

Puzhehei Upper Watershed Eco-Sanitation Project

Qiubei County, Wenshan Prefecture,
Yunnan Province, People's Republic of China

Hanoi, 1st June 2006

Swiss Re



Yunnan Provincial Environmental Protection Bureau

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Introduction

- **Project sponsors:**

- 2004 ReSource Award by Swiss Reinsurance Company
(US\$ 50,000)

- Local contribution: US\$16,000

- **Project implementing partners:**

- Yunnan Environment Development Institute (YEDI)

- Yunnan Environmental Protection Bureau (YEPB)

- Qiubei Environmental Protection Bureau (QEPB)

- **Project period:**

- 1 April 2005 – 15 June 2006

Project location

- Typical karst lake area with unique but fragile karst wetland ecology
- Upstream source of Pearl River system
- Increasingly popular tourism destination
- One of three ‘circular economy’ pilot areas in Yunnan with tourism focus



Local Livelihoods

- 4 local villages:
 - Xianrendong – 822
 - Puzhehei – 4050
 - Luoshuidong – 541
 - Lannizhai – 1104
- Significant source of income
= tourism (increasing)
- Significant dietary component
= lake fish, lotuses (declining)



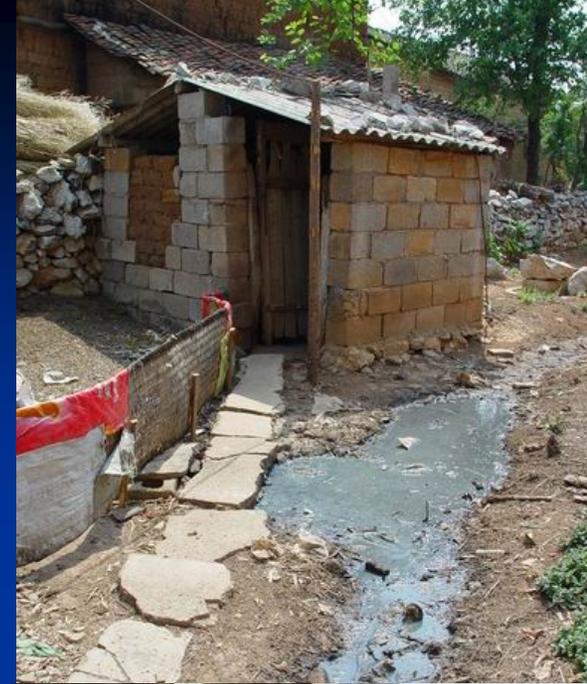
Water environmental problems

- Insufficient control and treatment of wastewater from household and tourism facilities causing rapid eutrophication of nearby water bodies



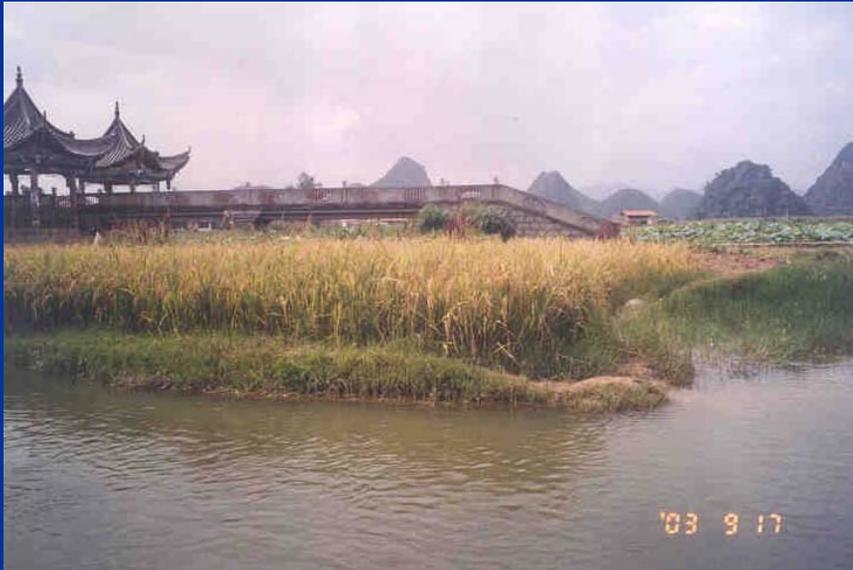
Water environmental problems

- Lack of an appropriate management and disposal system for domestic solid waste, human excreta and animal waste generated by intensive animal husbandry



Water environmental problems

- Increasing nutrients and pollution load from non-point sources (agriculture) in the watershed.



Project goal

“To improve environment management and sanitation in the watershed, and contribute to sustainable development, through introducing and disseminating ‘Ecosan’: a closed-loop approach that enables a maximum safe reuse of organic waste”

Project objectives

- To introduce Ecosan technology and approaches in watershed management, and test its local adaptability.
- To demonstrate and disseminate an integrated disposal and reuse model for organic waste, particularly human excreta

Main Project Activities (1)

- Educational trip for local stakeholders to Guangxi, to observe Ecosan techniques in practice.
- Detailed feasibility study for the planned activities
- Training on use and O&M for constructed sanitary infrastructure, including training materials

Main Project Activities (2)

- Construction of 104 dry toilets in households
- Construction of 10 biogas units in households
- Construction of 1 public dry toilet (10 pits), water tank & waste incinerator at Xianrendong Primary School
- Dissemination events: Local, provincial and regional workshops, and a 30 minute dissemination video

Household toilets



School toilet



Previous school toilet



Ecosan school toilet

Biogas digesters



Dissemination



Highlights

- Study tour raised local officials' interest and support
- Experts' on-site design ensured a better local adaptability, quality and acceptance
- Video used to explain how ecosan toilet is functioning, and how to use and maintain
- Voluntary household involvement in the selection of location
- Extensive preparation and consultation before embarking set a foundation for community acceptance and successful project implementation

Project impacts

- Increased understanding in different levels of government of innovative methods that can be used to prevent water pollution.
- Greater awareness in the local community of the urgency for water resource protection.
- Improvement in co-operation between local government and non-governmental bodies in environmental management.
- Provided credible models for watershed protection and encouraged replication in other areas.
- Replication already taking place in other areas of Wenshan Prefecture

Challenges and issues for the future (1)

- The original size of the project was reduced by about half as the ReSource Award prize money was shared with another project from Ecuador.
- Limited involvement of local tourism operators in water management issues – needs to be addressed to ensure future development is sustainable and does not negate good results achieved so far.
- Only limited locations in the pilot village were suitable for biogas pits, due to high local water table.

Challenges and issues for the future (2)

- Major impact from pollution in Badashao (upstream) remain to be addressed.
- The involvement of pending World Bank projects in relation to Puzhehei watershed remains to be clarified.
- Local authorities must continue development of a holistic approach to watershed protection in the Puzhehei area.

Thank you!

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