TCCIP 臺灣氣候變遷推估資訊與調適知識平台
Taiwan Climate Change Projection Information and Adaptation Knowledge Platform

Demonstration Case Study on Slope Land Adaptation

Setting up a Multistakeholder Communication Platform

Reaching Consensus on Adaptation Options

Xiuluan Tribe in Hsinchu County

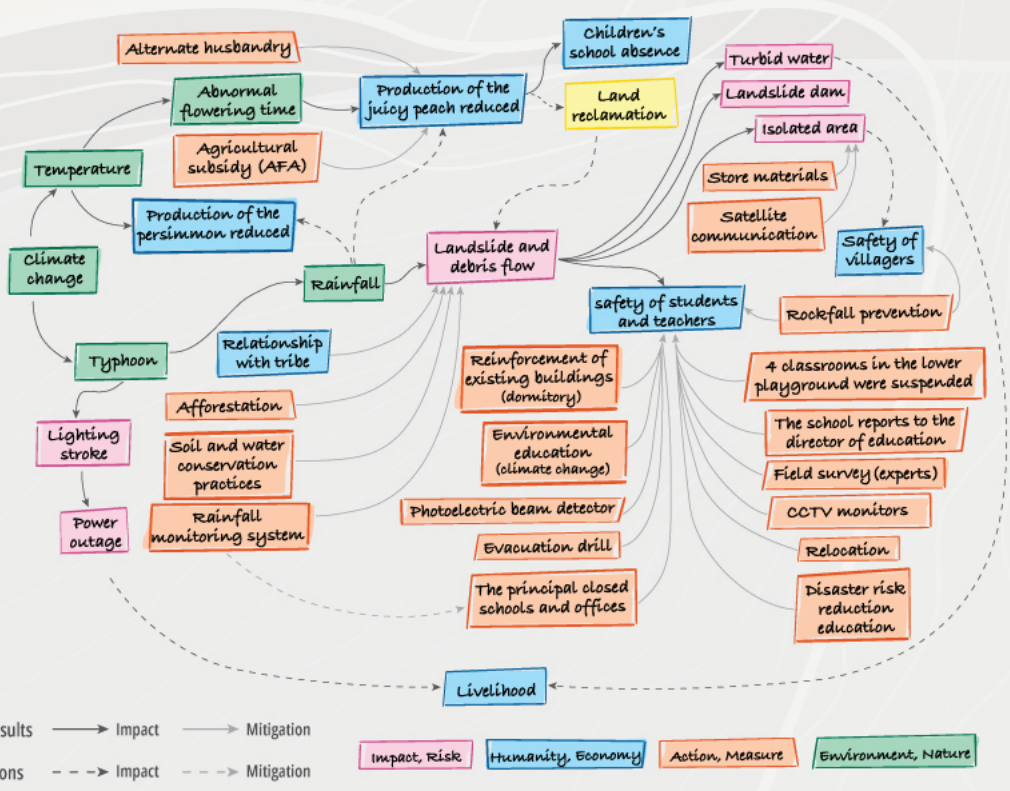
- More than 95% of the population are indigenous people of Atayal descents.
- Main agricultural products are peach and pear while abundant maple tress also serve as a main tourist attraction.

Past Disasters

- Landslide occurred on the right side of the village causing 1/3 of the river blocked and buried 70 meters of river wall during Typhoon Maki in 2016.
- Landslide occurred again on September 13, 2021, causing barrier dam to form and flooded several housings nearby the river.

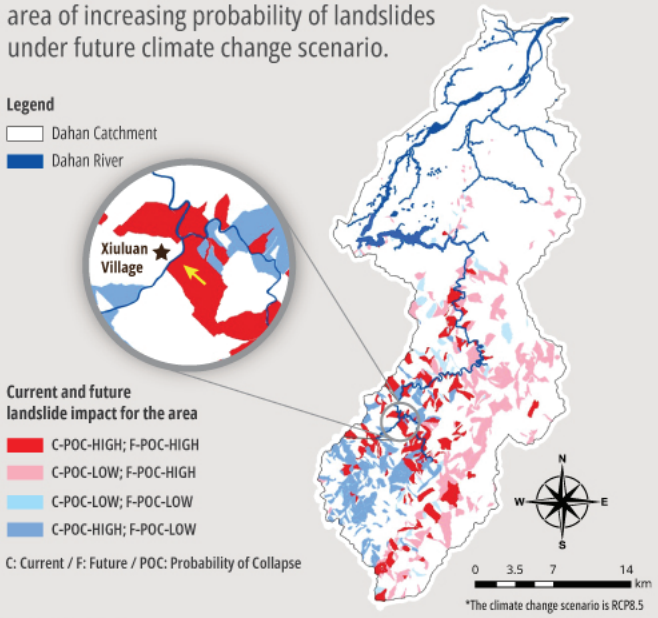
Identifying Problems

- An issue map is constructed through stakeholders' interview.
- Key issues are selected according to the concerns of stakeholders, and the technical ability.
- Main target group of this adaptation case is set to be teachers and students of Xiuluan Elementary School.



Future Climate Impacts

Through simulation projected using TRIGRS model developed by USGS, the location of Xiuluan village is at an area of increasing probability of landslides under future climate change scenario.



Current Measures

Engineering methods such as drainage ditch, fall rock protection walls, have been utilized to reduce the impact of landslide tand on residents and nearby buildings. Monitoring system has been established to continuously track the situation.

At the same time, the coping capacity of teachers, students and residents have been improved through disaster prevention drill, disaster prevention education and training.

Adaptation Options

Category	Adaptation Options Related to Landslide Disaster Prevention	Implemented	Current	Near Future	Long Term
Structural / Physical	Multivariate monitoring database	●			
	Early warning systems	●			
	Develop integrated monitoring, early warning and response apps or webpages		Short message service ●		
	Erosion and sediment control engineering method		●		
Social	Risk assessment under climate change scenarios		●		
	Build a platform for stakeholder communication		●		
	Establish chimate change educational platform for primary schools (including landslide disasters)		●		
	Cultivate teachers and teaching assistants with knowledge of climate change			●	
	Develop landslide disaster risk map under climate change scenarios			●	
	Assess the benefits of widening the flood zone		Assessment (2018) ●		
	Estimate damage loss and adaptation costs			●	
Institutional	Adjustment the community's socio-economic development plan			●	
	Engineering redesign standards considering climate change trends			●	

Start time ● Expected time for initial completion

- Xiuluan Primary School

Through meetings, stakeholders are invited to discuss the options that can be implemented based on the evaluation results and proposed adaptation options, and to identify the reasons and bottlenecks that prevent the options from realizing.

This opened an opportunity for stakeholders to discuss, and to agree on a common option for future adaptation actions.

Experience Sharing and Knowledge Curation

- The consensus of stakeholders on adaptation issues can be established through a series of operations such as interviews, impact assessments, collection of options, and follow-up meetings.
- This case helps setting a clear direction for the adaptation actions in Xiuluan area, and takes a step further in increasing resilience for the village.
- All records on the processes and experience of this case have been stored into the Adaptation Resources Kit (ARK) on Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP) for public access.

Climate Change Service

TCCIP provides user-oriented climate change science services and emphasizes the link between scientific research and practical application. Through a systematic framework, it provides data and information on climate change adaptation services for different levels of agencies, industry, academia and research institutions.

TCCIP

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