

Chapter 3 The 2016 National Sustainable Development Award Winners

I. The 2015 National Sustainable Development Awards

The 2015 National Sustainable Development Award campaign was a 3-stage process: preliminary document review, field visits and assessments by the Committee's civilian members, and then the final objective appraisal by the entire Committee members, in that order. By this process, the 12 winners of 4 categories were recognized. They are: (1) 3 educational institutions—Da-Tun Elementary School, Beitou District, Taipei City; Puqian Elementary School, Banqiao District, New Taipei City; and Luo-Yang Elementary School, Beidou Township, Changhua County; (2) 3 enterprises—AU Optronics Corporation, Masterhold Int'l Co., Ltd. and ASUSTeK Computer Inc.; (3) 3 NGOs—Taiwan Nature Trail Society, Bifeng Community Development Association, Caotun Township, Nantou County and Paulai Association of Culture and Humanity, Kaohsiung City; (4) 3 sustainable development programs—The project of ecological conservation introduced into soil and water conservation (Soil and Water Conservation Bureau, Council of Agriculture, Executive Yuan), The project for Recovering the Formosan Landlocked Salmon and Monitoring its Habitat (Shei-Pa National Park Headquarters), and Taiwan Climate Change Projection and Information Platform (National Science and Technology Center for Disaster Reduction).



▲ The 2016 National Sustainable Development Awards ceremony

II. Description of the Winners

1. Education Category

(1) Da-Tun Elementary School, Beitou District, Taipei City

a. Introduction

Da-Tun Elementary School, located on the west side of Yangmingshan National Park, Datun mountain, is built on a mountainside. It is rich in flora and fauna, and devoted to maintain the ecological environment. Its ecological environment is varied and its scenery is fascinating. It overlooks the Taipei Basin and Taipei City as well as Tamsui river, Keelung River confluence and Guandu Plain with a panoramic view. Look forward to developing students to have open-minded spirits though unlimited school learning

b. Sustainable Development Promotion

• Inter-school Strategic Alliance Exchange:

Three schools, Hushan, Chuen Yuan and Datun conduct mutual visits to understand their campus environments and share teaching results. A surprise trip every semester will continue among the schools and other schools to share and enjoy teaching and learning.

• Field trips supplement learning:

"It is better to travel far than to read voluminously." Trips helps students to understand the environment, love the land, make new friends and realize their own learning direction. Graduates travel to Hualien Taitung Tribe to experience the original life or all land transport without electricity.

• Life has dreams, build a dream at ease:

I CAN program guides students how to learning by themselves and set learning goals, focusing on the course, and sharing and learning no matter if it is successful. Swim across the Sun Moon Lake, cycle around the island, solve magic box, compose a songs, jump rope, play the piano. I CARE is our care time, expressing gratitude and blessing, cultivating a compassionate heart, care for people to the surrounding people and things.

• Each is a guide:

From the fourth grade, each child participates as a guide, preparing narrative materials by themselves. The child is the teacher with the ecological care from the beginning.

• Vegetable farming education celebrates harvest:

In the beginning of the semester, the class decides which plants will grow with careful care of cabbage, radish, cucumber, corn until the harvest is celebrated at the end of the semester. Have a gratitude from the heart.

• Hundred years old trees protect the schools and love:

4 hundred year old trees and 12 old trees in the community are the curriculum of living materials. Teach and cross-field collaboration, weaving childhood memories together under the tree.

• Four kings learn on their own:

Manage to encourage children to go toward "good moral child", "Expert understanding health", "Reading master", "talent master" four dimensions in weekdays class, with nickname "four kings".

• It is not easy to graduate:

Graduates climb up the main peak of Datun Xifeng, the art exhibition inside and outside the school, graduation trip, feast for thanking for the teacher (talent show), 5000 meters chase, 60 km cycling, which are the tailor-made graduation ceremony for each child.

• The domestic most beautiful school tree:

The fallen flower is seen on the ladder under big camphor trees with beauty, which won the selection by Futian Trees Protection Foundation for the most beautiful school tree selection.

• Otus lettia comes back:

Teachers and students are very angry at the event where a baby bird fed by Otus lettia has been taken photo by unscrupulous photographers using improper shooting. A year later, the three baby birds fed by Otus lettia has grown up and fly away.

• Eagle want to fly and meet Terry Gou:

After students watch "Eagle want to fly", take the initiative to write to Terry Gou to ask him to save the eagle. It is unbelievable that in early January in 2016, Mr. Terry Gou personally met these children, and obtain "Eagle to fly" public broadcast version of the film for the national primary and secondary schools.

C. Vision for Future Development

Teachers teaching wonderfully is not better than students learning wonderfully. How to implement learning specifically and operate sustainably to have both tradition and innovation is to make mountain primary school fulfil the quota when enrolling year after year.

We thank the members of the judging panel for their recognition of Datun Elementary School. We will continue to maintain the spirit of "Respect for Life and a Friendly Environment".

2. Puqian Elementary School, Banqiao District, New Taipei City

a. Introduction

The school, located in New Taipei City, is a large city within a city. We look forward to using the hardware and software courses to familiarize children with the natural pulse and practice environmental awareness and action.

"Health, vitality, humanity, and progress" comes from the image of the new generation of urban children. Under the leadership of the principal, we will consider the individual differences of the students and achieve the appropriate teaching, leading the community and parents to participate in the project using the school resources and community characteristics. Turn the concept of "old buildings, new life" into teaching by using the axis of "science, literature, aesthetics, ecology and practice", so as to build a campus with sustainable human resources and a sustainable resources and culture.

B. Sustainable Development Promotion

We plan to develop an 8-year development program to create a low-carbon eco-campus and activate vacant spaces to provide a learning, visiting and experiencing teaching field with excellent teaching awards by New Taipei City in 2012, an award to promote the outstanding performance of the school energy by the Ministry of Economic Affairs Energy Bureau in 2013, an award with low-carbon school silver goose badge by New Taipei City in 2013, an bronze medal award with primary and secondary schools in the old toilet renovation in 2015, an award of school of sustainable stars by the new Taipei City in 2015.

In the aspect of the hardware, there are two aspects of "Eco-environment Recovery and Maintenance" and "Sustainable Low-carbon Building". The school has replaced the lamp circuit and T5 lamp with the replacement rate up to 98%; actively engaging in the construction of green buildings, building a thin green roof and turning the old toilet into an energy saving toilets, improving the water resources system. After the library is rebuilt, it will have low energy consumption and eco-friendly education. The power in old buildings is planned to improve, reinforce the school buildings. During the process of improvement the process, the school has become a teaching field so that teachers and students can participate in and experience.

Teachers set up teachers' community independently (teacher science popularization meeting, food and agriculture community, health promotion community, natural burning community, etc.), compiling the supplementary

material for the environmental education, flexibly exercising the diverse teaching methods to cultivate students to understand the relationship between human and the environment

The school is a community center. Open campus and provide platform such as every Thursday afternoon community Japanese classes for the elderly, every Wednesday night Hakka dance, health martial arts classes from Monday to Friday morning and community residents to share, which can see the public of the community carrying out multiple activities and learning in the campus. At the same time pay attention to humanistic care, multi-inclusive and respect for the various ethnic groups of teachers and students; to be in consistent with the festivals for activities (Teacher's Day activities, New Year's Eve, Thanksgiving activities in May, etc.), to cultivate the students to have the attitude of appreciation of life.

C. Vision for Future Development

From participation to winning an award, it is not only an affirmation and glory from a long way for the team, but also provides us with a broader view of the theme of sustainable and different point of view. Thank the Ministry of Education for guidance led by the continuous transformation of local campus team for many years, thank Education Department, New Taipei City government for the recommendation and the guidance, thank the chief of village of community and volunteer team of parent teaching association for the support in human power and material resources.

Talent heritage, resource sustainability and cultural continuity are our daily work every day. Tomorrow, we uphold the sustainable spirit in the hardware building improvement and software curriculum research and development in front of the podium, in the playground so that the sustainable seedlings are deeply rooted in child's life of Puqian



▲ Creation of fallen leaves

(3)Luo-Yang Elementary School, Beidou Township, Changhua County

a. Introduction

Luo-Yang Elementary School (the school with the characteristics of butterfly and rice), a primary school located in the agricultural area of the plain forest, whose area is 3.3 hectares with up to 200 kinds of native plants and the chirps and whirrs of insects and birds can be heard everywhere. Overgrown with butterflies herbivores, nectar, butterflies can be seen everywhere dance, flowers. Teachers and students grow organic rice and organic crops for learning activities in the "children farm" set by themselves with more simple and honest resources of the arts and humanities. Learn from nature to create a natural habitat and practice natural agricultural method in order to build the "five five-force learning base" for the sustainable development goals.

b. Sustainable Development Promotion

Team upholds the "top-notch, consolidate and support the weak" spirit of education to create a team with flat-style "five five" in a manner of effective communication and dialogue. Integrate the educational resources inside and outside the school, establish the "five-five-force" sustainable development of kinetic energy, build a "engineering, curriculum, courses, courses, run" network-based sustainable development of teaching field, embodies the achievements of each child so that Luo-Yang become the children's learning paradise.

The sustainable development of the characteristics of the local school is rooted deeply by "five five", which won an award of teaching excellence gold by Ministry of Education from 2014, awarded the 1st place of space aesthetics

characteristics of the school by the Ministry of Education from 2014 to 2015, awarded aesthetic characteristics of the school benchmark, by Ministry of Education in 2016, awarded life education characteristics of the school by the Ministry of Education in 2106, which certainly get recognition that Luo-Yang made an effort for sustainable campus with blessing (butterfly) characteristics

The five-for-five system is obtained from local life and teaches children learn from implementation and experienced learning to become their own knowledge and abilities as well as abstract the children through multi-teaching materials, implementation curriculum to. Through the implementation of multiple innovation courses, understand themselves from the exploration and experience and create the value of life from the services to further love life, concern ecology, learn happily.

c. Vision for Future Development

From the core concept of "environmental protection, ecology, art and humanities", Luoyang Elementary School builds a teaching pattern of life, production, ecology, life and survival in conformity with the 12 year compulsory education and the trend of international education to develop students with the five power to go - vitality, learning, innovation, and adaptability and communication skills. To cultivate the recognition and love for the environment through the "Five Five Strengths", respect for the life and holistic education with the care. Immerse the children with the love of education and professionalism so that each child will grow up with miracle in their own land.



2. Business Category

(1) AU Optronics Corporation (AUO)

a. Introduction

AUO devotes to the balanced development of three dimensions such as economy, environmental protection and society, and regarding governance and evaluation has been in the top 5% places of enterprises selected for 2 consecutive years by the Taiwan Stock Exchange. AUO performs excellently regarding the implementation of management such as governance system, attention to shareholder rights, transparency, risk management, real-time information disclosure. Under the operation of the Council for Sustainable Development and the supervision of Board of Directors, the company makes an effort towards "sustainable development" efforts, and works together with all walks of life towards the sustainable road, and has also been recognized by the outside world and has been selected as the DJSI World Index for 7 consecutive years, of which four years is leading in the group.

b. Sustainable Development Promotion

The rate at which AUO replaces the destructive PFCs equipment for the high-temperature potential reached 100%, which is the only panel manufacturing industry in the world to do so. Its accumulated greenhouse gas reductions reached 12.1 million tons by 2016, equivalent to carbon dioxide uptake of about 31,000 Daan Forest Parks per year.

The AUO's global recycling capacity in 2016 reached 1,209 million tons with a recovery rate of 88%. By the end of 2016, the company declared reaching the goal of reducing water, creating water, water and Water Neutral by 2020, of which "Water reduction" aims to reduce the intensity of production water by 30%. Reduce water for production efficiently through R & D of process technology and the improved performance of water treatment equipment. The goal to "create water" is to produce 10,000 tons of recycled water per day from the Taichung plant. Increase the usability of water substantially while responding to the national water policy. The goal of "Water Neutral" is further use after the Longtan plant recycles the water for manufacturing fully. Through the reduction and the services that provides supply chains with water-saving technology services, integrate to save water with supply chain and become Taiwan's first enterprise achieve water neutral in Taiwan.

AUO built a green factory building in Taichung and uses renewable energy, becoming Taiwan's first manufacturing enterprise to pass certification of "facilities and places for environment and

education" granted by Environmental Protection Administration in 2014. In addition, the company shares and disseminates the professional engineering technology and the concept of cherishing water resources through the "AUO Green Ark Water Education Center" built in the Longtan plant and the completed first self-designed water recycling system in 2015 in Taiwan, expecting to do our part for water resource education.

In the contribution of social humane care, AUO has set up four major programs for charitable events: "cultivating honest and intelligent people", "charitable caring / promoting original culture", "promoting science and technology education in optoelectronics" and "Getting close to earth eco-energy conservation and environmental protection" to let the employees participate in volunteers, realize self-fulfillment and make an effort for a better society. AUO sets up six service clubs. The colleagues go to the neighboring social welfare agencies regularly for services, including the accompanying service, environmental cleanup, touring for the targets of the social bureau emergency placement of children, the children with physical and mental disorders in the hospital and the dropouts. There were 150 services, more than 2,000 volunteers in 2016.

c. Vision for Future Development

As a professional supplier of liquid crystal displays and solar energy solutions, AUO not only devotes to product innovation, but also to has the determination of the core values of the three pillars of "passion for this, the pursuit of excellence, caring society" to implement the "sustainable development". After the completion of the three emphasis, the Company will realize the vision of a bright and innovative "graceful life" and a mission of "becoming a top green solution company." We hope to make AUO a "sustainable excellent enterprise" through a high-quality corporate culture.



▲ AUO Green Ark Water Education Center

(2) Masterhold Int'l Co., Ltd.

a. Introduction

Masterhold Int'l Co., Ltd. was founded in November 2005. Its product research and development not only won recognition by domestic manufacturers, but also obtained a number of patents. In its corporate philosophy, the Company holds a sincere and pragmatic attitude to develop and design, research and develop the green energy industry, as well as actively participate in investment in R & D and agents of lithium iron phosphate. The products developed break through in the characteristics that the traditional lead-acid batteries do not have the characteristics for environmental protection, safety, energy saving, carbon reduction, which are in line with international environmental norms RoHS standards. In the future we will not only continue to develop green energy technology as the goal, but also do our part for the global village through environmental protection and sustainable development.

b. Sustainable Development Promotion

The R & D team in Masterhold Int'l Co., Ltd. studied the lithium iron phosphate feasibility for 10 years, which is the only industry to master material technology and the innovative application of its end-product. All the technology and products are developed and researched and manufactured by the company. In the field of lithium-iron battery research for several years, develop protection board with a low current to control high current (patent) first, and possess several revolutionary patents with automotive battery in the world, including the patents such as battery board with high-current, car battery with the function of rescue, car battery with anti-theft features. These car battery can let each car reduce emissions of carbon monoxide by 26%, hydrocarbon toxic substances by 8% according the test report, and the invention of rescue function do not need to rescue vehicles so that it can save more fuel consumption and human waste. Therefore, it has a great contribution to energy conservation.

In the aspect of innovation and research and development, the problem that the traditional electric vehicles is not easy to promote lies in the heaviest battery, which take too long to charge and shortest trip. However, fast-recharge batteries can solve these problems. Masterhold Int'l Co., Ltd. fast rechargeable battery reduces battery usage, quickly recharges using fast-charge features, and extends the trip in a way of segments. It enables the green transport to achieve practicality, and enables mobile power to reach the goal of simplification.

Masterhold Int'l Co., Ltd. is not only responsible for customers, colleagues, shareholders, but also exercises the commitment of corporations to make a contribution to society. With the concept of "change is the beginning, the service is quietly doing good, contribution is accumulated, the dream is down to earth" concept, Masterhold Int'l Co., Ltd. will take advantage of the products to make contribution to the community, extending care to the global village, helping domestic groups and overseas remote areas to be a responsible social enterprises.

c. Vision for Future Development

Masterhold Int'l Co., Ltd. aims at becoming a "Quality Enterprise for Sustainable Management", and implementing the vision of "Dedicated Application R & D, Leading the Green Future" to reach the mission of "Top Green Energy Innovation and Development" for enterprise.

The company expects its products can become the leading brand in green energy markets in the short-term, and built a complete service chain in the medium-term, and deepened the recognition for the customer to the product brands of Masterhold Int'l Co., Ltd.. It provides complete solutions of energy-saving and carbon reduction in the long-term goal to help each industry go forward for energy-saving carbon reduction and create a more convenient and low-polluting technology life to fulfill the corporate social responsibility.



(3)ASUSTeK Computer Inc.

a. Introduction

ASUSTeK Computer Inc., founded in 1989, is the world's largest motherboard manufacturer and ranks as one of the world's top three consumer notebook brands. From a professional brand to the international 3C brand worldwide, we have achieved significant growth in this fast-changing industry due to two constant factors: our eager to create new experience for users, and our steadfast commitment to quality. These values are part of our brand promise: "Excellence in innovation, superior quality."

b. Sustainable Development Promotion

ASUS focuses on best quality and environment-friendly product design and R & D, introducing ISO 9001 and QC 080000 system management to keep close tabs on quality and environmental protection, and also extending the product liability to the care for the employees, introducing ISO 14001 and OHSAS 180001 to protect employees from working in unsafe environments. In response to further global warming issues, ISO 50001 is introduced to enhance energy efficiency and reduce greenhouse gas emissions.

ASUS entered a sustainable business transformation in 2009 with the establishment of the Corporate Sustainability Office, incorporating features such as green innovation, corporate sustainability performance, supply chain social responsibility management, employee care and social engagement, covering the comprehensive sustainable development such as a full range of economy, environment, and society. While adhere to the green quality of products at the same time, we also think about sustainable innovation.

In the "Digital Recycling Program" project, were-assemble the usable parts of recycled discarded computers to give new life to regenerated computers. In addition to reducing the environmental impact, it also has become the first step in promoting digital learning and reducing the digital divide. We establish a Digital Opportunity Center to promote digital learning with the help of information volunteers. Over seven years, we have set up more than 100 computer classrooms worldwide, benefiting more than 100,000 people. ASUS set its initial reduction goals in 2009. The 15% compared with 2008 reduction of greenhouse gas emissions by 2015 have been successfully reached. After the commitment expired in 2015, the second phase commitments for GHG reductions will be made further for 2025:

- (1)Reduction of greenhouse gas emissions by 50% (based on 2008).
- (2)50% increase in energy efficiency of major products (based on 2013).

c. Vision for Future Development

After the pursuit of excellence and adherence to the quality of innovation, ASUS also devotes fully to environmental protection and corporate social responsibility. This privilege once recognizes ASUS operates steadily in the competitive and rapidly changing market. Sustainability is a long road. ASUS still regards sustainability as the basis of enterprise competitiveness and differentiation in the future, ranking the leading enterprise among the green high-tech leading groups. Making a real contribution of business philosophy to human society, go toward the sustainable operation.



3.The NGO Category

1.Taiwan Nature Trail Society

a.Introduction

Taiwan Nature Trail Society was initiated by the nature trail steering committee of the Homemakers' United Foundation at first with the philosophy of developing the concept of the nature trail, ecological conservation and education. After continuous promotion in years, the members of the nature trail steering committee decided to set up their own organization. Therefore, they established the association on June 5th, 1999, world environment day with the philosophy of “promoting the nature trail, implementing the ecological conservation”. In the past 17 years, the nature trail society held interpretation and education activities in mountain trails and communities to promote the conservation of nature and environmental education with its original passion.

b.Sustainable Development Promotion

The Director, Hsu Kuei-Hsin, included the environmental education project which was designed with the environmental issues, such as, the themes of soil and water conservation, the concept of biodiversity, the effect of the exotic species, Leave no Trace principle and the interaction between people and Nature in the activities to promote the eco-environment of the trail since 2013. With different teaching elements, ex. DIY, reality simulation prototype, puppet show, story time and stage show to activate the demonstration and enhance the effect. He will also try harder on the research of the teaching in the future. The association also elaborated with the Department of Travel and Ecotourism in Tungnan University, to provide the environmental education promotion activity (including the consignment of the agencies, group tour guide

reservation, free tour guide on the holiday, environmental education promotion courses, environmental education eco camps, community university and community environmental education programs, etc.), which attracted around 18,000 to join per year.

During these years, the association not only finished many publications but also continually formed the teaching groups to offer almost 40 courses in Wenshan Dist., Shilin Dist., Zhongshan Dist., Shongshan Dist., Xinyi Dist., Zhongzheng Dist. And Wanhua Dist., in Taipei City; Shulin Dist., Xinzhuang Dist., Linkou Dist., Zhonghe Dist., Tamsui Dist., Sanying Dist. in New Taipei City and fourteen community universities as well as Sun Yat-sen Memorial Hall and Chiang Kai-shek Memorial Hall which all had great comments.

c.Vision for Future Development

Actually, we've been very simple, low-profiled and rarely promoted ourselves via media. However, with our continuous efforts, we keep leading people to experience the beautiful sciences and amazing ecology along the trails so people can establish the attitude to be friendly and respective to the Nature. Just like we keep our paths on the trail, slowly and yet casually, we will keep “walking”.



▲ Youth travel spot in Pingxi, Taipei



▲ The introduction and guide to the eco-environment of the trail in 2015

(2) Bifeng Community Development Association, Caotun Township, Nantou County

a. Introduction

Bifeng Community Development Association is in a modest valley located in Tazutuen Township of Nantou County. The association established in 1992 and it has been zealously promoting the caring for the vulnerable groups in the community, maintaining the recycling job for environment, offering the courses to enhance the cultural quality of the residents as well as establishing the neighborhood watch team to protect the safety of the residents.

b. Sustainable Development Promotion

The community makes every effort to promote all the activation activities to help the residents continuously learn while growing. To promote the recycling work in the community not just by reducing the amount of garbage, but to make the kid's toys with the recycling items. Rice is the biggest industry in the community so the community weave the rice straw to turn the unused material into something useful.

The community has transformed into an society for the elderly and it hold all kinds of activities for the elderly, supporting services for seniors. Every week, the community will hold a caring activity at different spots and offer meals to have the residents gather together. A dietitian is employed to take care of the health and lunch for the elderly.

Offering courses to enhance the cultural quality of the residents ranged from ocarina class, dancing class, Japanese class, singing class, calligraphy class, Qi-gong class and parent-child painting class. Besides the regular classes, the ocarina class and dancing class also perform in other activities to interact with other units; at the Japanese class, the residents can learn another language and know different cultures; at the singing class, residents

who enjoy singing can have their own stage; the calligraphy class allows residents to cultivate their minds; the Qi-gong class enables the residents who want to nourish their bodies have the chance for a physical training; the parent-child painting class provides the kids an extra place for learning.

On every Lantern Festival, the community will hold a traditional activity with the Grade-3 listed historic monument- Longde Temple; the Temple for The Lins is also remained so every spring and autumn, the residents would worship together. Since Bifeng supplies rice locally, the straw culture is able to be promoted to the community for inheritance and creativity. In 2016, the community promoted the rice culture through the rural regeneration activity to inherit the traditional technique of making rice. The community successfully promotes the local industry with rice culture and creates different business opportunities to increase job openings while the local industry can be applied on different fields for better purposes.

c. Vision for Future Development

Even if we are not the brightest star, we still do our best to shed our light with warmth to lead people home. We hope the community be full of warmth so we build it with smiles; we hope community be filled with smiles so we develop our future with harmony; with smiles and harmony, we see possibilities and future in our next generation.

The most modest community is the countryside community where you can feel the warmth and energy. There is nothing particularly special here, but we have our stories; our grass is as soft as the European carpet and our kids will smile at you without fear. The volunteers in our community are full of energy and the elderly here are like a library where you can find wisdom. Our ecology is full of amazement for you to explore.



▲ Straw weaving and environmental friendly Chinese toys

(3)Paulai Association of Culture and Humanity, Kaohsiung City

a.Introduction

“Every effort counts” is the philosophy of the Baolai Humanity Association in Kaohsiung (formerly Baolai Reconstruction Association in Kaohsiung) as they believe the power to make things happen relies on the group devotion. The reconstruction progress after the destruction by Typhoon Morakot made us realize the true value of the elderly’s words. After the disaster, our association used natural building techniques to build “Shezaijiao culture shared space” and learn how to coexist with the land from the very beginning. We shared the technique and experiences of making vegetable dyes, ceramic art, eco-environment education, Kiln roasted braid and pizza to develop the second skill of the residents and resolved the problem of unemployment. The major mission is to assist the residents to find life focus through the progress and re-establish confidence.

b.Sustainable Development Promotion

The original intention for local sustainable operation has been internalized to the premier philosophy of our association. During the operational process, we realized only to reinforce the cultural connotations so we can refresh our hearts and regain the power to revive the economics and tourism. Therefore, we’ve been working on the below aspects to develop the above mentioned-cycle of goodness for “coexisting with the land”.

①Developing the space for empowerment, cooperative studies and arts in the community.

Building the community workshop-Shezaijiao culture shared space to conduct the courses of empowerment and cooperative studies to cultivate the spirit.

②Developing talents to cultivate the human capital in the community.

Developing various professionals for different fields, such as, organizational management, caring services, industrial skills and docent ability.

③Developing the abilities of the elderly for caring services.

Developing the abilities of the elderly to expend the human resources in the community.

④Implementing the community-based environmental education and transmit the culture.

The courses Baolai developed for the ecological investigation and records which included folklore experience, growing plants, the history of the old trees and the traditional holiday foods were published in a brochure-“Nature fun with life” as a teaching material for Baolai Elementary School to use as the regular cooperative study course with the community.

⑤Exploring the industry in the community and developing diversified industries.

Being eco-friendly for developing agriculture, cultural customs and crafts with humanism to develop diversified industries.

c.Vision for Future Development

Sustainability for us, is to have our future generations live and work in this land. It’s a simple and small hope, but it’s difficult to accomplish. Our association was established in coping with the reconstruction from the impact of Typhoon Morakot. After that disaster, we realized only by developing talents (abilities), can we accumulate sustainable strength. From talent development, team establishment to organizational operations, these are all essential conditions to promote the local sustainable development. Human capital is the most important, and talent cultivation is a necessary investment to grow capital. Therefore, starting with people and then extending to the land, environment and community. Intervening from the three dimensions-life, ecology and production to establish a cycle of goodness for “coexisting with the land”.



▲ Love this land, start planting from childhood



▲ Love the hometown, keep company with children



▲ Shezaijiao culture shared space

4. Action Plan Category

(1) The project of ecological conservation introduced into soil and water conservation (Soil and Water Conservation Bureau, Council of Agriculture, Executive Yuan)

a. Introduction

The Soil and Water Conservation Bureau promotes the overall watershed conservation and disaster prevention with the spirit to conserve soil and water as well as to serve society by protecting residents of rural villages from the threat and fear of landslides. It established the landslide prevention system in communities, advocates education on soil and water conservation, implements the supervision and management of hillsides, maintains hillside health and safe environment, improves traffic in rural villages, maintains road safety and transportation for agricultural products and handles the relevant affairs of the facility improvement for the farm track.

The Soil and Water Conservation Bureau started to research and develop inspection methods of the eco-engineering since 2007, with the goal of having the soil and water conservation construction based on the ecological thinking as an eco-friendly behavior in order to reduce the impact on the environment caused by construction.

b. Sustainable Development Promotion

In order to control the important habitats, species, environmental characteristics and ecological subjects, set different scales of environmentally sensitive area index map as the reference to determine the potential ecological effects caused by construction, and bring up counter suggestions to minimize the impact on the environment and ecology as well as to update regularly for meeting requirements and application of the current status.

Setting the ecology inspection system to help the relevant ecological assessments of the life cycle engineering, and drawing up the ecology



▲ The fifth construction of the improvement for Duen-abanang stream in Alishan Township, Chiayi County

inspection items at different phases for the ecological specialist to collect and investigate the ecological information around the construction area and propose the protected targets accordingly. To draft the eco-friendly suggestion of reducing the impact so the engineers can understand the ecological subjects to be clarified or the conservation measures to be advanced at each phase. The implementation of the ecological inspection is based on the order of the life cycle engineering phase which includes: (1) The plan approval phase is to establish the ecological value, assess the possible ecological effects from the construction, ecological cost and ecological benefits; (2) the key point of the scheming and designing phase is to assess the potential ecological subjects, confirm the ecological issues and the ecological protected targets. According to the ecological status of the construction area to set the avoidance, reduction, compensation, etc., such eco-friendly strategy and the important protected targets; (3) the majority of the constructing phase focuses on setting the ecological conservation measures before the implementation phase, and ensure the completeness of the ecological protected targets and the area of concern during the construction as well as to maintain the environmental quality; (4) the maintenance and management phase emphasizes the follow-up of the ecological protected targets at the later stage, evaluates the quality of the habitat within the control range, analyzes the ecological subjects and draft the conservation measures to validate, review and respond to the effect of the ecological inspection.

Since the ecology inspection system was established in 2007, it has been applied to watershed protection projects of the Shihmen Reservoir and Tsengwen and Nanhua Reservoirs, altogether 237 cases.

To reinforce the philosophy and implementation of ecological conservation, the Soil and Water Conservation Bureau amended the “Engineering, Procurement and Construction contract template” and increased the relevant regulations of “eco-friendly measures”, set the “Eco-friendly Measures SOP” which would consider the ecology while improving the sensitive area to cover both requirements for the conservation improvement and the ecological conservation and take it as a base for the design unit, inspection unit and contractors as reference. In the contract template, the penalty regulation was included. If the implementation of the eco-friendly measures is against the contract, the compensation program would be required or the penalty would be occurred for breaching the contract. This regulation is indeed a useful tool to reinforce the

implementation of the ecological conservation and inspection.

To further consider the opinions from the environmental and conservation organizations and the local residents, the relevant people who care about the local ecological environment will be invited to attend the site survey meeting before the basic design and construction, and take it as an information session to explain the goals and ideas of the construction in public for the residents to participate and communicate. The residents can fully understand and offer related suggestions at this information session whereas the opinions from different fields would be gathered and included for the construction reference. The concerns from all parties can be clarified to reduce the cost and misunderstanding of the policy communication.

c. Vision for Future Development

For the factors of the vulnerable geologic conditions and the several rainfall in Taiwan, the sediment disaster often put people's lives and properties as well as the public infrastructure in danger. To conserve water and land resources and maintain the environmental safety of the hillside, construction management is necessary. However, since the ecological environment of the hillside is sensitive, adverse effects will be easily caused if there is no proper plan and appropriate assessment of the relevant techniques and measures. The Soil and Water Conservation Bureau has gradually reduced the impact on the environment with the eco-friendly behavior and decreased the negative effects from the construction in view of the ecological conservation while protecting habitat at the same time.

In the future, the Soil and Water Conservation Bureau will continuously implement and promote soil and water conservation construction and ecological conservation work, and set goals for developing the sustainable ecological environment and biodiversity conservation to follow the natural environment and design based on the local conditions. To achieve disaster prevention and ecological conservation for symbiosis between human beings and nature.

(2) The project for recovering the Formosan Landlocked Salmon and Monitoring its Habitat (Shei-Pa National Park Headquarters)

a. Introduction

Surrounded by various peaks and streams, such as the cirque glaciers of Xue Mountain, Dabajian Mountain, Xue Mountain Range, Pintian Mountain and abundant animals and plants, is how amazing the landscape looks in Shei-pa National Park. This is where the Tamsui River and Da'an River originate, and is one of the most

important watersheds for Dajia River. To sustain the natural beauty is the most important work in Shei-pa Headquarters.

b. Sustainable Development Promotion

In the beginning stages when Shei-pa Headquarters was established in 1992, the amount of the formosan landlocked salmon was less than 300 which was close to extinct. The space for the group to subsist was limited to the basin of Cijiawan River only. The primary objective to conserve the formosan landlocked salmon was to improve the water quality and coordinate with Wuling Farm to stop agricultural activities in the basin of Cijiawan River as well as expropriate 8.1 hectares of farm to proceed with the ecological restoration. Also, making a public announcement to forbid the visitors to enter the basin of Cijiawan River and setting the sewage treatment plant in Wuling area to improve the impact caused by the recreation activities.

The plan to "Monitor and research the restoration of the river ecosystem at Wuling area" was continuously conducted since 2005 based on the aspects of the river ecosystem and integrated relevant research on dispersal ecology in the Wuling area to establish the basic data of the ecology system for the basin of Cijiawan River. The observation in years has built an ecology system that can predict the effects of the environmental change and human interference and further understand the environmental ecology at Wuling area.

Regarding the obstruction of the migration at the habitat of formosan landlocked salmon caused by the check dam, the improvement work of the four check dams at Cijiawan River has been finalized in 2000, and another amendment of the check dam No.1 at Cijiawan River in May, 2011. Building the river corridors at the upstream and downstream of Cijiawan River to improve the environment of the basin. The result of the monitor showed the quantity of all types of species was rapidly recovered and the formosan landlocked salmon could be traced upstream which indicated the improvement of the dam contributed to the river flow.

The local conservation work has reduced the extinction risk for the formosan landlocked salmon, and by releasing the cultured fish species to the historical rivers, the satellite genome of the formosan landlocked salmon was established so the genetic diversity was increased. Among these rivers, the released fish have established a stable group at the habitat of the Yousheng Creek tributary - Lo-Ye-Wei creek after the releasing process in 2009 and 2010 and is no longer in need of the releases. 250 formosan landlocked salmon were released to Leshan River in 2014 and have reproduced to a wild population at the summer survey in 2016. 416 formosan landlocked salmon were in the Lo-Ye-Wei creek and 286 were in Leshan River which means the population has been growing stably and reflected the local

and remote conservation outcome which has been done by the Sheipa Headquarters in years.

The ecology center of the formosan landlocked salmon and species database were established in 2007 to conserve the genes of the wild population and maintain genetic diversity as well as to provide guided services for residents to visit. The number of the visitors after the inauguration is above 100,000 per year and the conservation philosophy was rooted in the education.

Promoting local conservation including the method of “sealing off the river area for protecting fish” with the nearby tribes to preserve the formosan landlocked salmon around the park. Composing the conservation patrol team with Huan Shan Community, Nanshan community and Songmao community to protect the rivers so these aboriginal communities can participate in the important conservation work in person.

c. Vision for Future Development

To maintain the sustainable development, the Sheipa Headquarters further understood the conservation directions with scientific research which included research on the ecology system of Cijiawan River, ecological resources of the alpine ecosystem of Xue Mountain and the inspection of the atmosphere, water quality, hydrology and physical environment to improve the environment of the habitat. Promoting local conservation with nearby tribes for the sustainable operation these years in hopes of having the eco-friendly agriculture to promote the ecology tour of the tribes and care of the conservation of the formosan landlocked salmon at the same time. The philosophy of the conservation should be rooted in the education and the partnership with the tribes should be established so everyone apart from the public sector can make the effort together since childhood.



▲ Making efforts on the conservation with the nearby tribes and releasing the formosan landlocked salmon to their historical rivers.

(3) Taiwan Climate Change Projection and Information Platform (National Science and Technology Center for Disaster Reduction)

a. Introduction

The Minister of Science and Technology has been promoting the estimation of local climate change and impact research to face all the challenges caused by the high risk of climate change in Taiwan over the long term. Since 2009, the Ministry of Science and Technology continuously implemented this action plan (“The plan of establishing Taiwan climate change projection and information platform”, hereinafter referred to as TCCIP plan) which included plans of three advantaged areas for the climate change to encourage the government and people to actively face the impacts caused by climate change, in the aspects of investigation on the physical mechanisms, phenomenological analysis, the advance of the estimation ability, the establishment of the information platform, data processing and analysis methods for making proper adjustments.

The TCCIP plan was the core of the overall framework for the plan of advantaged areas for the climate change towards the Ministry of Science and Technology. Being organized by the National Science and Technology Center for Disaster Reduction with the cooperation of the Central Weather Bureau, Water Resources Agency, Taiwan Agricultural Research Institute, Centers for Disease Control of the Ministry of Health and Welfare, Research Center for Environmental Changes of the Executive Yuan, National Taiwan Normal University, National Taiwan University, National Chiao Tung University, National Central University, National Cheng Kung University, University of Taipei, Chinese Culture University, Chang Jung Christian University, National Center for High-performance Computing. These units with build the exclusive scientific research platform for climate change in Taiwan.

b. Sustainable Development Promotion

The team integrated climate observation data from both the public and private sectors and digitalized the climate observation data from earlier times. Next a thorough inspection and grid computing process established the long-term and stable climate observation data in high spatial resolution in Taiwan and the estimation data of the regional climate model in Taiwan through statistical methods (statistical downscaling) and physically based modeling (dynamical downscaling). The huge volume of the estimation of the climate change in Taiwan and the scientific data of the future estimation can be used for the phenomenological analysis and risk assessment

of the climate change, which provided the specific and substantial contribution and effects on the research of domestic disasters, hydrology, agriculture, public health, ecology and energy.

The data service system of TCCIP was officially online in March 2014 and the users could download the climate change data for free by completing the application process. By the end of June 2015, it served 5 research projects on average per month. The achievement of this plan covered the research project of the Ministry of Science and Technology, autonomous research of research units, and the related projects promoted by the central and local governments.

This plan established “Taiwan climate change projection and information platform” (TCCIP information platform <https://tccip.ncdr.nat.gov.tw>), to transform the scientific data to understandable illustration, provided climate data, information and knowledge in a simple and understandable way for users to realize. Publishing the “Scientific report on Taiwan climate change” to describe the physical phenomena and mechanisms of the climate change and clarify the meaning of the relevant scientific data; holding all types of data services and activities and providing the relevant data (including the meeting handbook, briefing and audio file) on the TCCIP information platform with agreement from speakers so people and the scientific community who were unable to participate in person could browse or download anytime. The professional analysis and scientific data could be the reference for the government to set the adaptive strategy for climate change. The illustration was the effective resource for people to obtain accurate climate change data. If people search the key words with “Taiwan, climate change” on google search engine, the homepage will show TCCIP website and “Scientific report on Taiwan climate change” directly which is easy to obtain the relevant information about this plan.

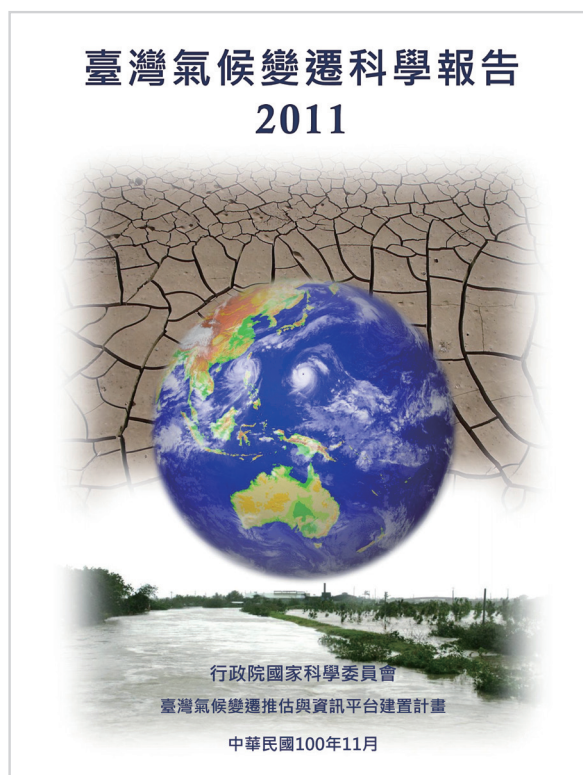
c. Vision for Future Development

The United Nations have appealed to the governments of all countries to continuously reduce the release of the greenhouse gases in order to reduce global warming, actively face the impacts caused by climate change and make proper adjustments. The Ministry of Science and Technology is devoted to research on estimation of climate change impacts for more than 20 years and even more actively promoted the integrated research on climate change recently. The National Science and Technology Center for Disaster Reduction was honored to organize the TCCIP plan and implement it. Much appreciation to the grant funds and instruction by the Ministry of Science and Technology as well as to the above stated agencies and academic & research units for

their participation.

This plan provided the latest research data of the domestic climate change and grasped the essential knowledge and experience through the interaction, communication and feedback from the users which would be the base to continuously promote the science service of climate change in the future.

We are very pleased to connect with the business affairs of the government branches through the implement of the TCCIP plan. The award we received this time represented the encouragement and expectation from the NCSA committee; we believe the Ministry of Science and Technology, the Technology Center for Disaster Reduction and all colleagues from the relevant academic & research fields will contribute more on the national conservation sustainable development.



▲ Scientific report on Taiwan climate change 2011