

IPSI Case Study Summary Sheet

Basic Information

Title of case study	Promoting Under-Forest Economy under the concept of Satoyama Initiative: A Case Study of Wutai Township, Pingtung County, Chinese Taipei		
Submitting IPSI member organization	National Pingtung University of Science and Technology (NPUST)		
Other contributing organization	<i>IPSI members:</i> Forestry Bureau, Council of Agriculture, Executive Yuan, Chinese Taipei <i>Non-members:</i> Ministry of Education, Chinese Taipei National Dong-Hwa University (NDHU), Chinese Taipei Taiwan Forestry Research Institute, Council of Agriculture, Executive Yuan, Chinese Taipei		
Authors and affiliations	Dr. Meihui Chen, Professor, National Pingtung University of Science and Technology, Chinese Taipei, corresponding author		
Format of case study	Manuscript	Language	English
Keywords	Community forestry, Under-Forest Economy, Ecotourism, Collaborative management		
Date of submission	31 Dec 2018	Web link	http://mportal.npust.edu.tw/bin/home.php?Lang=en

Geographical Information

Country	Chinese Taipei		Location	Wutai Township, Pingtung County, Chinese Taipei					
Longitude/latitude or Google Maps link	https://goo.gl/maps/H5nbSmTkGmP2								
Ecosystem(s)									
Forest	x	Grassland		Agricultural	x	In-land water		Coastal	
Dryland		Mountain	x	Urban/peri-urban		Other			
Socioeconomic and environmental characteristics of the area									
<p>Wutai Township (Vedai in the Rukai language) has a total area of roughly 280 square kilometers, with an average elevation of more than 1,000 meters, and the forest coverage is nearly 98%. There is no railway or highway system cutting in the territory, and there is no large-scale development and construction, thus maintaining the most complete traditional aboriginal areas. According to official statistics from 2018, the population of Wutai Township is about 3,400. The main ethnic group is the Taiwanese aborigines, the Rukai, accounting for 99%. Wutai is the center of the Rukai ethnic group culture in Taiwan.</p>									
Description of human-nature interactions in the area									
<p>Wutai Township, except for some of the Aboriginal reservations, is mostly a national forest. The surrounding environment is an ecosystem consisting of secondary forests connecting agricultural land and streams, a diverse and rich habitat, and a variety of natural resources. It is a hunting ground for tribal traditions. At present, most of the traditional crops such as millet, red quinoa, taro, and peas, and conduct small family-style breeding of mountain pigs, chickens or hunt for survival.</p>									

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Status	Ongoing	Period	2009 to present
Rationale			
<p>Taiwan is 60% forest, and its natural environment is rich and varied. The areas surrounding forests are often weak in economic activity and are marginalized. Nowadays, under the influence of extreme climate change and severe population migration, how to maintain living conditions, preserve traditional knowledge, and encourage young people to return home is a very important issue. The "Under-Forest Economy", which replaces deforestation with the development of forest by-products, is an important strategy that has been promoted by the Taiwan government in recent years to aid the local area's cultural, social and economic development.</p>			
Objectives			

<p>In order to help the Rukai people in Wutai Township, the research team and the Rukai people work together to promote the under-forest economy, marketing and selling eco-friendly agricultural and livestock products. The objectives of the project are as follows:</p> <ol style="list-style-type: none"> 1. Guide the growing method for under-forest crops and encourage young people to join the under-forest cultivation and farming work. 2. Develop eco-tourism and environmental education programs, such as tribal study tours, farmers' markets, and working holidays. 3. Strengthen the competitiveness of Wutai agricultural and livestock products.
<p>Activities and/or practices employed</p>
<p>We collaborate with government, teachers and students of NPUST from different departments to develop the interdisciplinary talent education and six-grade industry of the communities, including growing forest produce (primary sector), manufacturing and food processing: (secondary sector) and foodservice and marketing (tertiary sector). We have devoted ourselves to promoting the forest ecotourism, environmental education and under-forest economy with tribal people over the long term, aiming to create a forest environmentally sustainable system. We promote the forest beekeeping which plays an important role in maintaining the health of ecosystems. Forest beekeeping can not only maintain the delicate balance of the forest ecosystem, but also sustain the plant biodiversity of the forest. We also raise bees in several forest areas to harvest diverse Taiwanese flavors honey. In addition, we use different kinds of woods to cultivate various shapes and flavors of woodland mushrooms. We also take agricultural waste and mycelium to make Mushroom Grow Bags. These activities fulfil the dual purpose of practicing circular economy and Satoyama Initiative. At present, the concept of under-forest economy has been promoted and developed to Wutai Township. Tribal produces, such as Labuwan Forest Chicken, Labuwan Fresh Eggs, Angelica, Labuwan Fresh Mushrooms, are successful sold on the market and was very beneficial to the environment and economy of local communities.</p>
<p>Results</p>
<p>Through the maintenance of farming and the development of the economy under the forest, Wutai Township rebuilds the self-sufficient lifestyle of the tribe. At present, when a moderate typhoon strikes, the tribe can already have enough food to live in peace if the road outside the city is interrupted, and there is no need to evacuate. This is especially in response to one of the actions of the Satoyama initiative, which has made the tribe more resilient. Through the research and development of the academic circle, the team plans the economic and environmental education plan of the tribe under the forest, combines the local eco-tourism and handles the relevant under-forest economic workshops, promotes the forest economy under the Wutai Township, and lets the outside world understand its value.</p>
<p>Lessons learned</p>
<p>The Satoyama Initiative emphasizes the connection between residents and the land, through the revitalization of traditional ecological knowledge, and learning contemporary natural resource management methods (ecological surveys, monitoring) to ensure the sustainability of resource use and create a better model of forest governance. This knowledge and technologies can not only protect the environment inside the tribe, but also expand and apply to the communities around the state-owned forest land and give back to the practical work of Taiwan's collaborative forest management.</p>
<p>Key messages</p>
<p>The project focuses on interdisciplinary knowledge and integration, from the under-forest cultivation, environmental friendly production to building a forest brand. We believe that only with the most effort in every detail, from the production to marketing, will the forest industry last forever, and the young population have the confidence to return home.</p>
<p>Relationship to other IPSI activities</p>
<p>None</p>
<p>Funding</p>
<p>We are supported by Forestry Bureau, Council of Agriculture, Executive Yuan and University Social Responsibility Project of Ministry of Education, Chinese Taipei.</p>

Contributions to Global Agendas

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

The table below shows based on the self-evaluation by author(s). ● and ■ indicates the “direct” or “indirect” contributions to the CBD’s Aichi Biodiversity Targets respectively to which the work described in this case study contributes to.

Strategic Goal A				Strategic Goal B					
●	■	■	■	●	■	●	■	●	■
Strategic Goal C			Strategic Goal D			Strategic Goal E			
●	●	●	●	■	■	■	●	●	■

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

The table below shows based on the self-evaluation by author(s). ● and ■ indicates the “direct” or “indirect” contributions to the SDGs respectively to which the work described in this case study contributes to.

●	●	●	■	■	●	■	●	●
■	●	●	■	■	●	■	■	