

**Farmers' Seed System Enhancement and Traditional
Knowledge Revitalization for Climate Change
Adaptation:
3 Naxi Mountain Communities in Yunnan, SW China**

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1.2 Climate Change- Temperature rise and Extreme Weather



- The average temperature rises.
- The first rain is getting late.
- Getting more and more drought.
- The wind is getting bigger and bigger,
and sometimes it blows down the crops.



- Sometimes heavy rain hits.

1.3 Composite Effects- Agricultural farming (农业耕作)

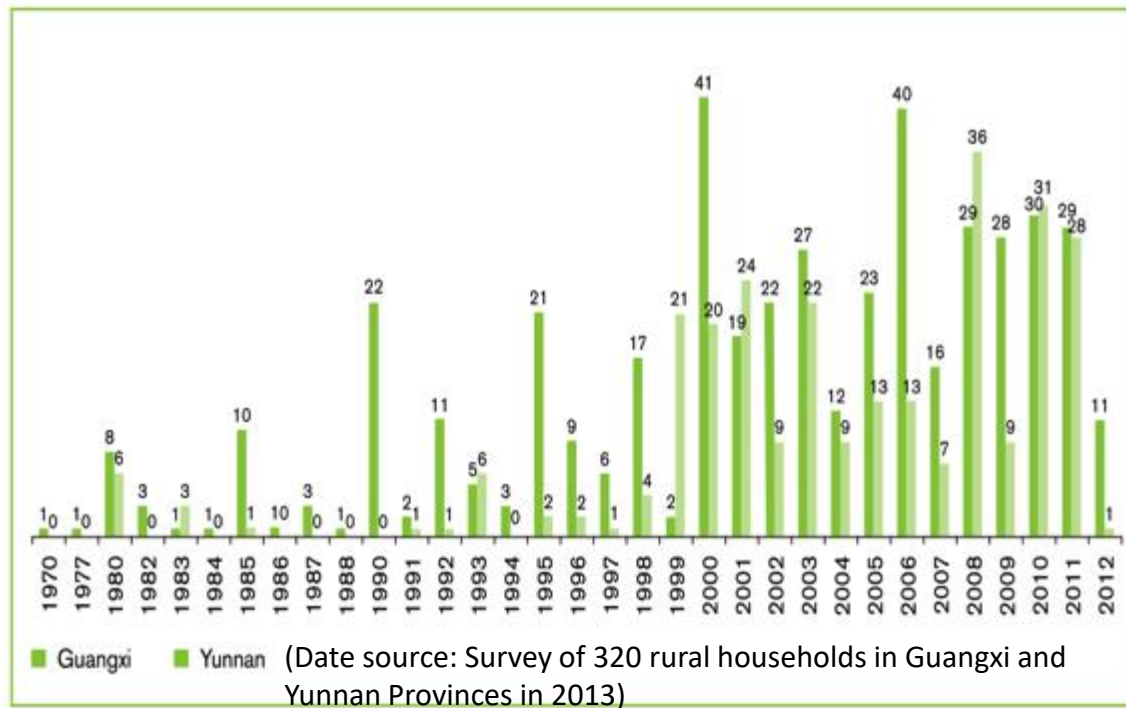


- Single planting.
 - Crops: from aquatic crops to dry land crops. There have even been cash crops.
 - Traditional farming wisdom is being lost.
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1.3 Composite Effects- Biodiversity (生物多样性)



Figure 9: Number of local crop varieties lost since 1970 in Guangxi and Yunnan.



With the promotion of hybrids, local quality is rapidly reduced, and crops and varieties are reduced. With the increase in the number of migrant workers and the reduction of the agricultural labor force, the crops that need to invest more labor are gradually reduced, and more and more land has been abandoned.

1.3 Composite Effects - Social Structure (社会结构)

- Migrant farmers are usually younger than those who stay at home farming. In the Stone Village, the average age of the farming labour force is 42.6 years old; whereas that of migrants is 30.4 years.
(Date source: Survey of 320 rural households in Guangxi and Yunnan Provinces in 2013)
- As the labor force goes out, women and elders's tasks are aggravated.



1.4 Composite Effects- Food system (食物体系)

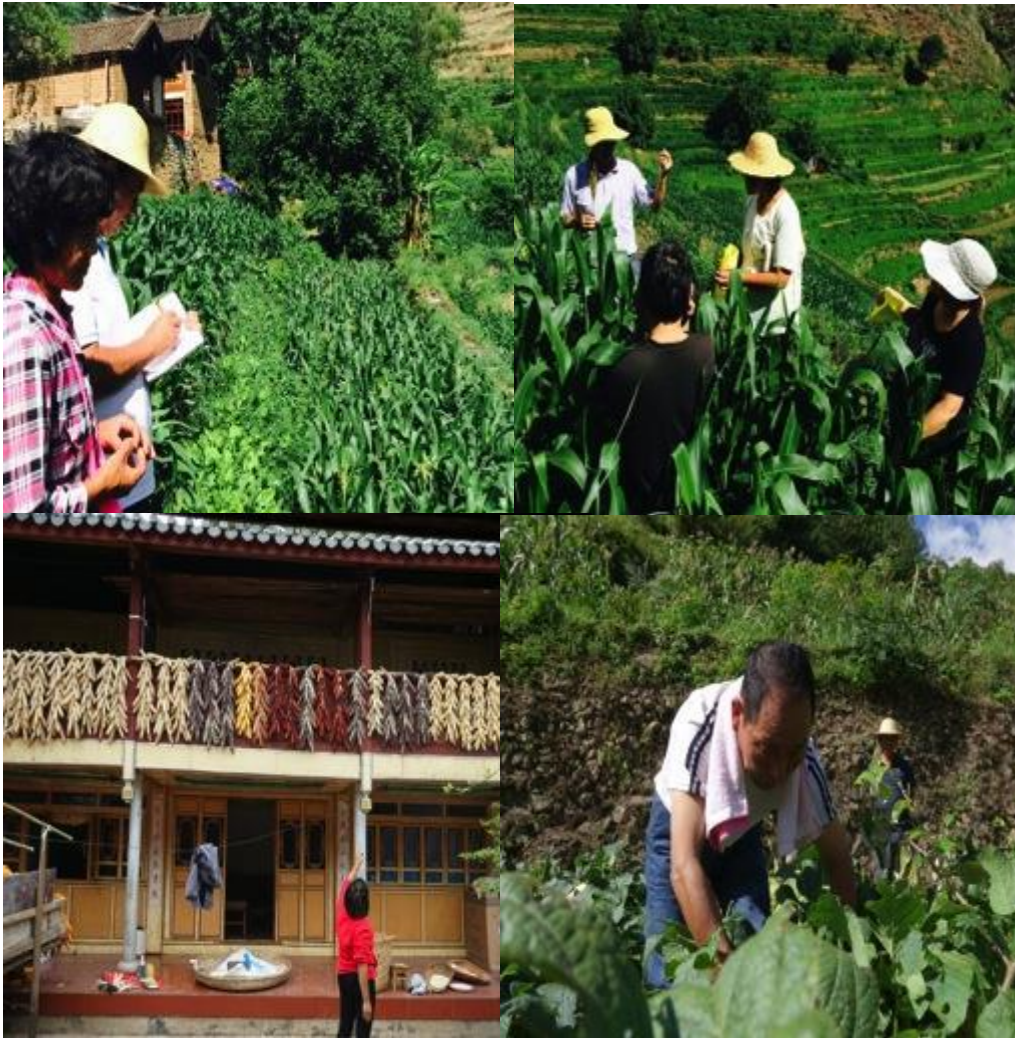


- Food Source: Start buying from outside.
Staple food self-sufficiency has declined the most, from 93.9 percent in 2002 to 80.6 percent in 2012 overall.
- Food practices: Traditional food crafts are gradually lost or even disappeared.
- Sacrificial supplies: being replaced by food bought from outside.

2.1 Go out of the mountains and exchange learning (外出交流学习)



2.2 Participatory Plant Breeding and Participatory Varieties Protection (PPB&PVS)



- Creating a platform for scientists and farmers to exchange and improve local varieties and traditional knowledge exchange.
- The seed production of Guilin 2006 has grown from one woman to four women.

A Women Farmer Breeder during 2014-2017

- **Tested:**
 - 15 PPB v From GX women farmers、
 - 3 from farmers in Andes, Peru
 - 12 from GMRI
 - 15 From other communities

- **Adapted:**
5 PPVs (hybrid Opv)

3. vs from Peru,

- **Distributed:**
8 Vs, local cos, 15 provi



2.3 Reintroduction of traditional crops and variety (传统作物和品种的重现引入)



- Promoting farmers to use traditional seed exchange methods to obtain the crops and varieties they want to grow.
- The villagers begin to consciously collect seeds suitable for local planting.

2.3 Reintroduction of traditional crops and variety -Resuming rice planting (恢复水稻种植)



- In Naxi, Wumu means granary. But rice has not been planted for several years.
- In 2017, the two villagers plant 13 traditional varieties that from Hani Terrace in Yunnan of China by traditional rice cultivation methods, and finally found that there are 5 traditional varieties for local use.

2.4 In situ conservation (原生境保护) -CBR&CSB

Community Registry of Local Variety

Name	Scientific Name	Category of Crops	Number	
	Local Name			
Sowing Time		Harvest Time		Register Time
Plant Height		Fruit Length		Yield/ha
Owner of Variety	Name		Age	Gender
Local Distribution	Area		# of HHs	Location
How many years have you planted this variety?		How many years has the community planted this variety?		Origin of the variety
Source of Seeds: Purchase/Self-saved/exchange with other farmers				
Main Characteristics	Strength:			
	Weakness:			
Traditional Knowledge associated with this variety	(Knowledge for use of traditional genetic resources, traditional technologies, cultivation modes and lifestyles)			
	(Knowledge of traditional cultures reflecting biodiversity conservation and sustainable use of bio-resources)			
Why do you preserve this variety?				
Main usage				



- Community Registry of Local Variety
- Community Seed Bank

2.4 In situ conservation (原生境保护) - Seed Field



- Selecting farm's varieties that adapt to the current climate change.

2.5 Increase the value of community products (社区产品增值)



Helping farmers design packaging for agricultural products.

2.6 Traditional culture and knowledge-Mountain Sponge Irrigation System (山地海绵系统)

- The ancestors created the irrigation system consisting of canals and ponds.
- Ponds are used to store excess water and release it when is scarce.
- They have perfect rules of use.



2.6 Traditional culture and knowledge-Traditional Dongba culture (传统东巴文化)



In the eyes of the Naxi people, Dongba is recognized as wise man. In Youmi, traditional culture and knowledge governance the community respond to change.

2.6 Traditional culture and knowledge-Traditional Dongba culture (传统东巴文化)



- A rain-seeking ceremony was held during the drought, and Dongba chanted.
- If there is something wrong with the family, they will ask Dongba to carry out the ritual.
- Every year, they will worship the mountain god and the water dragon king, expressing gratitude for the gift of nature and praying for the good weather in the coming year.

Contributions to the Aichi Biodiversity Target (Example)





Type number of the Aichi Biodiversity Target that you contributed. Please stick with the targets within your assigned group

Write what kind of indicator(s) you use to assess contributions to the Aichi Biodiversity Target

4

Indicator 1: Number of community people involved to revitalize the abundant SEPLS in Urato Islands

Indicator 2: Hectares revitalized through community-based activities

BEFORE (2012)	AFTER (2017)
<p>Previously any planning process in the community was done by chief of each community only (5 chiefs)</p> 	<p>Now, fishermen (10 men), guest house owners (5 men), and women association (8 women) are involved in the process of planning and implementation</p> 
<p>Community workshop identified total 5ha of the island were left as abundant and observed SEPLS as deteriorated</p> 	<p>0.18 ha have been revitalized with the help of community people and Tourists. It enables people to collect insects and 80 different types of insects were Collected.</p> 

Use illust and figures as much as possible to make it easier for audience to understand

Contributions to the Aichi Biodiversity Target



Indicator 1: number of crops and varieties increased in the villages
 Indicator 2: number of household involved in the seed activities
 Indicator 3: area of forest and wild plants in the landscape increase

BEFORE (2013)	AFTER (2013)
.....working on it	Increased in all 3 villages Working on the crobcrete numbers now

Message to the CBD for post-2020

- Linking in-situ to ex-situ, traditional knowledge to scientific knowledge for complementing and enriching both for enhancing biodiversity
- More policy support for community based initiatives
- Create incentive for scientists to working with local people and communities

Suggestions to IPSI for post-2020

IPSI should be continued for post-2020 target and give members more support for

- capacity building in assessment, action research and analysis
- policy research, analysis and advocacy at national and international levels

A scenic view of a mountain valley. The foreground shows lush green terraced fields. In the middle ground, a small village with brown-roofed buildings is nestled in a valley. A river flows through the valley. The background features steep, green mountains under a blue sky with large, white, fluffy clouds.

Thank you!

Question!