



# Chishui River Watershed, PRC: Establishing an Eco-compensation Scheme for Trans-provincial Ecological Protection

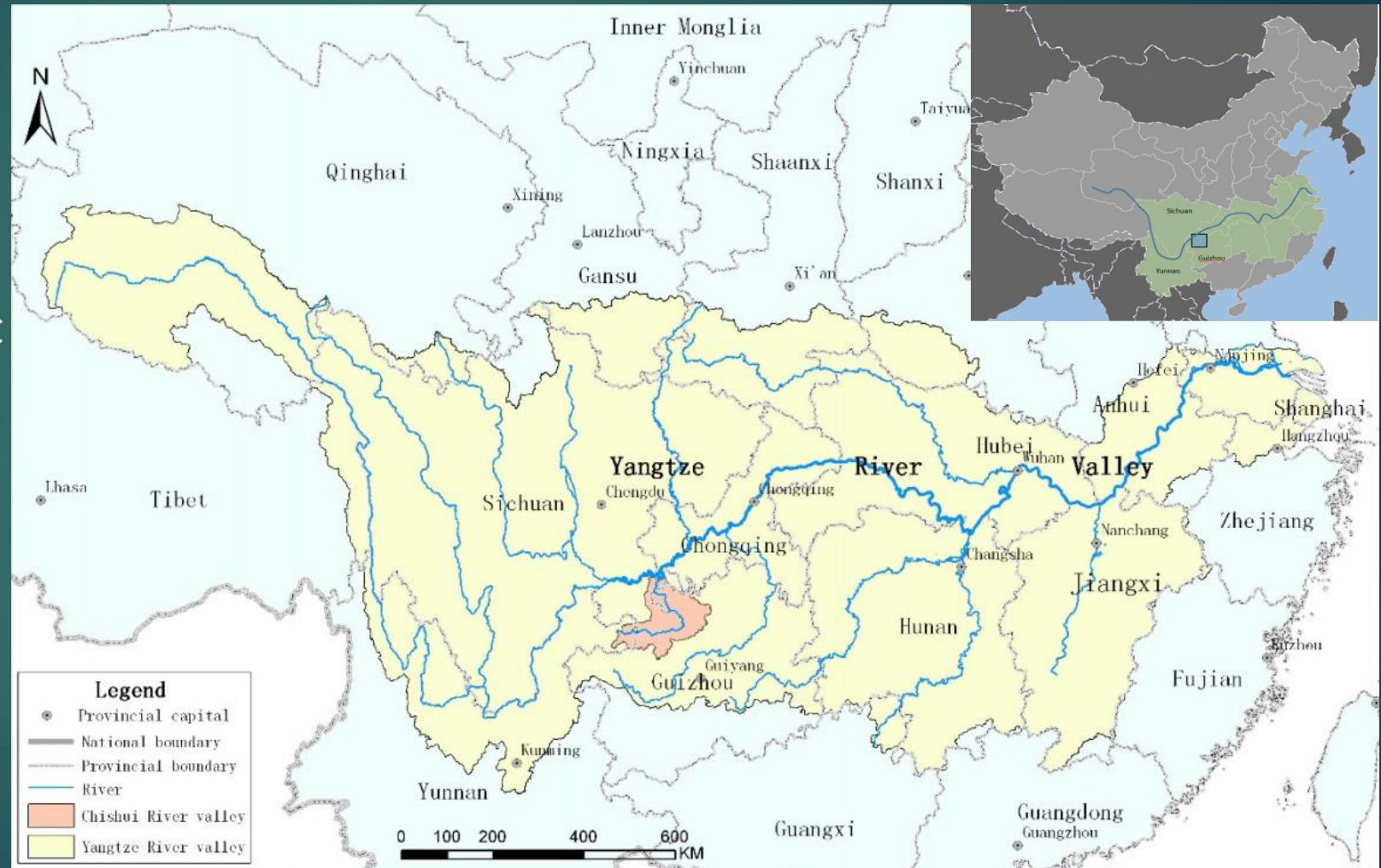
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Stockholm World Water Week

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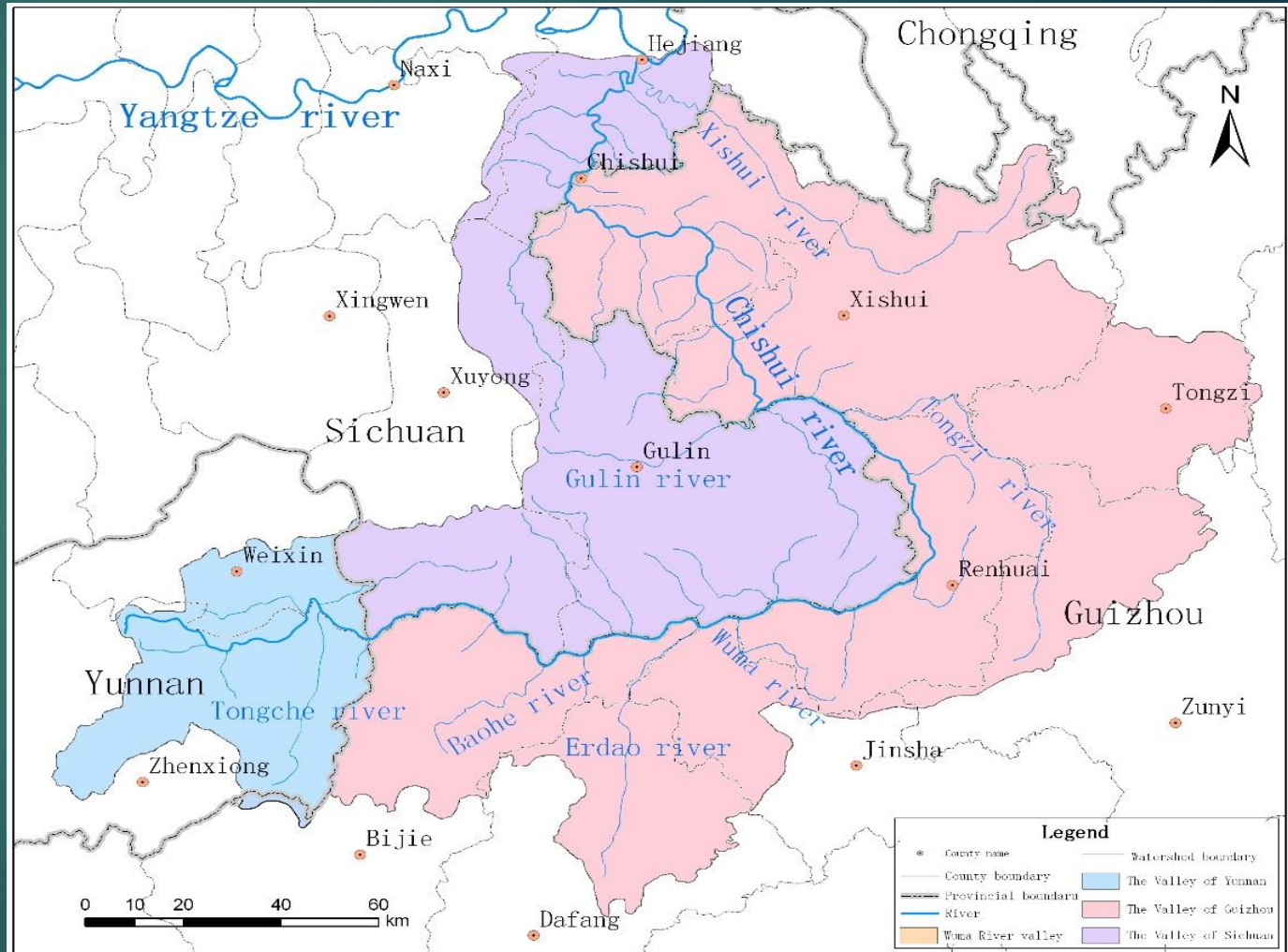
# Where is the Chishui river?

- Tributary of the Yangtze Basin and part of the Yangtze River Economic Belt (YREB)
- Yangtze river system is the 3<sup>rd</sup> largest in the world and largest in PRC
- The YREB accounts for 40% of the population and GDP output



# Facts: Chishui river watershed

- Crosses three of the poorest provinces in PRC - 5 of the 10 counties or cities are national poverty stricken
- Area of 20,440 km<sup>2</sup> across Yunnan, Guizhou and Sichuan Provinces
- Length: 444km
- The only primary tributary of the Upper Yangtze River without a mainstream dam
- Runoff: 961 billion m<sup>3</sup>/a
- Population: 4.6 million
- GDP per capita CNY16,040 (\$2,467)



Source: GEF (2014)

# Globally significance eco-region

- ▶ Upper Yangtze freshwater eco-region
- ▶ Guizhou plateau broadleaf and mixed forests terrestrial eco-region
- ▶ Southwest China biodiversity hotspot
- ▶ China Danxia world heritage site
- ▶ Globally significant fish populations: 112 species, 28 of which are endemic to the Upper Yangtze River



Source: WWF-US

# Environmental Issues

- ▶ Agricultural non-point source pollution key impact on water quality
- ▶ Improper use of fertilizers and tillage
- ▶ Inadequate waste collection and treatment capacity, particularly in rural areas
- ▶ Forest degradation and soil erosion
- ▶ Reduced water volume due to increased industrial and municipal use
- ▶ Increasing pressure on fragile ecology and fish habitat



Source: Author

# Innovative financing opportunity: Eco-compensation

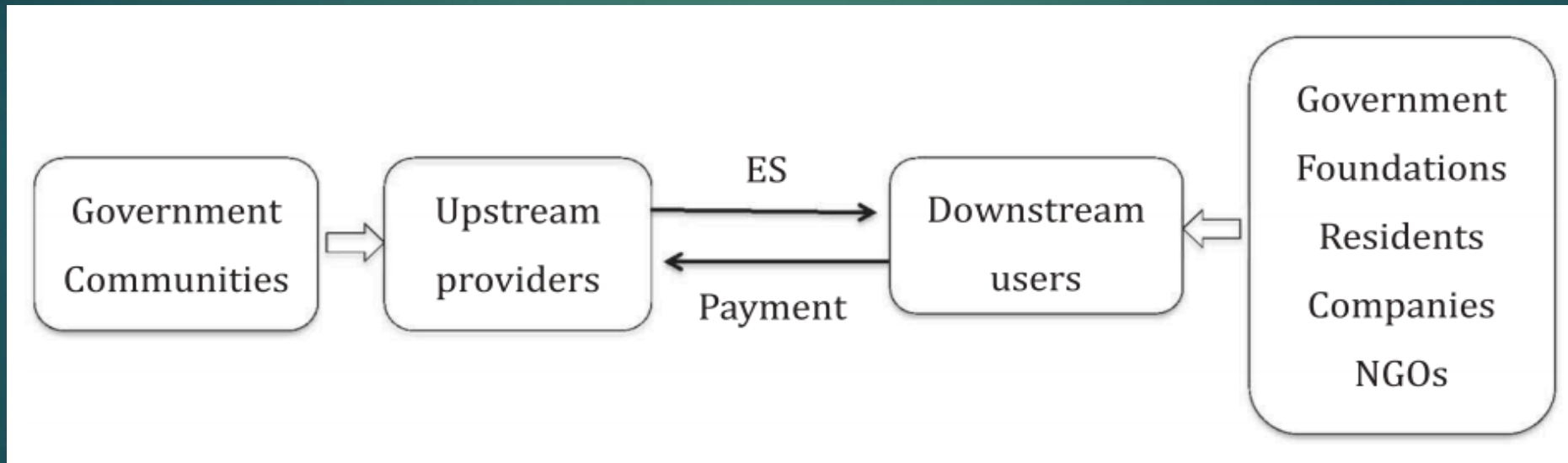
- ▶ Commercial driver - water quality for downstream liquor industry
- ▶ Upstream communities desire to diversify and develop their economy to create jobs and increase income
- ▶ Eco-compensation can balance the interest of people at upper- and downstream areas of the river
- ▶ Commitment from highest levels of PRC Government:
  - 2018 Guiding Opinions on establishing long-term mechanism of ecological compensation
  - PRC 13<sup>th</sup> Five Year Plan identifies application of eco-compensation as a high priority
  - 2011 Chishui River Basin Protection Regulations in Guizhou Province



Source: Author

# Eco-compensation principles

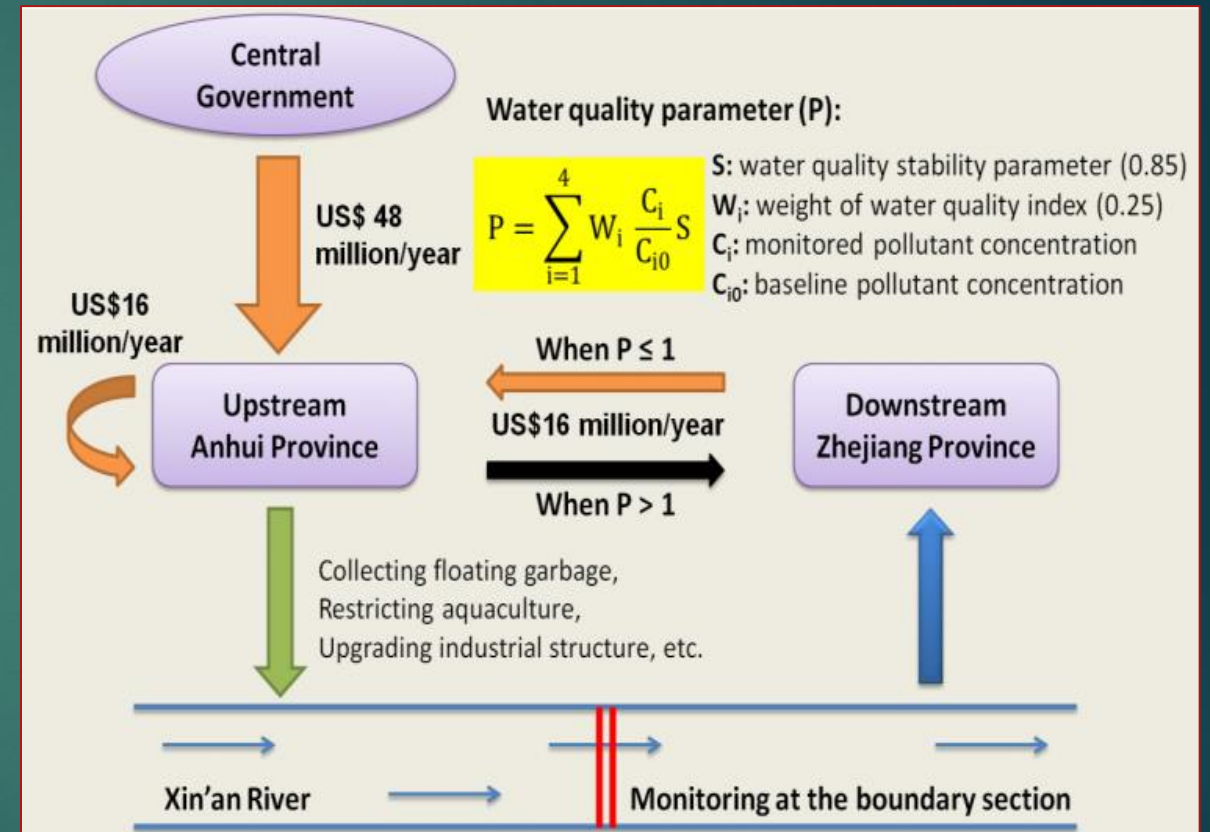
- ▶ Downstream area makes compensation payments to upstream areas for reduced development opportunities in order to achieve environmental targets
- ▶ Partnership with NGOs such as TNC, WWF, and INBAR to raise awareness and leverage impact across basin



Source: Wunder (2005)

# Key barriers: Institutional complexity

- ▶ Flows through three provinces, river serves as the provincial boundaries in many sections
- ▶ Ecological protection requires complicated cross-province coordination at different layers of government
- ▶ Negotiations to agree water quality targets under eco-compensation scheme by three provinces – strong guidance needed by central government
- ▶ Sample eco-compensation Water Quality metric for 2011 Xin'an River scheme (Anhui-Zhejiang Provinces)



Source: FAO 2013



# Objectives for Chishui river Project

- ▶ Adoption of integrated watershed management approach with special attention to policy framework and institution development at national and local government levels
- ▶ Focusing on strengthening cross-provincial rural environmental management and integrating support for ecological protection consistent with PRC's Rural Vitalization Strategy
- ▶ Adoption of result-oriented approach with special attention to ensuring clear and consistent indicators for cross-provincial watershed-scale environmental protection under an eco-compensation scheme

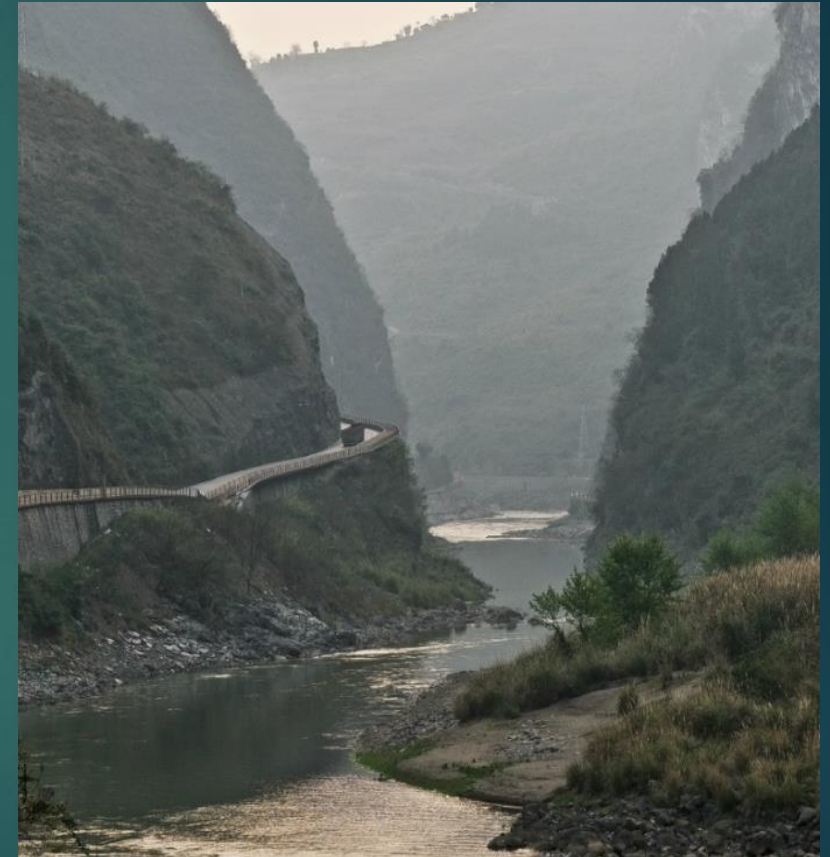
# Key lessons from pilot eco-compensation schemes in PRC

State Council Notice on Eco-compensation	Key lesson
Horizontal cross-provincial eco-compensation (led by local provinces but supported by central government)	Improved clarity on rights and responsibilities of upstream and downstream stakeholders
Increasing compensation standards	Improve incentives for land use change
Cash compensation, technology support, livelihood development	Diversifying forms of compensation
Enhance the trans-boundary water quality/water quantity monitoring	Improve monitoring mechanism
Improving evaluation and review of lessons	Improve evaluation mechanism

# Target Policy Frameworks

## Cross-Provincial Level

- ▶ A masterplan for Chishui watershed ecological protection will guide the design and planning of projects
- ▶ Governance framework for implementation of the tripartite agreement on the eco-compensation scheme for Chishui watershed signed by the three provincial governments on 1 February, 2018
- ▶ Stakeholder engagement framework to raise awareness of environmental issues and targeting behavior change and land management practices
- ▶ Partnering with central government on special policy study to recommend institutional and policy frameworks for eco-compensation mechanisms and blending private sector finance



Source: WWF-US

# Private sector financing: Maotai

- ▶ Downstream commercial value
- ▶ World's most valuable alcohol company and most significant economic sector for Guizhou Province
- ▶ Commitment to invest \$73 million over 10 years from 2014 to protect upstream ecology and environment
- ▶ Institutional reform and supporting policies needed to incentivize wider private sector investment



Source: Author

# Institutional Development

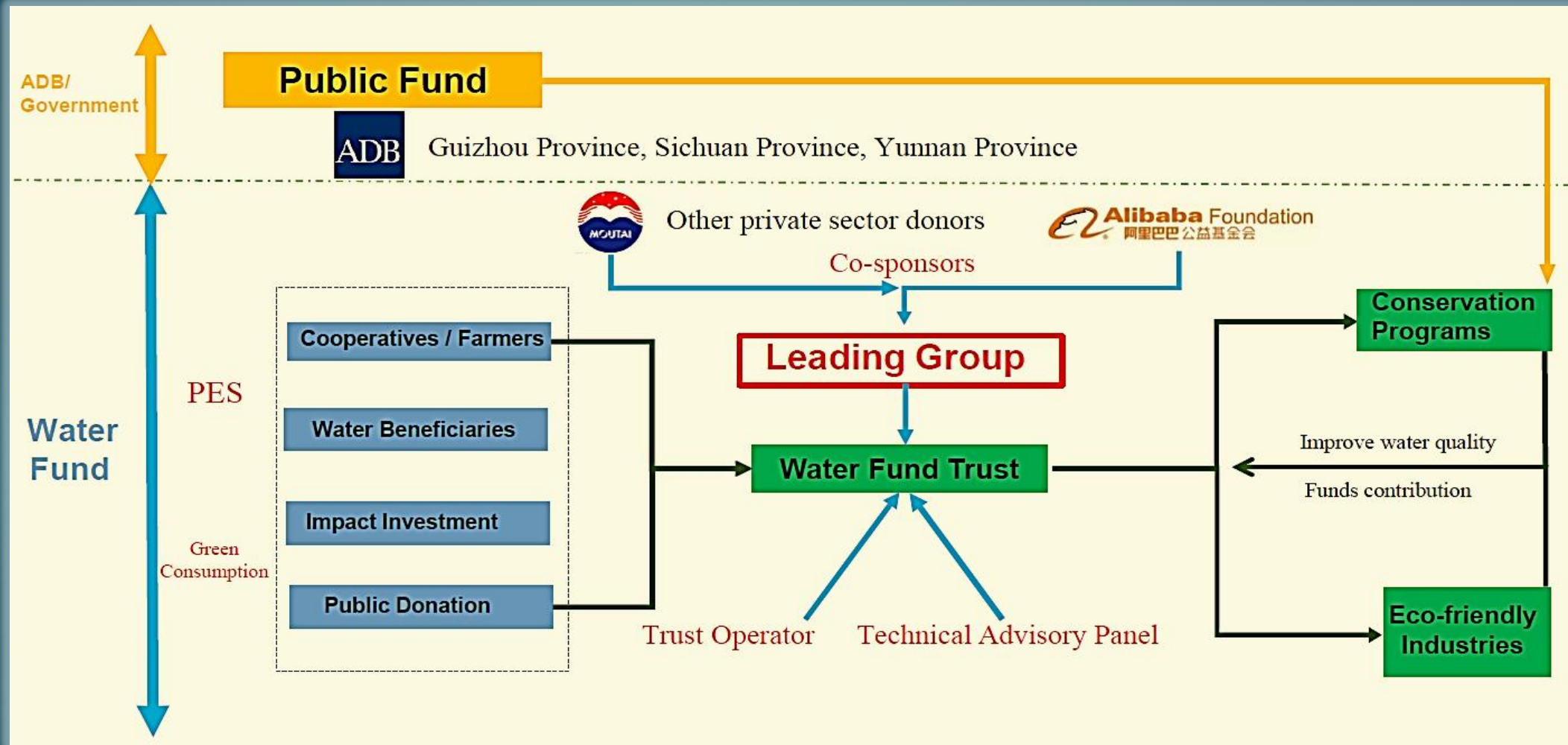
## National Level

- ▶ An inter-ministerial (involving NDRC, MOF, MEE, and MWR) and cross-provincial (involving three provinces) steering committee established to ensure cross-provincial policy coordination
- ▶ A national level monitoring and enforcement office established as the independent monitoring agent to monitor and verify the water quality in accordance with the tripartite agreement reached and to enforce environmental regulations

## Provincial Level

- ▶ A leading group led by a provincial leader, involving all the agencies concerned established to oversee project implementation in the province
- ▶ Cross-provincial Project Management Office established for project implementation activities

# Potential structure of Fund



Source: Adapted from TNC 2018

# Major Outputs and Policy Impact

- ▶ A well-functioning eco-compensation mechanism established among the three provinces of Chishui watershed to implement the February 2018 tripartite agreement
- ▶ Improved wastewater and solid waste collection and treatment system established with a well functioning institutional arrangement for operation and maintenance to ensure long-term sustainability
- ▶ Establishment of a green development fund as a public-private financing mechanism to mobilize sustainable funding support from different sources (private and public) to support ecological protection and promote green development in the watershed

# Yangtze River

An aerial photograph of the Yangtze River winding through a valley. The river is a muddy brown color and curves through green fields and hills. In the background, there are large, dark mountains under a cloudy sky. The text 'Yangtze River' is written in a white, cursive font in the upper left corner.

Thank You

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