IPSI Case Study Summary Sheet

Please submit this form along with your case study. We ask that you keep your responses here as concise as possible. This information will be posted on the IPSI website unless otherwise requested. Please inform the IPSI Secretariat if there are any responses you would not like made public.

Basic Information

Title of case study *(should be concise and within approximately 25 words)*			
Incorporating Green Energy into Smart Agriculture to Create Regional Circular and Ecological Spheres (R-CES)			
Submitting IPSI member organization(s)			
Agriculture Department, New Taipei City Government			
Other contributing organization(s) *(IPSI members and/or non-members)*			
Soil and Water Conservation Bureau, Agriculture Committee, Executive Yuan、Zhongliao Community Development Association、Wenteng Technology Consultrants Co.Ltd			
Author(s) and affiliation(s)			
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Format of case study *(manuscript or audiovisual)*	Manuscript	Language	English
Keywords *(3-5 key concepts included in the case study)*			
SEPLS, biodiversity, eco-farming, green products, participatory Guarantee System, sustainable rural development			
Date of submission *(or update, if this is an update of an existing case study)*		2022	
Web link *(of the case study or lead organization if available for more information)*	Agriculture Department, New Taipei City Government		

Geographical Information

Country *(where site(s) or activities described in the case study are located – can be multiple, or even "global")*
Taiwan (Chinese Taipei)
Location(s) *(within the country or countries – leave blank if specific location(s) cannot be identified)*
Tamsui District, New Taipei City

Longitude/latitude or Google Maps link *(if location is identified)*									
25.19763347640185, 121.47752591205722									
Ecosystem(s) *(please place an "x" in all appropriate boxes)*									
Forest		Grassland		Agricultural	×	In-land water	×	Coastal	
Dryland		Mountain	×	Urban/peri-urban	×	Other (Please specify)			

Socioeconomic and environmental characteristics of the area *(within 50 words)*
The Zhongliao community near the Gongsitian Rivier under the Datun Mountain System used to have beautiful mountain scenery and good quality water. The streams were clean and rich in fish and shrimp. In the past, the ancestors who developed the area made good use of the springs and streams under the Datun Mountain to build drinking water as well as irrigation systems and ponds, allowing the fields and slopes to be abundant in rice, vegetables, fruits, tea, etc., to feed future generations.
Description of human-nature interactions in the area *(land-use, traditional resource management practices etc. – within 50 words)*
With the official protection enforced for Yangmingshan National Park Reserve and hills conservation, this area has nurtured diverse animal and plant species associated with middle/low altitudes. Residents develop terraced paddy fields on hillsides and create bio-friendly habitats, providing rich biodiversity for environmental education and ecological tours.

Contents

Note: The following fields are used for information about activities described in the case study or the production of the case study itself, and contents may vary depending on the nature of the case study. For example, a case study about on-the-ground activities may include the rationale, objectives etc. for the activities; a case study about a SEPLS-related policy may describe the policymaking process; or a case study describing a SEPLS may address particular practices used there. Please make an effort to fill as many fields as possible.

Status *("ongoing" or "completed")*	*ongoing*	Period *(MM/YY to MM/YY)*	From 2013

Rationale *(why activities or policies described, or information shared in the case study are needed – within 50 words)*
With the impact of urbanization and industrialization in the 1960s and 1970s, the young population in the community started to move out to places with convenient transportation, the farming population gradually aged, and the labor force declined. In addition, due to the wide use of pesticides, fertilizers and herbicides, the original fertile land became a "nonpoint source" pollution, which caused the water quality of the Gongsitian Rivier to deteriorate. Moreover, the establishment of aquaculture farms, copper manufacturing factories and pig farms also affected air quality and generated waste water. In order to maintain the community's environmental ecology and to protect the health of the residents, the community began to establish a platform with various ministries and councils of the government to jointly formulate related plans in 2013.
Objectives *(goals of activities or policies described, or of producing the case study – within 50 words)*
The Zhongliao Community aims to achieve the goal of "conserving and utilizing socio-ecological-production landscape resources", and move towards the vision of "harmonious coexistence between man and nature".
Activities and/or practices employed *(within 50 words)*
1. Establishing community partnerships, cultivating local talents and developing cross-domain cooperation.

2. Helping young people who return to their hometowns utilize terraced wetlands and implement circular agriculture.
3. Transforming abandoned fields into technological farms and renting them out to urban residents for cultivation to promote mutually benefit between urban and rural areas.
4. Using renewable energy to develop smart green energy communities, promoting carbon reduction and smart agriculture.

Results *(within 50 words)*

Through the rural regeneration plan, cultivating local talents, establish cooperation channels with the public sector, so that attracts young people return their hometown. By Satoyama, community promote eco-friendly farming, to restored the farm ecology, and improve the river quality and natural ecology. By smart circular agriculture and green energy to creat a low-carbon society to promote mutually benefit between urban and rural areas toward to regional circular and ecological spheres (R-CES).

Lessons learned *(factors in success or failure, challenges and opportunities – within 40 words)*

The Zhongliao community applied traditional wisdom and eco-friendly farming to revitalize the traditional Satoyama production landscape resources, which not only increased the income of the community, but also restored the natural ecology. At the same time, modern technology of smart agriculture was combined with green photovoltaic electricity to move towards the goal of low-carbon living circle. The combination of smart green energy and wetland construction was adopted to optimize the water quality of streams and promote circular agriculture, demonstrating the new style of the Satoyama landscape, and shaping the future of harmonious coexistence with nature.

Key messages *(within 40 words)*

It is hoped that in the future, the experience of this community accumulated can be shared with people in Taiwan and around the world. Furthermore, online and on-site exchanges between communities in Taiwan and around the world can be carried out, so that we can learn from each other on how to face and overcome the challenges, and pass on our successful experiences to young people in future generations.

Relationship to other IPSI activities *(if the case study is related to any other IPSI collaborative activities, case studies, etc.)*

1. Soil and Water Conservation Bureau, Agriculture Committee, Executive Yuan. Rural Regeneration Project
2. Visit and learn from the Gongrong Community in Sanzhi District of New Taipei City. Rural Regeneration Development Plan

Funding *(any relevant information about funding of activities or projects described in the case study)*

Agriculture Department , New Taipei City Government

Contributions to Global Agendas

CBD Aichi Biodiversity Targets (https://www.cbd.int/sp/targets/)

Please place an "x" in the "direct" or "indirect" boxes next to any of the CBD's Aichi Biodiversity Targets to which the work described in this case study contributes as appropriate. Note: please mark only those that the case actually has made or is making a contribution, not those to which it could make a potential contribution in the future.

Target	Description	Direct	Indirect
	By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.		*x*
	By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.		*x*
	By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	*x*	
	By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	*x*	
	By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.		*x*
	By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	*x*	
	By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.		*x*
	By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.		*x*
	By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.		
	By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.		

	By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.		*x*
	By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	*x*	
	By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.		*x*
	By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	*x*	
	By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	*x*	
	By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.		
	By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.		
	By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.		*x*
	By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.		*x*
	By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	*x*	

UN Sustainable Development Goals (SDGs) (https://sustainabledevelopment.un.org/sdgs)

Please place an "x" in the "direct" or "indirect" boxes next to any of the UN Sustainable Development Goals to which the work described in this case study contributes as appropriate. Note: please mark only those that the case actually has made or is making a contribution, not those to which it could make a potential contribution in the future.

SDG	Description	Direct	Indirect
	End poverty in all its forms everywhere	*x*	
	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture		*x*
	Ensure healthy lives and promote wellbeing for all at all ages	*x*	
	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	*x*	
	Achieve gender equality and empower all women and girls	*x*	
	Ensure availability and sustainable management of water and sanitation for all		*x*
	Ensure access to affordable, reliable, sustainable and modern energy for all		
	Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all	*x*	
	Build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation		
	Reduce inequality within and among countries	*x*	
	Make cities and human settlements inclusive, safe, resilient and sustainable		*x*
	Ensure sustainable consumption and production patterns		*x*
	Take urgent action to combat climate change and its impacts	*x*	

	Conserve and sustainably use the oceans, seas and marine resources for sustainable development		
	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation, and halt biodiversity loss		*X*
	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels		*X*
	Strengthen the means of implementation and revitalise the global partnership for sustainable development	*X*	