

Reducing Drought Risk by Improving Access to Freshwater and Forest Conservation: Case study in Yunnan, China 2014.11.15 Xiangying Shi Shan Shui Conservation Center



Nature-based solution for disasters: lessons from practices on the ground



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Introduction: Drought risks in Southwest China

SHANSHUI Conservation Center



1. Uneven spatial and temporal distribution of Rainfalls: Distinct dry and wet seasons



2. Climate Change: Temperature increase and rainfall patterns: longer dry season and shorter intensive rain seasons. Continuing droughts since 2010

Source: Ai Chen, The Nature Conservancy



Introduction: Drought risks in Southwest China





3. Less functioning Montane forest:

Natural forest \rightarrow Degraded by logging, changed to Agriculture and monoculture plantations(Rubber, Pine, Walnut)

Public service but private tenure!

4. Lack of water infrastructure

Conveying water costs time and labor



Forest for Water Program

- Started from a severe drought relief activity(2010)
- Water source still abundant in Nature Reserves with intact mountain ecosystems
- Better than bottled water and pumped ground/river water



51 million people affected, 19 billion RMB damage in 5 provinces

Gaoligong Forest relieve Village thirst

Pipe water

Shaoji Village

Gaoligong Mountain —

Image © 2010 GeoEye





Pipe Water from Nature Reserve to Villages



Water Point



Diversion

Storage Pool



Tab water

- Permitted and free drinking water service
- 10 villages, more than 5000 direct beneficiaries



Interventions and Solutions to Drought Risks

1. Improve access to water and green infrastructure: Water piping projects Conservation: Identify Key Natural forests & wetlands

Improvement: Agroforestry, Riparian Rehabilitation



Interventions and Solutions to Drought Risks

2. Raise awareness and Lower conservation opportunity costs:

- Community awareness raising activities
- Develop alternative livelihoods and cook stove improvements





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Protected Areas and DRR of Droughts



1. Co-management Conserved Areas of Water Source Forest

- I. Conservation Agreement: No illegal poaching, fire and logging in NRs
- II. Governance by Community Council and Rules
- III. "Cutting water supply if violating the agreement"

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Protected Areas and DRR of Droughts

- 2. Community conserved Forest for Water (proposed)
- The *Hani* People's conventional "Forest-Village Terrace" ecosystem.
- Traditional rules of no entering Sacred Forest of water source
- Smart water use management in risks of droughts





Lessons learned

- **Traditional Knowledge** of Water management and Green Infrastructure
- Passive Disasters not easy to build linkage/to motivate community
- Loss of traditional conservation governance

Thanks for attentions.

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The GEF Small G

Program





