment Programme (UNEP), Green Power, Antiquities & Monuments Office and Sustainable Development Council.

To conclude, our project aims to enhance students and the public's environment literacy which includes environment knowledge, sense of environment protection and behavior. So that students and the public can reduce carbon footprint in their daily lives and cultivate an eco-friendly living style.

Team Leader: Mr. WONG Chi Fai, Thomas Queen Elizabeth School Old Students' Association Secondary School, Hong Kong, China

School-Based Solutions for Saving Electricity

Hong Kong as one of the best cities in the world is also home to 2/1000 of the global carbon dioxide amount. The major source of the carbon dioxide and the other pollutants is electricity generation. As CEI is a global network of teachers and students active in Environmental Education, we focus on introducing school-based solutions for saving electricity and we believe small actions by you can add up to big saving.



There are three stages in our project, analysis, interviews and promotion: Firstly, our group has gathered wide-range data from government reports to local environmental groups' findings. We looked through every detail and analyzed the affects and reason for the high consumption of electricity in Hong Kong.



Secondly, our group has conducted an interview with St. Stephen's Girls' College which has received the 11th Green School Award and the Hong Kong Awards for Environmental Excellence Gold Award (Secondary Sector) to figure the possible solutions for saving electricity.

Thirdly, our group has also launched a school-based campaign to promote electricity saving activities in school. Through the campaign, we identified some practical problems and possible challenges for practicing those solutions.

Through this conference, we hope by sharing the possible solutions and practical challenges for saving electricity in schools, students and teachers can have a better understanding to this issue, and hence, promote these solutions in schools all around the world.



Electricity expenditure of St. Stephen's Girls' College



Interview with St. Stephen's Girls' College Environmental Protection Team Sam Suen, Anson Cheung, Aaron Chan and Anselm Yuen

Students: Tsz Yuk CHAN, King Hang CHEUNG
Chi Kin YUEN, Tak Hin SUEN
Teacher: HONG Chen Chen
St. Paul's College, Hong Kong, China

Meeting Dragonflies in Hong Kong



In a cosmopolitan like Hong Kong, streets are full of people and vehicles. Can you imagine you can encounter many kinds of dragonflies, damselflies and other insects in this vibrant city? In the northeastern side of Hong Kong, a valley called Sha Lo Tung can impress you by its high diversity of dragonflies and other kinds of insects.

In Sha Lo Tung, you can also find villages with cottages which are Grade II Historic Buildings graded by Hong Kong government. These villages have hundreds of years of history. Traditional Chinese culture and virtue can be found from these villages.



Nowadays, most villagers were moved out of the villages and the cottages are ruined. Broken walls without roof are left in some of the cottages. There are fields besides the cottages many years ago. These fields are full of rank grass because of the lack of care. This benefits the dragonflies and other insects to live in.

Such a green area like Sha Lo Tung is scarce in Hong Kong. However, land is also scarce in Hong Kong. Sha Lo Tung attracts developers to build new buildings and other community facilities which would bring many disturbances to the natural habitat.

In this project, we are going to propose a plan to develop Sha Lo Tung in a sustainable way. That is to balance the economic development with the community and the natural environment. Thus, Sha Lo Tung can be developed while the coming generations can enjoy the high diversity of dragonflies and other kinds of insects in this region.

Students: Cheung Chi Tong, Ip Man Hei,
Lam Fuk Hung, Leung Wing Yin
Teacher: Leung Ming Wai
Po Leung Kuk Yao Ling Sun College, Hong Kong

From Trash to Treasure Theme: Zero Waste

As three students from Bogor Raya School, we conducted the stages towards raising awareness concerning recycling in our Middle School and High School. In this project we implemented several steps to increase our school's "green factor" including the collection of hundreds of non-organic trash of which was then refurbished by all students into useful items displayed in our school's classrooms. As a group of three we managed to enforce the first "Earth Day" event at our school where students participated to raise their knowledge about our planet whilst having fun in the meantime.



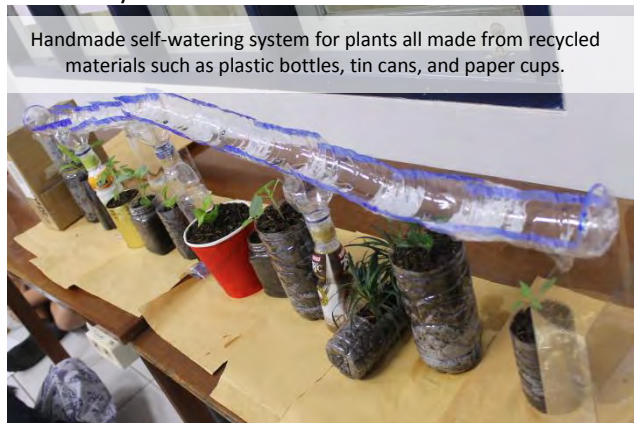
Student creations: Handmade clocks created from recycled materials such as old CDs and bottle caps.

All Middle School and High School classes were given a whole week before April 22nd (Earth Day) to collect as many non-organic items as they can including plastic bottles, food boxes, jars, etc. During that week they also used the opportunity to create beneficial items out of the collected trash. These items were to help the organization of their classes and increase its visual attractiveness. With the given opportunity the pupils applied outstanding ideas in their creations such as clocks, light bulbs, stationary organizers and other items all out of recycled materials. On the day of the event all their effort and hard work was showcased and displayed. As a gift for the class shown to input the most effort and creativity they were given the prize to come to school without any uniform but wearing blue and green to



represent the Earth. From this part of the project we managed to collect more than 1000 recyclable materials from the students, who have also gained increased awareness of how simple and fun it is to do good for the environment. Furthermore, this life lesson was not only shared to students at our school.

We extended the effect of our project to our community. Not far from our school was a small school in the traditional village in which we held a workshop to teach the younger kids about our Earth and how waste could negatively affect it if not managed well. In the workshop we held an activity where they were given the chance to create useful items out of recyclable materials that we collected at our school.



Handmade self-watering system for plants all made from recycled materials such as plastic bottles, tin cans, and paper cups.

Overall, our project has aimed to heighten the knowledge and understanding of our community on renewing old items into new items which we call "Trash to Treasure". This has been one of the steps to make a difference in the community by becoming one step closer to the enactment of zero waste concepts.

Students: Kazimiera Talaska, Elsa Tiara Tjendana,
Jelita Clough
Teacher: Ina Isnaedi (Miss Ina)
Sekolah Bogor Raya
Bogor, Indonesia

Minangkabau Eco House

The traditional Malay house is one of the richest components of Malaysia's cultural heritage. Designed and built by the villagers themselves, it manifests the creative and aesthetic skills of the Malays. The house is extremely well designed to suit the warm and humid Malaysian climate and for the multifunctional use of space.

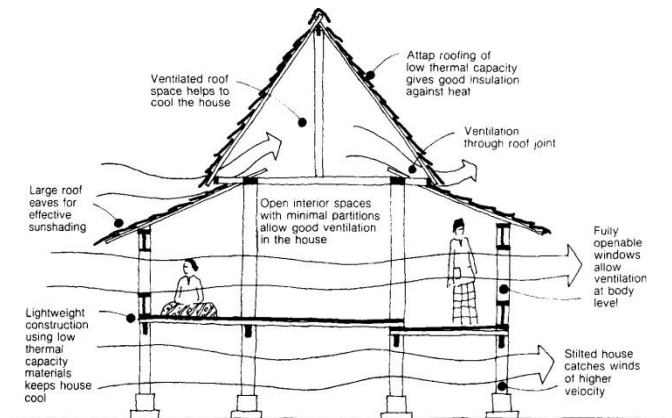


The objective of this project is to study the traditional air ventilation system of traditional Malay (Minangkabau) house and to develop a simple and efficient eco-friendly cooling system.

Research and study will be done in order to understand the air ventilation and circulation system of the house and also to study the effectiveness of this air ventilation

system and how it can be used in the modern time nowadays.

For our eco-friendly cooling system, it will use water to keep the ground under the house moist and wet. This system will apply the principle of water sprinkler system that will sparkle water on the ground to keep the ground moist and wet. This will reduce the temperature of the ground and also caused the hot air to rise and circulated out of the building. This system will also use recycled water. This system is suitable to be used in a mosque where the system will be turned on before the congregational prayer. This will make the praying hall cooler and hence will reduce the needs of air conditioner.



However, this cooling system can also be used in a normal traditional house, gazebo and even a modern house.

In order to develop this cooling system, few experiments will be done to test our cooling system. These experiments will include measuring the average temperature of normal traditional house during the day and also measuring the temperature after using our cooling system. The results will be compared in order to see if our system works.

Students: Amir Fikri Bin Abdull Khalil,
Muhammad Farhan Bin Roslan,
Mohamad Danial Bin Mohd Firdaus,
Izzat Zuhalee Bin Abd Hamid,
Nur Hanisah Binti Ismail,
Nur Alia Binti Mohd Meliki
Teacher: Ms Ong Sy Ing
PERMATAPintar™ National Gifted Centre

Eco Youth Environment Summit (ECO-Y.E.S)



Youth today are the determinant of the future. For a better place to live in the future, youth today need to decide a greener world.

The objective of this summit is to raise the awareness of the youth today about the environment. At the same time, this summit also exposes the student about the environment education. With the theme, "Youth for Greener World", this summit involve the youth of Malaysia. The participants are from the PERMATApintar™ National Gifted Centre.

Participants need to present their ideas on how to build a greener world for a better place to live. To resonate the summit theme, participants are recommended to focus on the following elements which are: Zero Carbon Footprint

Zero Plastics Footprint

Future 3R "Reuse, Reduce, Recycle"

Sustainable Development



During this summit, various activities will be conducted. The main event will be presentation by the participants. Other activities that will also be conducted include Green Games and a talk regarding the theme by experts in the field of environmental education. Hopefully by the end of this summit, the youth can gain awareness and experiences on taking care of the environment.



Students: Amir Fikri Bin Abdull Khalil,
Muhammad Farhan Bin Roslan,
Mohamad Danial Bin Mohd Firdaus,
Izzat Zuhalee Bin Abd Hamid,
Nur Hanisah Binti Ismail,
Nur Alia Binti Mohd Meliki,
Teacher: Ms Ong Sy Ing
PERMATApintar™ National Gifted Centre, Malaysia

Recycling is reducing ecological footprint

The ecological footprint is a measure of human demand on the Earth's ecosystems . In our project we want to show you how lifestyle and consumption affect the amount of resources we use. To this end, we have checked the ecological footprint of the students in our school. Since statistically every student needs about 3.4 ha, we have undertaken the following actions to reduce footprint.



We have participated to the National Program "Design for Development" which helps us study technology to challenge poverty in developing countries. We found out what poor communities are doing to build on their skills and knowledge to produce sustainable and practical solutions - transforming their lives forever and protecting the environmental world around them. The next step was a workshop "3Rs: reduce, reuse, recycle" which was organized by our students during the School Open Day. A windmill generator, a water station, a potatoes clock, a dynamo torch, a solar oven and solar water heater were built by us. We have learnt about how renewable energy can help us reduce our footprint.



We have undertaken the following actions to reduce our consumption. We have organized a collection of second-hand books, toys and clothes we use each year to prepare Christmas packages for children from a local orphanage - we have partnered with the "Mam marzenie" ("I Have a Dream") foundation to collect toys and stationery and use them in workshops organized for children on an oncology ward.

Together with the municipal culture center "Południe" we have organized cleaning up of the forest combined with workshops for invited schools from

Katowice. During the workshop conducted by academics from the University of the Silesia we



tried to answer the following questions: How many planets would we need if everyone lived like you? What will be the fate of the garbage collected during our action? What can we do to reduce our ecological footprint? The project also presents the role of people in reclaiming the areas devastated by intensive human exploitation or activity of our school community which, within the Hydro-Zagadka divers' club every year cares about the condition of the



drinking water reservoirs in Szopienice-Borki nature and landscape complex.

We organized the action not only in the local communities but also in our school

and our homes, and we have changed our habits. We collect waste paper, batteries and mobile phones. We organized the Art Waste Contest, where students exhibited extraordinary artifacts mainly made from non-recyclable waste. We organized the school trips in a way which allowed us to reduce carbon emissions. As part of our project, we have prepared scout meeting about ecology for children at the age of 10-11. Children made eco-creatures from litter and did a recon about recycling and environment. They also role-played a show about ecological lifestyle and chalked some conservationist pictures.

We hope that thanks to our work at the school, every student while studying, eating a meal or shopping will think about the impact of these activities on our planet. The impact which is a kind of a footprint - the metaphor of the human impact on Earth. Can we reduce it?



Team from Poland: Zuzanna Jankowiak, Kamila Zdebik, Weronika Miecznikowska, Małgorzata Kocot, Bożena

Students: Małgorzata Kocot, Weronika Miecznikowska, Zuzanna Jankowiak, Kamila Zdebik
Teachers: Antoni Salamon, Bożena Kurzeja Szramek High School, Katowice, Poland

Urban Gardens: A Cultural Taste of Portugal

In the centre of Lisbon, near the biggest shopping mall in town, in a modern neighbourhood (which was actually a farm in the 18th century), we are faced with unique vegetable gardens. These are surrounded by growing urbanism, rented to the city council and used by the locals.

These gardens contribute towards an environmental sustainability of the urban areas in multiple levels:



1. Maintaining remaining ecosystems; 2. Contributing to an improved microclimate through the improvement of air quality by increasing the production of oxygen; 3.

Improving the quality of the soils with practises of organic correction and the utilization of appropriate species; 4. Using correctly subsoil water and upgrading water systems by increasing the permeability of soils; 5. Contributing to the supply of vegetables to the families of the urban centres; and 6. Valuing the landscape, environment and organization of unused areas (mostly degraded, which would have any occupation or purpose)

Within this context, we are developing this research



project, where we will follow the day-to-day life of these urban farmers, as well as experimenting, in our own vegetable garden (located in our school, where we produce aromatic herbs and some vegetables), the same sustainable techniques and processes.



The production and maintenance of the educational garden, in our school, is a privileged scenario for the environmental education and awareness we are seeking, as it is a place where we actually have the opportunity seed, take care and harvest the vegetables produced.

With this project, we are also getting closer to the rural experiences and heritage of our country, that we don't ever get the chance to observe in our urban lifestyle.

Farming and green spaces preservation activities allow the participants of this project to build environmental ethics and awareness. It also contributes to: 1, Bringing awareness

to the school community about *hands-on* farming systems; 2, Providing different learning activities; 3. Emphasising the importance of *fresh* food and the nutritional and economic advantages of biological agriculture. This way we expect to give you a taste of Lisbon urban gardens.

Students: João Gonçalves, Miguel Corista
Teacher: Teresa Reis, The Portuguese Team
Escola Secundária José Gomes Ferreira,
Lisbon, Portugal

Traditional Diets and/or Food Additives?



One of the great challenges of humanity in the sec . XXI is the production and preservation of food.

The scientific agriculture and food engineering today are a huge resource in the face of growing global needs for food.

Thus, our project addresses the discussions in the framework of the production of transgenic food versus organic foods, traditional diets and / or food additives.

To what extent, modern societies can produce healthy food without compromising the sustainability of the planet? How to produce enough food without depleting or destroying farmland?



The traditional Mediterranean diet (declared on 16 November 2010 Intangible Cultural Heritage of Humanity by UNESCO) rich in fish , fruit and vegetables, is an example of good balance ,

not only from the point of view of the ecological footprint which causes, as its healthy balance .

The Mediterranean diet also includes lifestyles passed down from generation to generation, techniques and traditional production practices of agriculture and fisheries, ways of preparing cooking and consumption of food , festivities , oral traditions and artistic expressions .



We hope through this work share a little of our food culture as well as discuss current challenges in the food plan.

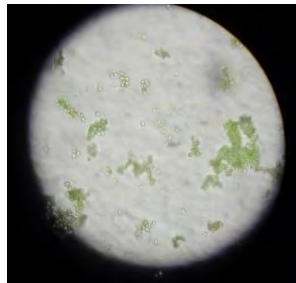
Student: Inês Miranda
Teacher: Teresa Reis
Lisbon, Portugal

Microalgae Reduce CO₂

How to use microalgae to reduce CO₂ emissions to the atmosphere? The industry and fossil fuel based thermoelectric plants are significant contributors to global carbon dioxide emissions (~37% of total CO₂ emissions worldwide).

Using *Spirulina maxima* and *Chlorella protothecoides* we hope to recycle the burned fossil fuels residues, mainly CO₂ and CO, as subtract for these photosynthetic microorganisms development, in order to produce biomass. This process reduces 80-90% of the emissions of greenhouse gases mentioned above. This biomass can be processed; from the lipid fraction (~11-15% total mass) it is possible to extract biodiesel and syngas, from the protein fraction (~60-65% total mass) we can produce cattle food or incinerate to produce energy.

The process is cyclic; therefore we can reuse the residues of



any given phase inwards to produce biomass. We would be inducing the carbon cycle in such an accelerated rate that it would be possible to be less dependent of fossil fuels, thus reducing CO₂ emissions to the atmosphere.

Student: Luís COUTINHO
Teacher: Teresa REIS
Lisbon, Portugal

Keeping the Traditions of Russian Cuisine

Goals: 1, To find how people of our region preserve traditions of Russian food in their families nowadays; and 2. To study the assortment of traditional food produced locally in our town



Topicality: For recent years many restaurants selling “fast food”, Asian, Caucasian and other types of cuisine have appeared in our town. In our families the traditions of Russian food are strong. But since 1990s they have been replaced by foreign dishes. That’s why we decided to study food which was popular in old Russia and is considered to be healthy now.

Tasks: 1. To know the most popular recipes of traditional Russian dishes in our town. 2. To find on the Internet the information about local factories which produce traditional Russian food.

3. To visit shops selling our local food. 4. To visit our Russian holiday Shrovetide on the main square in the town. 5. To prepare the most popular dishes of the local food in the families and taste them. 6. To learn the history of these dishes in our region.



What we learnt:

1. There are a lot of places which produce traditional food in our town. Their products are very popular among kirovites. 2. At Shrovetide festival we could see a rich assortment of our local food. Such festivals are held every year in all cities in Russia. They help to make traditional food more popular. 3. Everyone of our group cooked one popular Russian dish (pies, pelmeni, blini, studen), tasted them and learnt their history. 4. We found out that there are a lot of healthy ingredients in their recipes such as herbs, vegetables, meat, fish, fruits, wild berries and dairy products. 5. We found in our shops different food which



was popular from the ancient times till the middle of the 20th century, but they lost their popularity despite they are healthy (e.g. tolokno).

Conclusion: Traditions of Russian food in the families are still although there is much foreign food in the shops, restaurants, cafés and supermarkets. Also there are a lot of special small cafés which make only local food. Our factories produce a big amount of semi-finished food.
Students: Anna Esaulova,

Students: Egor Savintsev,
Margarita Borodina,
Vera Andreeva
Teacher: Marina Konopleva
Russia, Kirov school 28, group 1

Food Sovereignty



information on this problem.

This year our team is working on the problem of food sovereignty and food and we paid special attention to the questions, “Can we survive on the local products?” We learned a lot of

It’s difficult to imagine for us that there are whole countries where people starve. We elucidated how much the consumption of foodstuffs is per capita in Russia and in our Kirov region. We went to several retail trade networks and caterings and found out how many local products, Russian ones and import people buy. We counted at home what imported products, local products we buy and eat. Our group met the representative of the Regional Department of economy and business who informed us about the action “Buy Vyatskoye” (it means buy local products) and inspired us to talk to our families, pupils and people about local food and ecofriendly food. We participated in the week of healthy food at school.



In one of the biggest hypermarkets Karusel

Egor Savintsev, Margarita Borodina, Teacher of English Marina Konopleva, Anna Esaulova, Teacher of Chemistry Tatyana Lagunova, Vera Andreeva



Getting information about Krasnogorski store



Could Landskrona become more bicycle-friendly?

We understood that we can survive on our local food but our authorities should pay more attention to agriculture and give possibility to people to sell the redundant vegetables grown on their dachas and kitchen-gardens.

We came to the conclusion that we can survive on local food, and if people buy local they give the possibility for local agricultural companies to develop and organize more working places. But anyway we need those products which aren't grown in our area: coffee, tea, rice, olive oil and some fruit. And we have to import them.

Students: Ashikhmin Alexei,
Balushkin Konstantin,
Vereshchagin Maksim,
Karablinova Evgeniia,
Shibanova Kristina

Teacher: Tatiana Khodyreva
Russia, Kirov, school 28, Group 2

Film: Sustainable future in Landskrona



After having studied the course Sustainable Society, the five students decided to write synopsis and produce a film about the City of Landskrona and its way towards a

sustainable future. A lot of time and effort has been spent on contacting different actors in society such as the City Counsel, Environmental Department, Educational Department, the recycling station and different enterprises.

They have chosen certain "Symbols for sustainability" in the City, such as the electrical buses and the Chimney on the central heating plant, shaped as a knot, to symbolize No CO2 emissions in the future. When given the opportunity, they have given a presentation about their film-project to make companies interested in being part of it. Then they have interviewed those in charge of the environmental planning in the companies and departments. The main objective has been to focus on good examples and to summon those in this film in order to inspire others to do



Filming the unique electrical bus in Landskrona

the same or even better. The students have also given their own perspectives and ideas on how to move forward towards a more sustainable city in the future. Economic, Social and Ecological aspects have been taken into consideration.

When the film is completed, the different companies and departments will have free access to the film, they will share it on social media and the students have also agreed to anticipate and give a small presentation about this project for them at a meeting for environmental education within the companies. Their film will also be shown at the City Library and on the Public High School this coming fall.

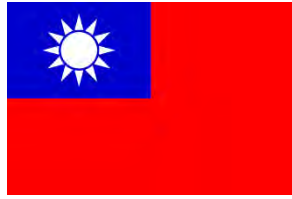
Students: Oscar Anderssoon,
Sofia Fristedt,
Heba Osman,
Sara Pjanic,
Gustav Sandholm
Teacher: Karin Warlin
School: Allvar Gullstrandgymnasiet
Landskrona, Sweden

Food Waste: Compost is a Link to the Future

打破剩食文化思維:惜食與堆肥

One billion people in the world are starving, and we are challenged with feeding an estimated nine billion people by 2050, yet one third of all food is wasted. In Taiwan, four methods are used to deal with food waste: feeding pigs, making compost, and sending to incinerators or landfills. If a higher percentage of food waste is composted, the use of chemical fertilizers and subsequent pollution can both be reduced.

In our school, we observed that its poor soil quality and drainage systems could not sustain a garden, and discovered students' bad consumption habits via surveys.



Vico, Max and Mark were turning

So we decided to combine food education with composting in four stages. Stage one will begin with an introduction to the complete food system and we will start making compost.

The second stage



Vico and Max were removing rocks for preparing the compost area.



We were tearing cardboard from a nearby pizza store apart for composting.

will be individual studies on soil. In stage three we will change our consumption habits and start applying our compost to the soil. For the last stage we will plan a mini mobile learning trip, organizing workshops at school, and completing our food cycle system with our garden.

Students: LIOU, Elaine 劉儀 CHOU, Mark 周皓哲
YU, Vico 游俠 YU, Max 游遠
Teacher: LIU, Kantine 劉芷耘
Humanity Primary and Junior High School, Yilan
宜蘭縣人文國民中小學
01 Taiwan 台灣

Duck Rice

稻鴨米

"Duck Rice" refers to an agricultural method which does not use chemicals. This method allows humans to live in peace with the environment, both animals and plants. To popularize this eco-friendly idea, we conducted research to help farmers and benefit the earth.



Do you know what this look like lettuce salad roll is? A: Rice seedling!!!!



The ducks are the best assistants of farmers!

Step1. Interview Mr. Chen, a farmer, to learn about agronomy.

Step2. Set up a "Duck Rice" page on Facebook with photos of agricultural activities.

Step3. Explain the workings and advantages of "Duck Rice" to our schoolmates. Also, have them finish worksheets we designed, and select the best ones.

Step4. Invite students to visit the farm to observe how “Duck Rice” works in reality.



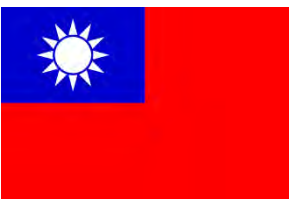
We are transplanting rice seedlings. It is fun!

Just ONE yellow rubber duck attracted tens of thousands of people’s attention in Taiwan. Can you imagine how much benefit that dozens of little cute ducks can bring to the farm? What an amazing effect “Duck Rice” brings! We hope more farmers can apply this method on their farm after we complete this project. And of course, let more people can buy this kind of rice.

Students: CHANG, Allan 張原碩
 CHANG, Mei-Ji (Mandy) 張媠媠
 Wang, Qiao-Ni (Nancy) 王巧倪
 Teacher: CHEN, Chiayin 陳佳吟
 Dong Guang Junior High School, Yilan
 宜蘭縣立東光國民中學
 02 Taiwan 台灣

Li-A-Ka the Iron Bull: Viewing the Life of Nei Cheng Through a Traditional Vehicle

鐵牛力阿卡: 在漫遊中看見內城的三生



Nei Cheng is our home, and here we have our very own and unique *Li-A-Ka*, the iron bull. At first it was a tiller, a farming tool. Then the ingenious father of our township chairman modified the

Li-A-Ka, and transformed it into a small vehicle that transported farm goods from our township to the capital



Caretakers of the Environment International - A global network of teachers, educators and students



Interview those with knowledge or experience of driving an iron bull.



Conduct biodiesel synthesis experiments

city. It stimulated our township’s economic growth and development. However, as time passed, more efficient means of transport were introduced. Now, the

former pride of our home carries tourists who want to experience the beautiful and simple rural life of Nei Cheng.

Li-A-Ka, the iron bull has an intimate bond with our economy, way of life, the environment, and ultimately sustainability. Upon closer inspection, we discovered that its engine is loud and produced exhaust like a diesel-driven engine, leaving room for environmental improvement. Thus, we acted to revitalize and improve the iron bull.

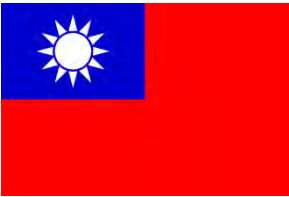
We replaced the combustion engine with an electric engine to reduce sound pollution. We also recorded its signature sound as to preserve the traditional atmosphere it provides, and replayed it from the improved model at an appropriate volume. Then, we recycled local restaurants’ waste cooking oil and produce into biodiesel for the engine, allowing us to lower our carbon footprint.

Lastly, we shared with our classmates what learned more about our home and what it has to offer. Through this, we become local tour guides, strengthened the community’s sense of identity, and preserved our cultural heritage. We gave back to Nei Cheng, the place we call home, and helped it live on.

Students: YOU, Qian Ru (Vivian) 游茜如
 YOU, Yu Xian (Wiz) 游彘賢
 YOU, Bo Xiu (Alex) 游博修 ZHANG, Xin Ci (Cindy) 張心慈
 Teachers: YOU, James 游正旭 LIN, Zhe Hao 林哲豪
 Nei Cheng Elementary and Junior High School, Yilan
 宜蘭縣立內城國民中小學
 03 Taiwan 台灣

Today's Consumers, Tomorrow's Providers: Organic Farming in Nei Cheng Elementary and Junior High School

今日的消費者、明日的生產者：校園有機耕作



Our agriculture has long depended on chemical pesticides, which helped us grow fresh-looking crops with minimal loss to pest damage and increase yield worldwide. However, despite awareness of the pesticides' detrimental effects on the environment, they are still widely used in fields, leading to devastating consequences.



Growing water spinach and amaranth, and casting potting mix

The Council of Agriculture in Taiwan has enforced a benchmark regulation called the Taiwan Good Agricultural Practice (TGAP) on our organic farmers and their produce. Although recent years the size of organic farming land and the market of organic products are increasing, our country has less than 1% of farming land is organic.

In our project, we will grow different plants with different methods in our campus. The project timeline is divided into two phases. Phase one of our work will compare growing Chinese cabbage and spring onions with four different planting methods (pesticide, netting, chili water and natural growth control group). In phase two, we will grow amaranth and water spinach, utilizing the findings from phase one.

Students: LIN, Yu Ting (Fanny) 林鈺庭
Gao, Jing (Angel) 高靜
LAI, Ji Zhu (Judy) 賴紀珠
GAOzi You (Yoyo) 高絜宥
Teachers: YOU, James 游正旭
LIN, Zhe Hao 林哲豪

Nei Cheng Elementary & Junior High School, Yilan
宜蘭縣立內城國民中小學
04 Taiwan 台灣



Growing Chinese cabbage on school grounds

Yilan Yuan Shan: Home of Fresh Water 宜蘭員山：水的故鄉

Water is precious to our well-being and the environment. In Nei Cheng, we are blessed with the freshest springs of the Lan Yang River, the Waterexpo nature reserve, and the nearby Shen Gou Water Park. In this project, we will uncover the vital role of water in the Waterexpo and Shen Gou Water Park nature reserves.



Listen to talks on ecology and water resources at Shen Gou Water Park

The Shen Gou Water Park, which includes a water purification plant, supplies over seventy thousand tons of water to those who live north of the Yi Lan River. The Shen Gou Water Park hosts a diversity of life and natural phenomena linked to water from a spring. It is the best place to learn about the importance of water to the environment.



Remove waterweeds from the ecology pond in the Shen Gou Water Park

Waterexpo is home to some of the best nature reserves in Nei Cheng - from the closed lake of Tai Yang Pi, untouched by human development, to the Nei Cheng Da Keng Valley where many crops are grown.



Conduct experiments showing the process of water purification in soil

There is even a natural purification pond that cleanses domestic wastewater. The Waterexpo hosts a variety of habitats and life, which showcases the relationship between water and life, and gives visitors a full taste of nature.

We like to share with everyone all the natural riches Nei Cheng has to offer, learn to appreciate our precious environment, and use this experience and knowledge to help protect our home.

Students: FANG, Wei Jun (Gina) 方維君
WU, Song Ci (Ivy) 吳頌慈 ZHONG, Ting Yuan (Tina) 鍾婷媛
CHEN, Yu Xuan (Sandy) 陳育瑄
Teachers: YOU, James 游正旭 LIN, Zhe Hao 林哲豪
Nei Cheng Elementary & Junior High School, Yilan
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Recover the Nature on our Campus 再現別有天，原生植物再次復生

This project examines factors causing the gradual decline or extinction of plants in Taiwan. Our goal is to recover those native species so that we can return variety and regionalism to the ecosystem in Yilan.



We integrated the concept of sustainable development into

our education. Students planted organic fruits and vegetables in the classroom, creating a natural environment in the class. Being on the fifth floor, the plants receive



We recover the Taiwanese native *Spiranthes sinensis* on campus.



Other classes started doing what we did. which makes their classroom much

enough sunshine and avoid pests. When doing this, we realized how difficult it can be for a seedling to become an adult plant, which underscores the importance of protecting our environment. Destruction caused by humans and the spread of ornamentals led to the singularization of species. Huey Deng High School is adjacent to a

mountain, and on campus there are pines, cypresses, cycads, and liverworts, which are significant bio-indicators. However, we noticed that those plants were disappearing. With an ambition to practice sustainable development, we expanded our actions to the whole campus through the introduction, domestication, and cultivation of indigenous species.

Starting from our campus, we want to undo the harm of human development and stimulate others' awareness of our natural environment. It is our goal to build an eco-friendly campus that reaches beyond its walls and fences.

Students: ZHENG, Hui-Wen (Popo) 鄭惠文
HUANG, Ling-Kai (Rebecca) 黃鈴凱
LIY, Xiang-Ru (Sarah) 劉祥茹
WENG, Pin-Hsuan (Ricci) 翁品暄
Teachers: LIN, Chun-Chieh (Vincent) 林羣傑
CHEN, Kuan-Chen (Morris) 陳冠丞
Huey Deng High School, Yilan
宜蘭縣私立慧燈中學
06 Taiwan 台灣

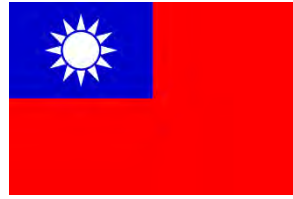


After a period of time, we harvest the vegetables we planted, and everyone wears a big smile

Intelligence of Farmer-Rice Duck Farming

農民的智慧-稻鴨米

Since ages past, people in Yilan have worked in agriculture, and the main food is rice, as in most of Asia. Lots of genetically modified foods appeared as a result of the food crisis, but people have also started to value organic agriculture. That's the reason why we, five students inspired by their hometown of Yilan, chose the project Rice Duck Farming.



We were transplanting rice seedlings in the field



We made duck rice products and sale them in a traditional market

To do the project, we visited a local farmer, Uncle Chen, by helping him in the rice paddies and learning best practices. We not only cultivated the paddies but also made products with the organic rice from Uncle Chen. With increasing awareness and desire for food safety, organic products' market is expanding day by day. People will choose organic products for health despite their higher prices. This gave us the idea of using the organic rice to make products such as Mwaji (麻糬), rice cookies, and rice cereal.



The knowledgeable farmer Uncle Chen and his duck assistants

We will sell the products we make and introduce them to customers at the farmer's market. Through this, we can promote organic agriculture and tell customers that chemical fertilizers not only pollute our environment but are also harmful to our health. Those who buy our products will also get our recipe for rice cereal and receive an introduction to Rice Duck Farming. This is a good way for people to be closer with nature and better acquaint themselves with organic agriculture.

We expect that after these months of work, we will know more about organic agriculture and help people notice the importance of the environment. We are honored that our school has been chosen to host this conference and participate in this meaningful international exchange. In addition to increasing environmental awareness, making friends with students from different countries is a wonderful experience for us high school students!

Students: WU, Yu-Ze (Maggie) 吳妤之

HUANG, Chen-Hsuan (Ivy) 黃晨瑄

LU, Ya-Jou (Angela) 盧亞柔

WU, Yu-wen (Kevin) 吳友文

HUANG, Guan-Jie (Eric) 黃冠傑

Teachers: CHEN, Wen-Nan (Joshua) 陳文楠

CHEN, Kuan-Cheng (Morris) 陳冠丞

Huey Deng Senior High School, Yilan

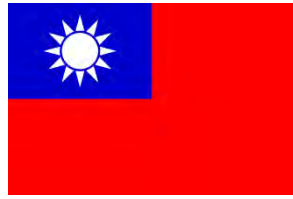
宜蘭縣私立慧燈中學

07 Taiwan 台灣

The Miracle of Recycling

「自援」奇蹟-回收創新

Our project is to investigate the recycling practice at Huey Deng High School in Yilan and to change recyclable item into handicrafts. Also, we want to let more students know where recyclable item go and how important recycling is in our daily lives.



We divide our project into roughly three parts. First, we collected information about recycling at Huey Deng. Then, we wrote an essay about the school's recycling by using the data above. Finally, we tried to find out what we could do with these recyclable items.



We visited a local recycle company

In December 2013, we visited the Guofeng Recycling Company which is the main recycling contractor of Huey Deng, and we also had an interview with the staff to get some information about their company. Unfortunately, we did not acquire anything useful during this interview, but we did have a really nice experience to see with our own eyes how this recycling is compressed by magnetic crane and tin compressor.



We made these products with recycled materials

In order to know more about the students' views about recycling, we gave out the questionnaire to them and did a statistic. Surprisingly, we found that most of the students agree with recycling at school even if they weren't



A nice Hat!

forced, and they gave us some advice as well. Using all of the information that we searched and collected, we made a paper and hoped that we could submit it to our school to help them improve our school's recycling.

After finishing the research, we started to make an environmental hat by using Tetra Pak and that is only one example of what we made. We also thought of some other handicrafts such as windmills made from plastic bottles and decorations made from other recyclable items. However, there are some problems we have to solve. For example, the hat that we made used hemp ropes or plastic ropes. Maybe we can use some other ropes which are more eco-friendly, but what materials can we use? Also, what else can we make using recyclable items? We hope to discuss these problems with other students during the CEI conference.

Students: PAN, Yi-jie (Jessie) 潘怡潔

LI, Liang-Xian (Olivia) 李亮嫻

SU, Yu-Ting 蘇瑜婷

CHEN, Yi-Lun (Kirt) 陳羿綸

Teachers: CHEN, Kuan-Cheng (Morris) 陳冠丞

TSAI, Tzu-Hsiang (Lawrence) 蔡子祥

Huey-Deng High School, Yilan

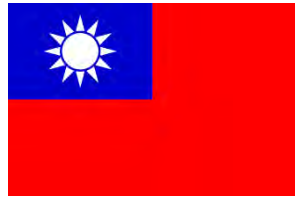
宜蘭縣私立慧燈中學

08 Taiwan 台灣

The Influence of Biological Pesticides and Chemical Pesticides on Vegetables

農藥藥不藥?

The overuse of pesticides has made pests resistant, which causes the blight to be more serious. Our study aims to observe the difference between biological and chemical pesticides via growing Chinese cabbages.



Considered factors include: degree of pesticide-resistance, weight of crops, remaining pesticide, PH of the soil, and price of pesticides. We also conducted a questionnaire survey to know how vegetables planted in the homes of our school's students grow, their use of pesticides, their growth phases, and the frequency and time of pesticide spraying. We will also grow Chinese cabbages ourselves to compare biological and chemical pesticides. An interview with the wife of the chemical pesticide store's owner will be carried out so that the way pesticides are used and the trend of using them will be investigated.

Students: LIN, Yi-Ewei (Ada) 林依薇
LIANG, Chen-Ling (Daphne) 梁珍菱
CHEN, Yu-Wen (Sara) 陳昱文
SU, Hsuan-Hui (Jenny) 蘇瑄惠

Teachers: YEH, Chih-Ling 葉志麟
CHEN, Jian-Liang 林建良

National Shan-Hua Senior High School, Tainan
台南國立善化高中
09 Taiwan 台灣

New Food Style – Wild Vegetables

創造飲食新形態: 野菜

We come from Yongan Community in Luye, Taitung, which placed in the top ten Taiwanese fish-farming communities in 2007. The community is active in environmental and sustainable development work.

The government and some non-government organizations have set regulations and tests for pesticide residues and organic vegetables to give us safe produce. However, recently many food safety problems have been reported. In our opinion, growing vegetables ourselves could solve this problem because we can ensure that they are free from pesticides or chemical fertilizers.

On weekends, we planted wild vegetables in the "Hope Field" at Yongan Community. We recorded the growth of wild vegetables, practiced how to grow them well, studied every step of their growth, and planted some at school, too. After each harvest, we shared our achievements at the 2626 market.



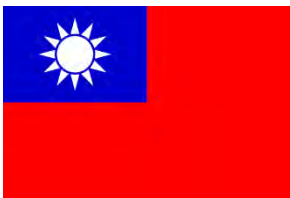
We designed a questionnaire and had conversations with other people growing wild vegetables. We wanted to share in their experiences and thoughts about growing wild vegetables. This helped to refine our project.



We wanted our own families to have access to safe vegetables, and help popularize wild vegetables by spreading knowledge about them. We also wanted to share wild vegetables with those who come to the 2626 market. In addition, we want to share our results and knowledge of wild vegetables at CEI2014 with people from other countries. We hope you can find your countries' wild vegetables, and plant them as we have in your homes. We want to help people from other countries plant and enjoy safe vegetables without pesticides.

Students: Bill 邱浩暉 Zoe 廖婕妤 Lily 黃婕
Jane 蕭光妤 Charles 楊承翰
Teachers: SHIH, Ingrid 施盈聰 WANG, Nick 王思皓
Luye Junior High School, Luye, Taitung
台東鹿野國中
10 Taiwan 台灣

Our Family, Our Future 我們的家 我們的未來



Tian-Ren Climbing House is our second home. We first joined the camp a few years ago and are now team leaders. We let children who attend the camp experience rural life in three areas ---- life experience education, eco-environmental education, survival education and training.

Life experience education: We teach children sustainable and environmentally friendly practices, such as growing their own vegetables. We use food waste to make fertilizer which then supplies nutrients to the soil. To reduce CO2 emissions, we gather and use wood to heat water for bathing; we bike instead of driving, and we do not have air-conditioners.



Harvest corns in our garden

Eco-environmental education: We use Gunter Pauli's stories to understand environmental issues and use songs/drama skits to teach children about them. We also

watch films about climate change, such as "An Inconvenient Truth", "+2°C" etc. With these methods, children learn about the earth and how to protect it.

Survival education and training: Because of global warming, we want to train people to survive in this extreme climate. We teach children wilderness survival skills, identification of edible native plants, life-saving rope/knots, and life-saving abseiling & emergency sling skills.



Climbing Wall - It is a side wall of Tian-Ren Climbing House



Transplanting rice seedlings in the community organic farm

After learning these three things, children will know more about sustainable life practices, climate change, and survival skills. They can then teach their children in the future.

Students: Linda (Raccoon) 徐蔓謙
Rock 汪永嶸 Grass 謝佳卿
Carol (Guava) 黃虹淇
Amigo (Sunny) 周子晴
Teachers: CAI, Hue-Hua(Bunny) 蔡雪花
YANG, Jade 楊怡潔
Tian-Ren Climbing House, Hsin-Chu 新竹天人岩屋
11 Taiwan 台灣

Hakka People, Hakka Life

客家人 客家生活

It is dinner time. On the table are fried pickled mustard, pickled mustard soup, and braised pork with pickled mustard. Have you tasted any of these Hakka dishes? They have one thing in common—pickled mustard, a traditional ingredient in Hakka life.

This embankment is a construction of Hakka people's irrigation system. To cope with adversities arising from migration and life on barren lands, the Hakka (literally people migrating as guests) people usually preserve foodstuffs through dehydration or pickling for future consumption. Large amounts of salt are added to preserve food for storage, which also replenishes the salt lost through perspiration during hard work on farms. Various vegetables are pickled, of which mustard is a famous and frequently used material.



The vegetable was planted organically.



We studied how traditional Hakka's food is made by asking the elderly



Depending on the recipe, three forms of pickled mustard are created, namely suancai, fucai, and meigancai, each with a unique flavor. Due to this tradition, the Hakka people put much emphasis on farming and natural resources to ensure their harvest. Irrigation methods such as embankments and waterwheels were used in farming to increase production on infertile lands. Stone walls are built to prevent water leakage in rice paddies. Life can be tough but the Hakka people never surrender. All these efforts show their determination and wisdom to adapt to nature.

To love our land, we walk through the fields to experience and observe its cultivation. Treading in the mud or holding the soil to smell its natural fragrance, everyone will be exposed to the fresh air on this land of the Hakka people. We not merely cherish this awareness in our Hakka life, but also advocate these concepts to others.

Students: LIU, Zi-Lin(Edna) 劉子琳
DENG, Siao-Rong (Nicole) 鄧筱蓉
ZHONG, Zhi-Jie(Jessy) 鍾志杰

TSAI, Min-Xuan(Xavier) 蔡明亘 LO, In (Lawrence) 羅寅
Teachers: LAI, Lai-Chia 賴來甲 CHIANG, Chen-Ta 江正達
Guan Xi Senior High School 新竹關西高中
12 Taiwan 台灣

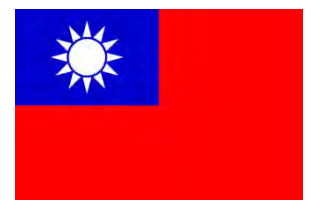
Friendly to the Land- Natural Farming

友善大地 自然農法

For a long time, most farmers felt compelled to over use chemical fertilizers and insecticides to secure their harvest. As a result, the land was hurt severely. Through studies, our team believes that natural agriculture is a better method to produce food than conventional farming and we practice natural farming in the project. We cultivated hot pepper, roselle, cabbage and okra with seeds.

First, we learned plowing, ditching, seeding, watering, and observing, managing the garden weekly. We failed on roselle; hot peppers, okras did not grow well; cabbages were almost eaten by worms. So we tried to plant leaf lettuce that as it is strong enough to resist pests. Through experiments of growing different crops, we learned the skills of natural agriculture and understood the rules of nature.

From research and practice



We are glad to harvest our natural farming vegetables

in the field, we realized that not only plants but also people are part of nature. We should cherish and love our earth through action.



We plowed ditched and seeded in the field

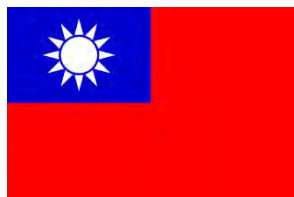


We worked hard and gradually the vegetables grew up well

Students: CHEN, HSU, Sin-Ya 徐新雅
LIANG, Wei-Zhi 梁惟智 Li-Yang(Leon) 陳立揚
CHIANG, Yu-Han 蔣聿涵
Teacher: CHANG, Ming-Sung(David) 張明松
The Society of Wilderness (SOW)
Kaohsiung Eagle Team 高雄荒野翔鷹團
13 Taiwan 台灣

Healing Garden 療癒花園

Stella Maris Ursuline High School was founded in 1959 by the Sisters of the Roman Union of the Order of Saint Ursula (established in 1535), at the invitation of Archbishop Verineux of Hualien diocese and the local government. Our school's environmental education is comprised of diverse courses from formal curriculum to extracurricular activities. The Healing Garden is a successful example.



Based on the school motto 'Revere The Divine and Love The Human', the Healing Garden provides an open area for students to learn to interact with other living beings. This connection with the cycle of life and the universe is nurtured through ecology and life education courses. Under the principle of going green and beautifying the campus, this Garden provides teachers and students with different functions including teaching and learning about ecology and

life, experiencing nature, and releasing pressure. Also, organizations can hold nature experience activities and relevant lectures here; children, adults, elders, and people with diverse needs are also welcome to use the facilities in this accessible environment. Last but not least, going with

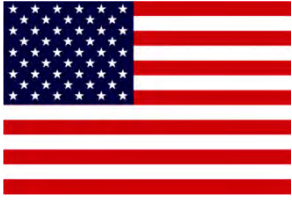


The Live Green House and Healing Garden

the trend "Love the Earth and Fight Global Warming", students can carry out a sustainable and healthy lifestyle by making creative recycled DIY art. With this, students can understand the true meaning of energy conservation and carbon reduction, and enhance environmental awareness.

Students: CHIU, Yi Ting 邱怡亭 CHANG, Fu-Kai 張復凱
CHEN, Wei-Jie 陳暉傑 YANG, Cheng Jyun 楊程鈞
Teachers: CHEN, Tai-Yue 陳泰岳 HSU, Shang-Ju 徐尚如
Stella Maris Ursuline High School, Hualien County
花蓮私立海星高中
14 Taiwan 台灣

Friendly Diets



Greetings from the windy city!
For the past couple months our group has been focusing on "food sovereignty and eco-friendly diets". We are focusing not only on the effect the food

we eat has on the environment, but our own bodies. We focused on four different types of diets.

The first was "typical American diet". This diet involves eating meat, vegetables, etc. and having fast food (McDonalds, Wendy's, Burger King...) at least three times a month. The second diet is vegetarianism. This diet involves People who do not eat beef, pork, poultry, fish, shellfish or animal flesh of any



kind, but do eat eggs and dairy products. The third is a pescatarian who doesn't eat any type of meat or animal flesh with the exception of fish. The last diet is organic vegetarian. This diet consists of eating only fresh and naturally grown vegetables legumes, and dairy product. Each person in our group chose a diet and kept a food diary of what they ate and



any health changes.

After testing all of the diets we found ways to not only make ourselves feel healthier but to make the world more



green one meal at a time. We found not only green meals would could eat, but different snacks that were ecofriendly and enjoyable. We met with a family run local farm and



asked them what they thought was an ecofriendly diet. We also asked them what they do in the farm to stay green. We were very intrigued by all information we learned and can't wait to share it with many of you at the conference. Next we shall meet with a dietitian to ask her the same questions yet from a doctor's point of view... Stay tuned for more!

Students: Nadia Young, Reena Bhatia, Alisha Daniels, and Zainub Muhammed
Coach: Wayne Schimpff
Neuqua Valley High School/Lisle High School
Chicago, USA

Youth City Farm

The Youth Farm is a local 2 acre project initiated by the Marion-Polk Food share - a not-for-profit organization and regional food bank for the mid-Willamette Valley of Oregon that provides food to those in need - with the goal of providing wholesome, nutritious food to those who don't usually have access to it. We chose the Youth Farm to serve as our project because it ties into this year's CEI's focus of: "Nature, Culture & Future".

The Youth Farm is a sustainable farm where the materials are ecologically friendly - including natural fertilizers and organic farming practices - but lacking of the machines that conventional farms often use. The Youth Farm also uses many sustainable practices such as cover cropping, crop rotation, and companion planting to name a few. This all adds up to a better, more sustainable future for the world through the education of the younger generations on how

to sustainably produce food within an urban environment through the teaching and practice of a flexible and acceptable work ethic. We are the next generation of farmers, and we are learning how to plan, manage and market – farming as a business - as well as grow vegetables and fruits.



Kyle Batsky, Tim Daly, Ryan Thompson, Tony Currier, Mikhail Grigoryev, Dommenick Love, Phoenix Cordova, Jared Hibbard-Swanson, Farm Coordinator, Haleigh Patten-Trujillo, Ana Garibay-Mares

It is estimated that one in five children in the Marion and Polk counties have been provided one of their food boxes at least once while growing up. Everything that is distributed to the community was originally donated to the food share. While dried, preserved foods are shelf stable, they are often non-nutritious foods which can be easily donated, stored and shipped. Fresh vegetables and fruits that have a short shelf life are harder to distribute, but offer some of the best nutritional value.

Work on the farm this season started early, in December, when we covered planting beds in below freezing temperatures. In February, we did things like starting seeds for transplants for later in the season, planning and planting the spring time vegetables and starting to recruit for the Community Supported Agriculture (CSA) program this year. CSA happens before the harvest season begins. Members of



the community subscribe to the farm through an upfront payment to the farm. Over ten weeks in the peak harvest season, the subscribers then receive a weekly basket. That subscription money is used for things such as buying seeds, equipment, and market space. A large portion of the produce grown on the farm is put towards the CSA program. The rest is then put up for sale at our booth at the local Saturday Market. Of what isn't sold, some is placed for consignment at "Mom and Pop" stores within urban food deserts (where it is more than a mile to a supermarket that has fresh produce), and the balance is donated to the Marion-Polk Food Share.



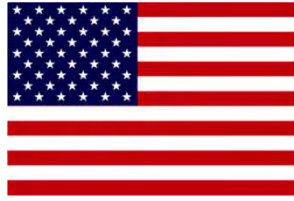
By the end of the season, each of the Youth Farmers, who are Oregon State University Extension Service 4-H members, will have invested around 250 hours in the Youth Farm, after also completing about 100 hours with the Youth Enviro Squad service learning and youth mentoring program. We are each receiving cash incentives based on a learning rubric, which will cover about half of our airfare to the CEI conference. The Youth Farm is the first USA affiliate to the European Federation of City Farms. Please view our video at: <http://youtu.be/qJaRPHqqG2M>



Students: Ana Garibay-Mares, Dommenick Love and Haleigh Patten-Trujillo
Instructor & Coach: Jared Hibbard-Swanson, Dan Hoynacki
Early College High School, Salem, Oregon
Oregon Chapter, Caretakers USA

Raised Gardening Beds for Senior Citizens

Welcome to central Oregon! We live in a geographically unique and diverse place where the high desert meets the Cascade Mountains, right in the heart of Oregon. Outdoor recreation and healthy lifestyles are prevailing reasons people come to vacation and live in this beautiful, resource abundant region. Volcanic mountains, rivers, forests, and



desert make up the landscape we call home. People also find Oregon a great place to retire and live out their golden years in a low humidity climate.

The central Oregon delegation has partnered with the Brookside Place assisted living facility to design, build, and install ADA compliant

raised garden beds so the residents have a place to garden and grow their own vegetables. Due to our short growing season and marginalized soils, growing vegetables can be a



particular challenge here. Building raised beds will not only allow greater universal access for residents to participate in gardening but will also provide a better environment in which to grow and harvest vegetables.

Other partners include an elementary classroom of students and a high school construction and manufacturing class along with their teacher, all from the Redmond School District, Parr Lumber (retail lumber yard), and a landscape designer.

Our project fits into the conference theme, Nature, Future, and Culture in a multiple ways. Gardening is about growth and connection to the environment, much like nature and the natural world. Ability to extract nutrients from the soil and water are two factors of survival that gardening has in common with nature. Gardening has long been part of the American culture dating back to colonial times. Gardening brings families and communities together and creates a template for sustainable living, food sovereignty, and a healthier future. By connecting senior citizens with students in local schools we bridge generations and will create opportunities for both seniors and students to learn from one another while participating in building a more sustainable future.

We hope to sustain this project by using this model for other schools and senior and assisted living facilities to keep elders actively engaged in gardening.

Students: Emily Ausman and Donte Smith
Teacher: Mark Keel
Edwin Brown Education Center, Redmond, Oregon
Sisters High School, Sisters, Oregon



Short-Film Contest Winners Highlight Shoreline Erosion, Saving Water

Age group 1 – Shoreline Erosion - The importance of the Douro River in the dynamics of the coast: The case of coastal erosion between Miramar and Cortegaça, Oporto, Portugal. Is the theme of this winning short film contest of age group 1, held by ASPEA CEI/Portugal.



Nuno Assis from *Rodrigues de Freitas Basic and Secondary School, Portugal* is the Winner of the contest.

This project aims to present the various factors that lead to this phenomenon occurring, including factors arising from anthropocentric causes, storms, rising sea level, currents parallel to the coast, among others.

Also intends to present the result of this imbalance is reflected in the sediment balance and intensity of erosion leading to migration of the shoreline inland.

Age group 2 - The project title "Saving Water"

This project was developed by Vitor Cunha, Gonçalo Tenente and Pedro Silva, students at Eprami, Professional School of Alto Minho Interior in Paredes de Coura, along with Technical Area teacher Luís Faria and the Integration Area teacher Isabel Policarpo. The 3 minute video helps the viewer better understands the importance of water in human life. The main motivation for this project was the group to understand that the school was wasting water and some help was needed to change the mindset of students, faculty and staff. Initially, the group did an audit in the school to write down all the waste of water, followed by a research of how to solve the problems and consequently planning the video in order to carry out the shooting. The message we want to convey with the video is raise awareness in the community to save water, as well as its importance in today's world.



In this work, the students were still in the early stage of the course, but eager to explore new technologies in video and



audio. For this reason the group grew up knowing to overcome the difficulties and developing teamwork. The choice of this theme was a very important issue because despite the geographical area of Paredes de Coura which is abundant in water, we must do the most to preserve this natural resource, so that future generations do not feel the lack of this precious asset, which is the origin and basic element of life on Earth.

Ecological Footprints on the Beach

This project is about raising awareness about the impacts of waste. A beach of Luanda is the starting point for the project. People often come here to enjoy the place but because there is a lot of rubbish it becomes very unpleasant. There is also a community of fishermen who use the beach for their activities.



In this beach I have witnessed the selling of fish. Often, the fishermen clean the fish before they sell it. But in doing this cleaning they also leave these leftovers without concern for health and waste issues.

The goals of the project are:

- to promote the cleaning of the beach
- to raise awareness within the fishermen community about keeping it clean
- call their attention to the possibilities of diseases and to develop a sense of responsibility within the environment
- raise awareness about the preservation of traditional knowledge.

This traditional knowledge is ancestral and points clues to a better and cleaner way of keeping sustainable development and creating new solutions for the ecological problems that we face today.

I found it interesting to see that when these fishermen are cleaning and preparing the cuttlefish and octopus before selling, they don't use any tools to do this; they use their hands and sand to effectively clean it and get the ink out.

The process and the project will be documented and shared in a blog so people can also have access to these information and keep updated.

Student: Frederico Avelino Correia Ferreira

Teacher: Clara Andrade

ASPEA Portugal

How Does Sustainable Development Connect to CEI?

The term 'sustainable development' was first used more than twenty years ago by the United Nations General Assembly. At the 1992 Rio de Janeiro Earth Summit it was adopted as a commentary concerning the further development of humanity. At the same time, the Agenda 21 document was drafted. In one of its paragraphs all the countries encompassed by the agreement were obligated to "promote education, shape awareness and training within sustainable development and environmental protection." The UN announcement of an worldwide Decade of Education for Sustainable Development (DESD) for 2005-2014 was experienced as critical. Everything should be done to slow down the further increase of environmental degradation. The best results were considered to be achieved by proper education, thereby sensitizing also the younger generation to environmental problems.

But, what is sustainable development all about? Three perspectives are recognized. Firstly, it is about the ecology or natural capital - the planet and its natural resources. Secondly, the economy or manufactured capital - the stock of humanity's physical infrastructure, and finally, the social or cultural and human capital - the stock of humanity's knowledge and technology, and social, cultural and economic formations, arrangements and mechanisms. What is happening next when the current UN DESD has reached its end?

To sum up, the UN DESD reflections and proposals from all the world will be forwarded to the United Nations World Conference on Education for Sustainable Development (ESD) which will convene governments from around the world at Nagoya, Japan in November 2014. It is vital, while we are taking next step and enter the upcoming decade, to strengthen ESD beyond the end of the UN DESD (2005-2014), namely "The Global Action Programme (GAP) on Education for Sustainable Development (ESD)" - not the least focusing leadership in a changing world and the role of education towards sustainability in combination with the new focus on action on the ground. Which means that we also as individuals (professional teachers and students), not only in our daily lives, have to continue to do as much as we can in order to slow down the increase of the greenhouse effect and to stop further environmental degradation.

Progress seems to be a desire in all nations of the world. No sensible human being would intentionally try to curb it. However dynamic global development also results in negative changes to the natural environment, the effects of which may prove disastrous for the entire planet in the foreseeable future. Returning to a pre-industrial state and expecting nature to deal with repairing the damage by itself is unrealistic.

What remains is to work towards sustainable development through environmental and sustainability education. Thereby, I would suggest development of the concept of Global Teaching for Sustainable Development (GTSD) for example through networking via the CEI.

Birgitta Nordén
President CEI
Chair for the Swedish CEI Branch

Food and Faith

Dr. Nancy Victorin-Vangerud's Hamline University students from her Christian Ethics: Food and Faith class spread compost and plant the "donation plot" of the Green Spirit Garden in the Hamline-Midway neighborhood of St. Paul, Minnesota.

The garden is pie-shaped, each section with different vegetables, which will be donated to our local food shelf over the summer.



Pictured are Karina Hunt, Nancy Victorin-Vangerud, Katie Stever, Kyrie Carlson, and Denzell Lucas.

Preservation through Persuasion

A Workshop in Three Layers by Samuel Thelaus



Have you ever wondered why they hand out free samples at the mall?
How come telephone salesmen are so successful even though people generally don't like them?
Who really put the bomp in the bomp bah bomp bah bomp?
How do we make people to take action against climate change?

This workshop has the answers to all of your questions!

The workshop named Preservation through Persuasion will teach participants how to use psychological facts in order to convince their audience. Participants will get a brief introduction to the field of compliance, which explains why we say yes. In order to change this world for the better we all have to help. Preservation through Persuasion tells you exactly how to make others help fight global warming!

Communicating Climate Change through Social Media

A Workshop led by Trine Pejstrup and the Danish team

This workshop will deal with the complexity of communicating climate change by using the social media. We will present two different interactive social media platforms, and discuss how they respectively can contribute to facilitating social change in an environmental perspective. The participants will also be asked to do a small written assignment for one of the platforms, and their contribution and choices will later be discussed.

Trine's blog: One Globe - the sharing of environmental global knowledge <http://www.1-globe.blogspot.dk/>

SEE the Link – Biodiversity and Our World

A Workshop led by Stien Matakupan, CEI Indonesia

This workshop will enhance participants' ability to:

1. Describe the richness of the world's biodiversity
2. Identify the link between nature, economy, social and well-being in certain world biodiversity problem
3. Strengthen individual and or group commitment to actively contribute in biodiversity preservation program run in their local area.

An Edible Landscaping Legislative Bill

On February 4, 2014, Talia Abrams – a 15 year old who is home schooled in Kauai (known as the Garden Island) in the state of Hawaii- had a very exciting phone call. Her bill to plant edible landscapes in public areas for public use- was going to be heard by the Water and Land Committee of the Hawaii State Legislature.

She had written that bill the previous year, after she heard a very sad story on the radio. It was about a family that was so poor they only had \$12 a day for food so they had to eat in fast food restaurants. "I thought it was horrible, and something had to be done," said Talia. "It inspired me to do something about providing healthy food that everyone can afford."

Fortunately, Talia had an assignment to look up her state representative and write a bill she would present at the Teen Pact legislative camp which she was going to attend in Hawaii's state capital. Talia's bill stated the idea that people in the community should make plans for edible landscaping in parks and public places so poor people can pick nutritious fruit from trees such as mango, lemon or orange, and gather vegetables such as kale and tomatoes.

Talia was very nervous when she met her state representative Derek Kawakami because she expected him to dismiss her idea with a "Nice try, kid." She was really surprised when he told her he was inspired that she was interested in helping people and it was a great bill that he wanted to present during next year's legislative session.

A year later, the night before her bill would be discussed in the Water and Land Committee, she was asked to submit a testimony. She asked her friend and mentor, Felicia Alongi Cowden who led the Akamai home schooling program, for help. Together, they sent testimony – the plan for edible landscaping in public places and the reasons why House Bill 2177 should be supported- to the committee. Then they sent emails and messages on Facebook asking everyone they could think of to send their testimony.

On February 5 2014, the Water and Land Committee passed Talia's bill with an amendment that Talia really likes. Instead of saying, "Here is the money. Just go ahead and plant, the amendment wants someone to educate people so they learn more about plants and how to make the bill a success.

The bill must also pass the finance committee before it can become law. In the meantime, Talia is happy to begin a pilot project in Kilauea, near her home. "I really don't know what will happen," she says. In the meantime, she is designing plantings, and wondering if she wants to study politics in college.

The end.... But what a beginning!

Isabel S. Abrams, Caretakers USA, Co -Founder, CEI
Full disclosure: Talia is my grandchild.

The testimony of Federica Brognara (Italy)

My name is Federica Rekees and I am a student of Italian Turin Polytechnic. In October I will finish my master's degree in Industrial production Engineering and technological innovation. During the five-year course, where I had the opportunity to study in depth the industrial production sector, I realized the importance of strengthening the relationship between economics, politics and the environment.



Industry, as we know, is one of the largest sources of income, and nobody wants to give it up because it creates many jobs. It is therefore essential to follow the path towards a sustainable development: *the development that meets the needs of the present generations without compromising the ability of future generations to meet their own needs.*

But how can we raise awareness in this regard? - Through environmental education. And this is the reason that brought me to Aveiro, to collaborate with ASPEA in the Ecological Farm of Moita (QEM).

More specifically, I have the objective to demonstrate that renewable energy may be our only source of energy, rather than what oil companies want us to believe.

At QEM we are working on the project "Renewable energy Educational Park", which aims to explain to adults and children how solar energy, wind energy, hydropower and biomass energy work. The Park will consist of a solar distiller, a parabolic solar oven, a community solar oven, a lunar refrigerator, a biomass shower, a solar thermal Panel, a solar car and a wind turbine.

We also want to build new facilities for environmental education activities and provide energy to QEM through renewable sources. There's a lot of work to do, and most of it is done by volunteers and interns like me, that's why I want to emphasize the goodwill, availability, and the good hearts of people who work with me on the Ecological Farm.

The PROMORIVER Project

The PROMORIVER project is an international project, developed and coordinated by ASPEA and sponsored by the European Union Lifelong Learning Program. It aims to promote employment and local development through the sustainable use of rivers. This project includes 5 European countries in the partnership: Portugal, Italy, Greece, the Czech Republic and Turkey. It will give trainers and trainees the opportunity to obtain first-hand experience of what has been done in various European countries on the theme of rivers, and allow them the opportunity to reflect on training, social values and the effectiveness of working in a multicultural context. The project was started in September 2013. The first meeting was held in Porto from 20th to 23rd of November 2013 where the partners agreed on the requirements from each of the partners, including the organization of activities connected to rivers and the collecting of case studies.



The case studies aim to showcase events and activities that promote sustainability and the use of rivers at a local level. The Porto meeting ended with the first PROMORIVER activity, which consisted in tree planting on the banks of the Tinto River so as to improve riverine fauna, displaying an example of good-practice of river restoration. The partners greatly enjoyed their participation in the event, where over 100 trees were planted.

The second meeting was in Greece, from the 2nd to the 6th



of May, organised by the NGO Varosi Edessa. Beyond evaluating the progress of the project, the activities performed during this meeting included an art and

photography exhibition with the theme “Rivers – part of our life”. The PromoRiver project will continue until July 2015, and more activities are planned. These included a clean-up of the Trancão River and the creation of brochures that will help youngsters in the development of activities that are connected to the river.

Volunteering at ASPEA - The testimony of Antonio Vidal – a volunteer at Biological Farm of Moita – QEM



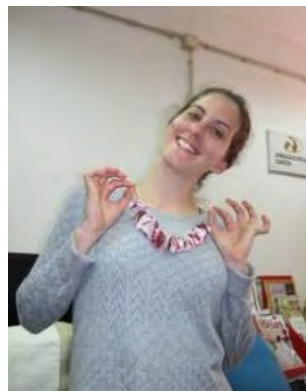
I first heard of QEM was when I was fighting the weeds at Bussaco National Woodland s.

I was taken by the description of the objectives, the proximity and the novelty, so I became a volunteer, without having the slightest idea of what it really was.

The reality largely exceeded expectations. I didn't expect such an idyllic scenario or a group of people so enthusiastic and friendly as the ones I found. The presence of large trees, preserved vegetation zones and of running water make me feel in privileged contact with nature, as in the ancient public gardens. But, unlike these, at QEM I'm not limited to look. There are always bold and innovative projects and ongoing activities are fun and captivating. To help make reality what you knew from the books, I learned a lot about what I thought I knew. And it's hard to find a less interesting activity or a less exciting project. I do volunteer work at QEM because it is the most pleasant way of celebrating life!

Leonardo da Vinci internship – The testimony of Laura González (Spain)

I arrived at the doorstep of ASPEA on 6 January. I was very nervous, but at the same time I was happy because it's been a long time since I wanted to start the Leonardo da Vinci internship there. The reception was hard to improve: the presentation of the colleagues, of the space, and the activities of ASPEA along with a hot mug of tea, because the winter was very cold in Lisbon this year. From the beginning I felt I had freedom to propose activities and give suggestions in relation to the job. Already in the first



few weeks I had my own designated functions and I felt perfectly integrated into the work. In addition, the workspace is in a beautiful place. The Monsanto forest park is a place where I used to come before starting the internship to practice sports and for leisure, so to come here to work and eat outside when the weather is fine is really great.

The work environment is also very good, here on ASPEA-Lisbon we are just a few people, but we get along really well and we help one another much on a day-to-day basis. In addition, during the days of annual Environmental Education Conference that took place in Faial, the Azores, I had the opportunity to meet more members of ASPEA and come acquainted to the activities that were developed in the other chapters of ASPEA.

We are currently working on various applications for projects that I hope will succeed so that I may continue with the activities of ASPEA.

From Rivers to Oceans: Pathways Stories

This is a yearlong project funded by the European Union, fitting into the theme “European Union: Sustainable use of Natural Resources”. As the name suggests, the project covers themes related to water, rivers, seas and oceans with the aim to raise awareness of the importance of water sustainability and to encourage participants to develop new attitudes towards sustainability. The project is aimed mainly at the educational community, more specifically young people to raise awareness to natural resources available, particularly water. A number of activities and



events are planned in the scope of the project such as cultural activities, artistic events and a National Young People's Conference for the environment which will take place on June 5th, with 500 participating school delegates. This will take place at the beautiful Biological Park of Avintes, near Oporto, a partner to this event.

Alumni Project: Ecology on the Farm

I integrated nature into my project by working on a farm. It became evident last year that the farm would require a broadening of environmental awareness. It started with salamanders, we found, beneath our potatoes, and now it is all about understanding why those salamanders made it there. How the water that supported them impacted our farm.



Tony explains the Oregon Youth Program to Jane Goodall

Why did the weeds come to areas of high water levels? We noticed a particular weed growing in the thick of the water, and we soon discovered it was a "smart" weed. A very resilient plant that can change varieties depending on the conditions it is growing in. It was one of our first times trying to understanding the biotic and abiotic factors of the ecosystem, and manage them. It is no simple task. It isn't simple to explain the value of the skills learned by working on the farm.

I am always trying to quantify the value of the farm. I tell people it may not pay well for a summer's worth of work, but it's like a college class on its own and can teach you as much as one. It is like getting paid to take classes at a college about farming, and small business, depending on your interests. I think it is important to help teach the next generation about farming, healthy eating, foods crisis in America and our community, and about work skills.

One of the students on the farm made the decision to go vegan recently, and his decision has not only inspired me, but many others as well. After eating 2 meals a week on the farm last summer we understood what it meant to eat all natural, organic, and vegetarian. My body felt much different during and after the farm. I felt better eating those 2 meals a week, and I noticed that feeling sink away as time passed on and I was away from the farm. This is not

just a metabolic thing. I missed the farm because i was a part of a new culture. One of new doors is being opened, and only limited by your imagination! It boggles my mind to see the progress of our farm, and our farmers. I haven't checked lately, but since last September until early June I have spent over 150 hours at the farm and on other ecological projects we do with the Youth Enviro Squad. I've taken a pleasurable role in helping newer students feel welcome, that they can develop trust and have a sense of belonging, and feel a sense of accomplishment, even in their first time with us.

It's an experience that the youth, mentors, and staff of the farm share together. It is a miniature community in itself, and it is like a second family. This helps us become farmers for the future, and helps us understand our place in the community, by helping us to end hunger problems. The future looks very bright. It ties into the future because we are not only training a next generation of farmers, but we are carrying on a legacy that has taken root in the world. Urban Farming, we are already apart of the European Federation of City Farms, and we are quite excited about this being the second year of the project. As for my own future, I am learning new skills from attention to detail, to leadership. I feel like this is an excellent launching point for future endeavors.

Tony Currier
CEI USA – Oregon Chapter

Culture and Food Security in Samoa

My ties to food security are quite profound due to the first-hand experience I have acquired from the cultural immersion program hosted by the state of Wyoming 4-H



program and sponsorship from behalf of the United States Bureau of Cultural and Educational Affairs. As part of the theme for the 28th annual conference of the Caretakers of the Environment International addressing: Nature, Culture and Future, I would strongly advise my peers and fellow leaders to continue tackling on global issues while taking into account the well-being of a sustainable future where both nature and culture may blossom.

Ana Garibay Mares
Early College High School, Salem, Oregon
CEI Oregon Chapter

“Nothing More”

Lyrics by Altered Routes

*To be humble, to be kind.
It is the giving of the peace in your mind.
To a stranger, To a friend
To give in such a way that has no end.*

(chorus)

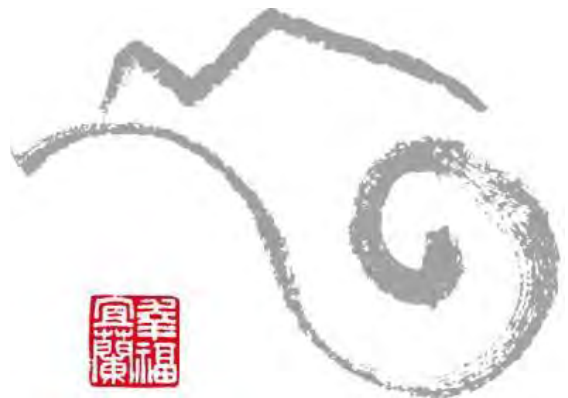
*We are Love
We are One
We are how we treat each other when the
day is done.
We are Peace
We are War
We are how we treat each other and
Nothing More*

*To be bold, to be brave.
It is the thinking that the heart can still be
saved
And the darkness can come quick
The Dangers in the Anger and the hanging
on to it.*

(repeat chorus)

*Tell me what it is that you see
A world that's filled with endless
possibilities?
Heroes don't look like they used to, they
look like you do.*

(repeat chorus)



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Co-chair: Dr. Tzu-chau Chang

Taiwan Ecological Stewardship Association

Secretary general: Nancy, Tzu-mei Chen

CEI 2014 organizer: Ali, Chou-li Lin

And all committee members

Sun Foundation

President: Eric Chen

Assistant: Wei Ning, Yi-Ying Jiang

And all staff and volunteers

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Earth Passengers/ Peter Morehead

National Ilan University / Prof. Yung-song Chen

Environmental Ethics Foundation of Taiwan /

Jing-yuan Huang

Hwa-Tien House Farm/ Joan Yu

Caretakers of the Environment International - A global network of teachers, educators and students

CEI 2014 協力夥伴

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及全體理監事



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及全體教職員、學生志工



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