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DEV research briefing

# Towards Just Watershed Management in China: Current Practice and Future Prospects

The Chinese government is currently implementing the world's largest program of Payments for Ecosystem Services (PES) called the Sloping Land Conversion Program (SLCP). The Program uses public payments to convert marginal cropland located in upper watersheds into forests, engaging millions of mountain-dwelling households in the process.

The SLCP has received significant criticism from researchers in China and abroad. However, after some adjustments the SLCP has also generated some successful outcomes in terms of expanding tree cover and improved livelihoods, as demonstrated by experience from the Yangliu upper watershed in Yunnan. The SLCP has been successful because its implicit model of justice has sufficiently overlapped with local officials' and villagers' notions of justice.

## 1. Innovating Payments for Ecosystem Services in China

In 1998, a massive flood swept through the Yangtze Basin attracting national attention to major environmental degradation caused to the upper watershed. Immediately following, the Chinese government initiated the SLCP which aims to increase forest cover and prevent soil erosion on sloping cropland by converting marginal agricultural land into forests. Primarily implemented in remote and poor mountainous regions, this program also seeks to restructure rural economies and improve livelihoods by providing subsidies and off-farm opportunities for farmers. The goal is to gradually shift residents into more environmentally and economically sustainable activities.

landmark for shifting Chinese forest policy away from using mandatory instruments to applying more inductive instruments. To date, SLCP has spread across 25 provinces, 26,840,778 households have participated and the state has invested nearly 23 billion USD, converting over 8 million hectares of cropland into forestland.

## 2. The SLCP in Yangliu: Positive outcomes

Yangliu is a small upper watershed in Baoshan County of Yunnan Province. It contains some 42 km<sup>2</sup> and a population of 7,300 in five administrative villages. Until ten years ago, its people were considered poor even by Chinese standards,

### What the policy says: The Sloping Land Conversion Programme...

- Uses public funds to compensate upstream farmer for losses of their farming livelihoods.
- Has contract-based implementation between government and farmers.
- Makes participation voluntary.
- Maximizes environmental additionality through afforestation.
- Supports rural economic restructuring and livelihood development in mountainous regions through ecological restoration.

As the world's largest pioneering PES scheme, SLCP has several innovative characteristics and is a

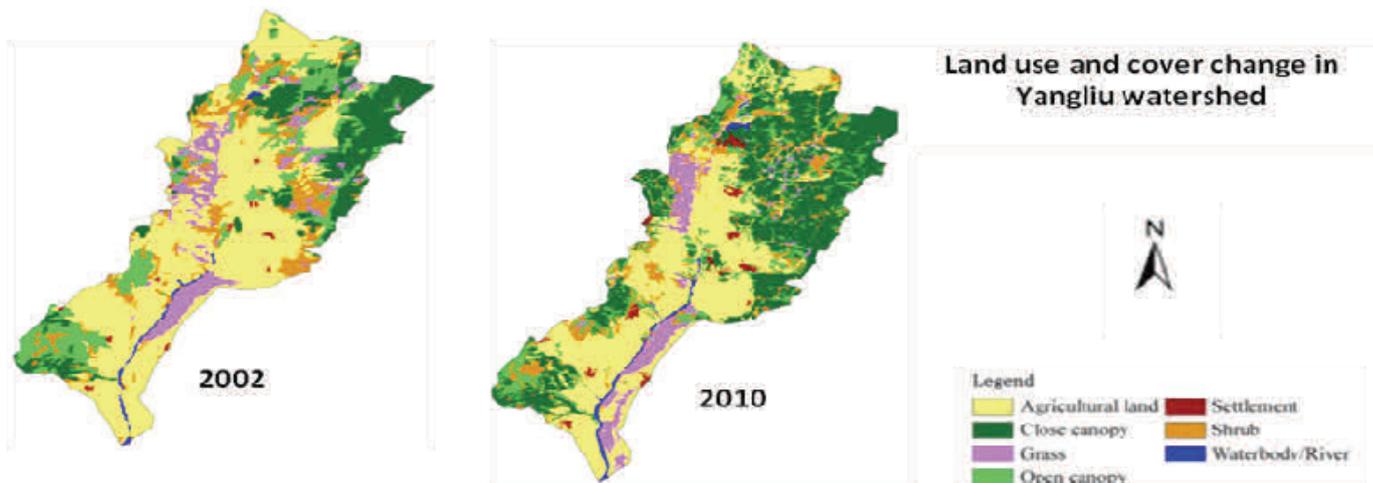
This work results from the project 'Just Ecosystem Management' (NE/I003282/1) funded with support from the Ecosystem Services for Poverty Alleviation Programme (ESPA). The ESPA programme is funded by the Department for International Development (DFID), the Economic and Social Research Council (ESRC) and the Natural Environment Research Council (NERC).



capita income did not exceed US\$100 a year. The returns people made from farming the steep slopes were extremely low.

*Land use and cover:* Tree planting has significantly reduced farming activities in the region. This has reduced workloads and allows for more opportunities for off-farm jobs which typically have higher economic returns in comparison to traditional farming. The afforestation efforts in this region have increased forest area by 46%, indicating improved provision of hydrological services.

Figure 1: Land use and cover changes in Yangliu watershed



*Improved local livelihoods:* According to a household survey there has been a 295% increase in local income from 2002 to 2010. Income generated by farmers is also now more diversified by the combination of on-farm and off-farm activities. The biggest proportion of household income now comes from off-farm activities.

Table 1: Actor’s framing of justice

	Distributive justice	Procedural justice
<b>Policy</b>	The policy states that farmers should be compensated from public funds for livelihood losses incurred through land conversion.	The policy notes that participation in the program should be voluntary.
<b>Local Officials</b>	Local officials have adopted the policy conception to compensate farmers for losses incurred from generating hydrological services downstream. In addition, local officials perceive SLCP as a programme allowing rural people a share of the benefits of China’s economic growth.	
<b>Farmers</b>	For farmers, the programme is a means for transitioning livelihoods from low-return on-farm work to new livelihoods which allows for increased living standards and participation in China’s economic growth.	The farmers perceive it as just to participate in the program on a voluntary-basis. Some assert that farmers can play active roles in the implementation of the SLCP.

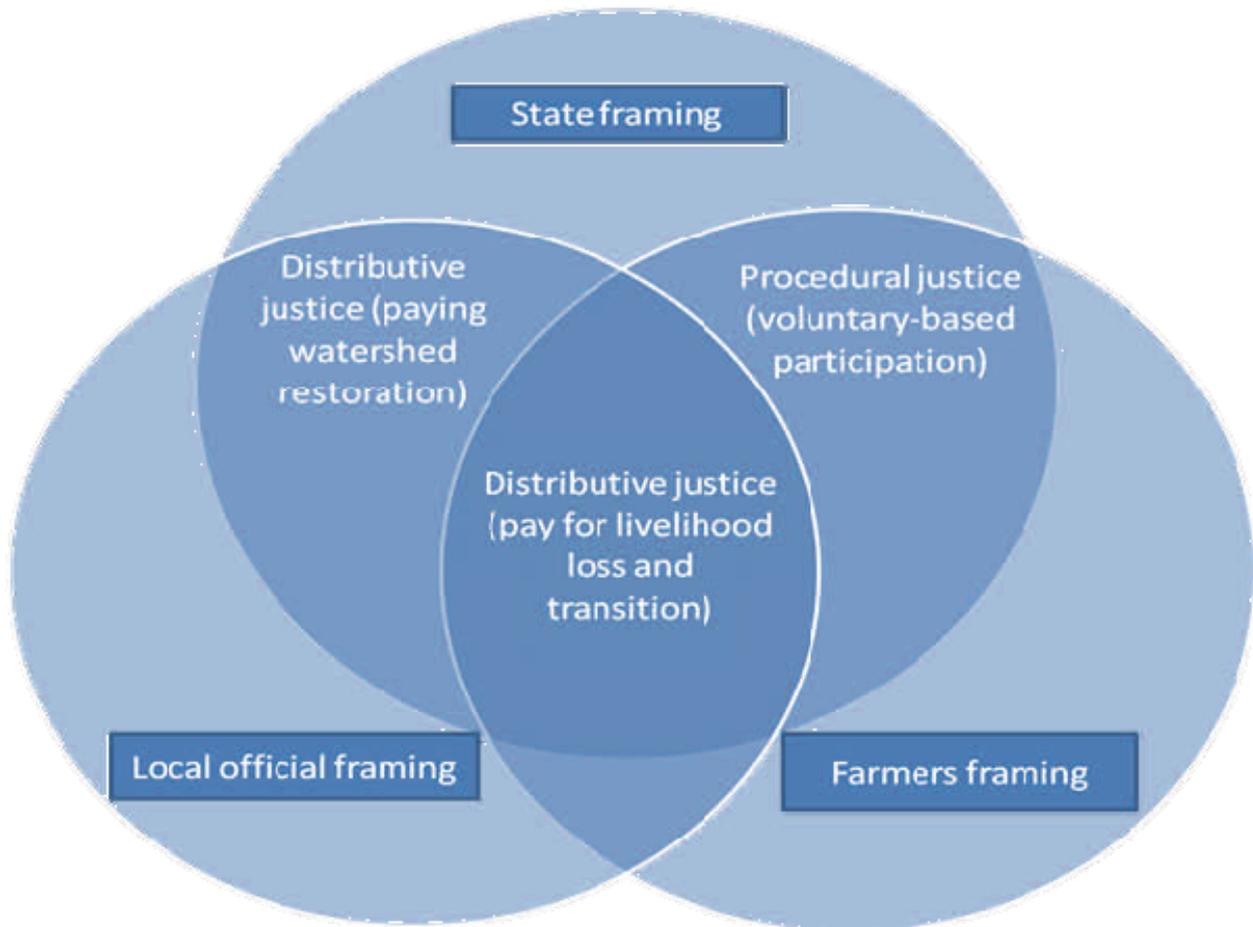
### Lessons learned in Yangliu

The SLCP has generated positive outcomes in Yangliu because it has matched the justice notions of the involved actors: central government designing the policy, local officials implementing it and villagers reacting to the policy. The SLCP’s success has not been simply a matter of paying farmers enough so they would convert. Table 1 summarizes the three key actors’ justice framings with regards to the SLCP.

Actors’ notions of justice are not identical, yet they overlap to a sufficient degree (Figure 2). All three share the primary concern with distributive issues. The state

considers it just to pay for livelihood losses incurred in the conversion of cropland to forest. Villagers think it is just that the payments help them to make the livelihood transition from agriculture to livelihoods which combine on-farm and off-farm activities. Local officials adhere to both notions of justice. Due to this shared concern with distributive issues the payments assumed critical importance and successfully motivated the desired outcomes.

Figure 2: Overlaps in actors' justice concerns



Although some success has been achieved in Yangliu there remains a mismatch of other justice dimensions among actors which need to be considered in order to improve the program implementation. First, procedural justice in program implementation has been largely ignored by local officials. Although central government and local farmers share the same perception for voluntary-based participation, local officials applied only a semi-voluntary approach. They only consulted farmers about their willingness to participate, yet largely ignored giving them active roles in the implementation of the program. This absence of procedural justice limits positive program outcomes in both environmental and socioeconomic terms.

Second, recognition in program implementation has been ignored at both local and central levels. From the program design to its implementation, there has been little recognition of indigenous people's knowledge in watershed management and afforestation despite the fact that the experiential knowledge of local people can significantly contribute to ecosystem management. This ignorance from the state and local officials hinders improved watershed management.

#### Just watershed management in and beyond China

The SLCP provides lessons and experiences with the potential to improve the design and implementation of PES schemes for watershed management in China and around the globe. The SLCP policy contains a clear model of justice: farmers need to participate on a voluntary basis and should be compensated for losses incurred from moving away from crop cultivation to planting trees. It has generated positive outcomes in Yangliu because this model overlapped with farmers' and local officials' notions of justice.

To achieve just watershed management it is important to understand how different stakeholders frame justice and injustice in terms of management and practice. Watershed management will be successful where the underlying model of justice informing policy interventions overlaps with local justice framings, as was the case in the Yangliu upper watershed. This centrality of justice requires policy makers and local officials to understand local people's notions of justice and to consult them, particularly those who do usually not have a voice in the design and implementation of interventions for watershed management.



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