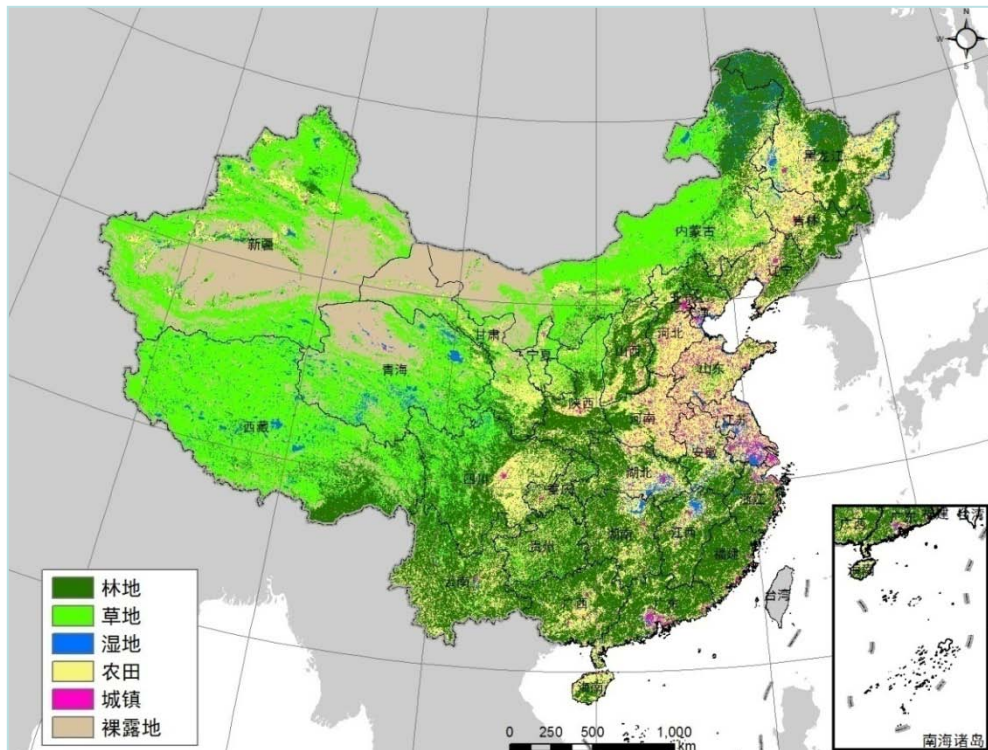


Megacities and Watersheds Initiative

大城市水源地可持续保护计划



**Nature-Based Solutions
to Sustainable Drinking
Water Sources**
以自然为本的解决方案



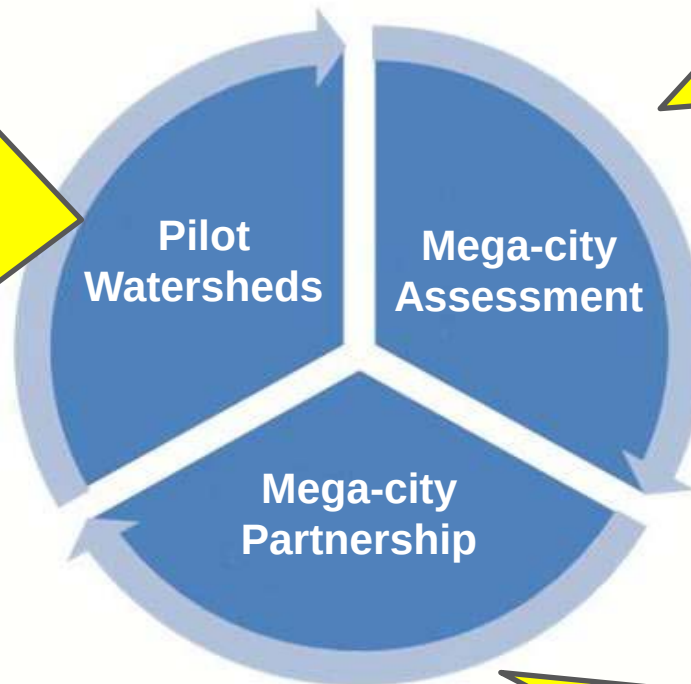
- 83% of surface water sources and 28% ground water sources not meeting national standards
- 65.4% of Chinese people drinking water below national standard
- 400 of the 660 cities suffer from water shortages

Ecosystem and Landscape changes have also resulted in:

1. Degrading water conservation of the landscapes;
2. Weakening water purification and water yield.

Showcase of Nature-based solutions:

- Watershed assessment
- Development of strategies
- Implementation at various levels
- Development of knowledge and policy products



Blueprint studies to examine:

- Pan-China Megacity Watershed Assessment
- China FLR best practices

Venue to

- make commitments and actions
- share the results and experience
- leverage wider support, replication etc

Nature-Based Approaches to Sustainable Drinking Water Sources

Landscape/Watershed Planning and Restoration

- Ecosystem Approach Guideline
- Forest Landscape Restoration Handbook
- Water and Nature Initiative Toolkits

Sustainable Community Livelihoods

- Sustainable Agriculture (organic agr, conservation agr etc)
- Community based sewage disposal

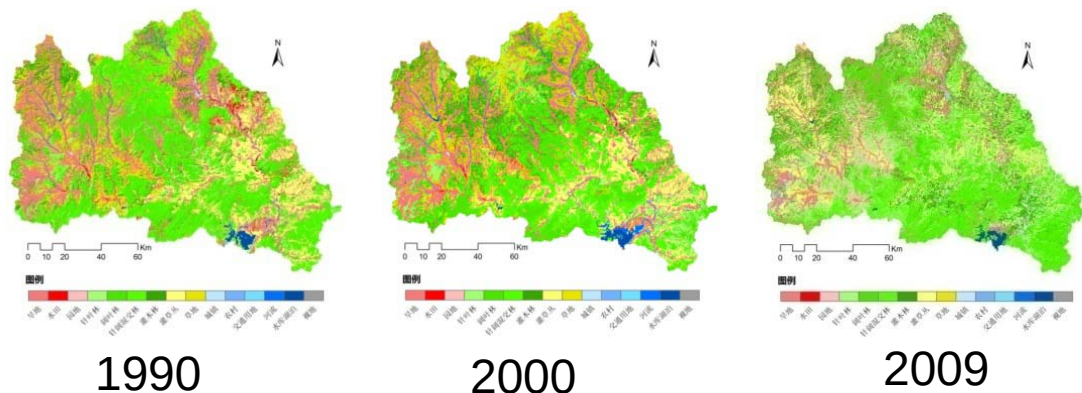
Stakeholder participation and ownership, key to all

Multiple Stakeholder Dialogue and Engagement

- Integrated Watershed Management
- PES (Public, Market-oriented, Water Fund)

Communication, Education, and Awareness

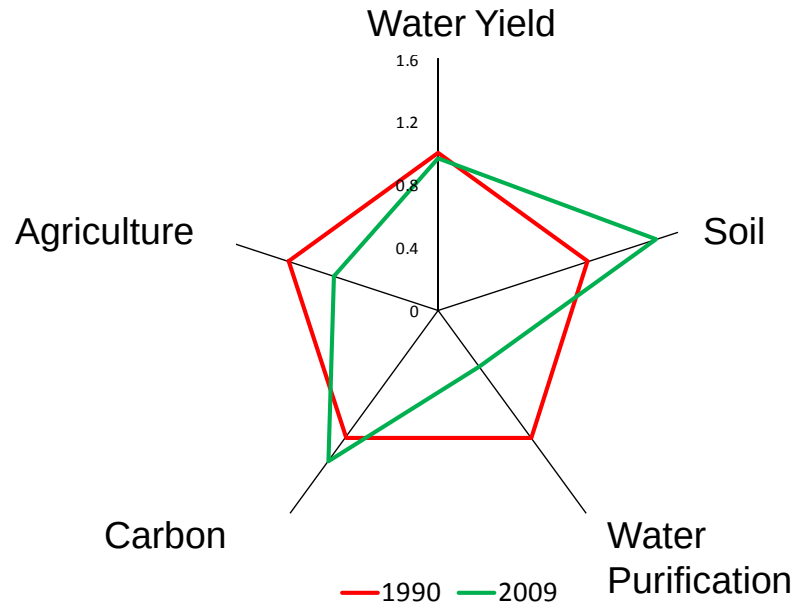
- IUCN Communication, Education and Public Awareness Toolkit

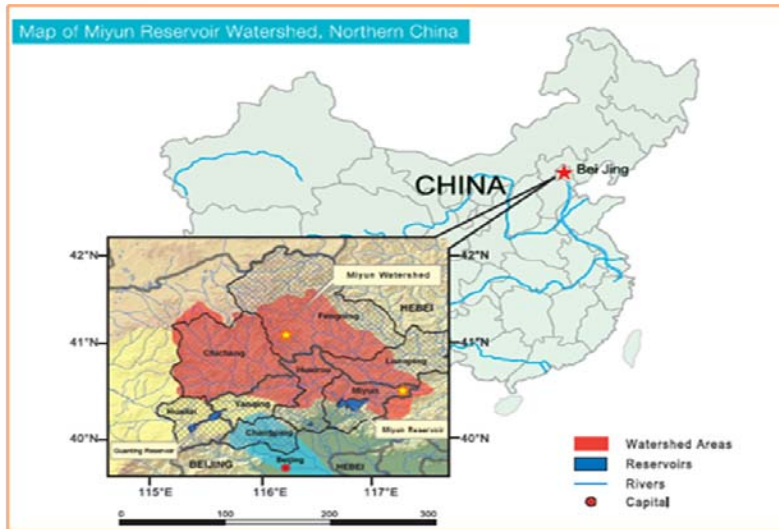


Scientific study in Miyun

Agriculture land: 30% decrease,
Forest land: 30% increase,
Grassland: 47% decrease,
Urban areas: 47% increase

Ecosystem Services	Changes
Water Yield:	↓ 3%
Water Purification:	↓ 54%
Soil Retention:	↑ 46%
Carbon Sequestration:	↑ 19%
Agriculture Production:	↓ 30%





Miyun Watershed, Beijing and Hebei

- The total watershed area: 15,780 km²
- 40% of the surface drinking water supply for Beijing's 17 million residents.
- One of the most important watersheds in China
- Pilot of Livelihood and Landscape Strategy

Location of Jiaquan Watershed, Southern China



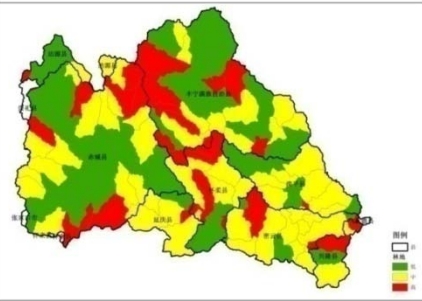
Jiaquan Watershed, Guangdong

- The total watershed area: 3,000 km²
- Identified priority sub-basin: 11 km²
- A key drinking water source for over 20 million people in Guangzhou, Hongkong, Shenzhen etc

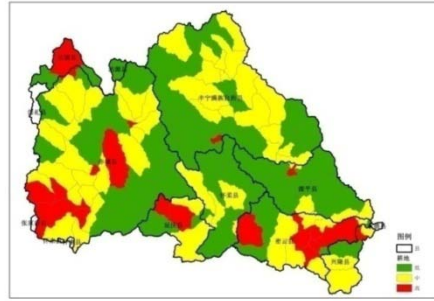
Miyun Watershed: Planning and Demonstration for Upscaling

Delivering a **Miyun Strategy** together with stakeholders:

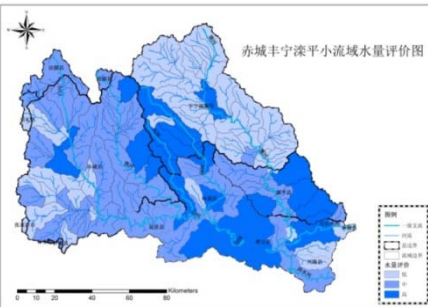
- Pilots sub-basins
- Watershed Component (IWM, PES)
- Monitoring and Comms



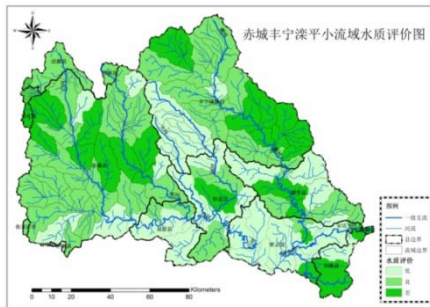
Forest Land Assessment



Agriculture Land Assessment

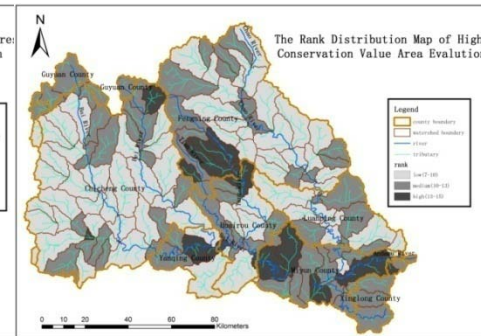
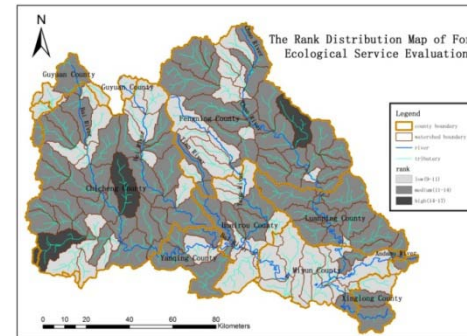


Water Quantity Assessment



Water Quality Assessment

Other indicators: Carbon Sequestration, Soil Conservation, and Socioeconomic indicators



Priority sub-basins after consolidating the assessments

Miyun Watershed: Ongoing Pilot Activities



Landscape planning and restoration in sub-basins



Monitoring and baseline collection of ecosystem and hydrology



Policy, institutions and mechanism support at higher level

Testing and proving the below scientific assessment and forecast

	More grassland	Expansion of Agriculture	Broadleaf in 80m riparian buffer + reasonable agriculture expansion	Grass in 80m riparian buffer + reasonable agriculture expansion
Water Yield:	↑ 35%	↓ 2%	↓ 9%	↑ 5%
Soil Retention:	↓ 7%	↓ 60%	↑ 49%	↑ 28%
Water Purification:	↓ 11%	↓ 23%	↑ 71%	↑ 63%
Carbon Sequestration:	↓ 30%	↓ 7%	↑ 7%	↓ 6%
Agriculture Production:	0	↑ 42%	↑ 7%	↑ 7%

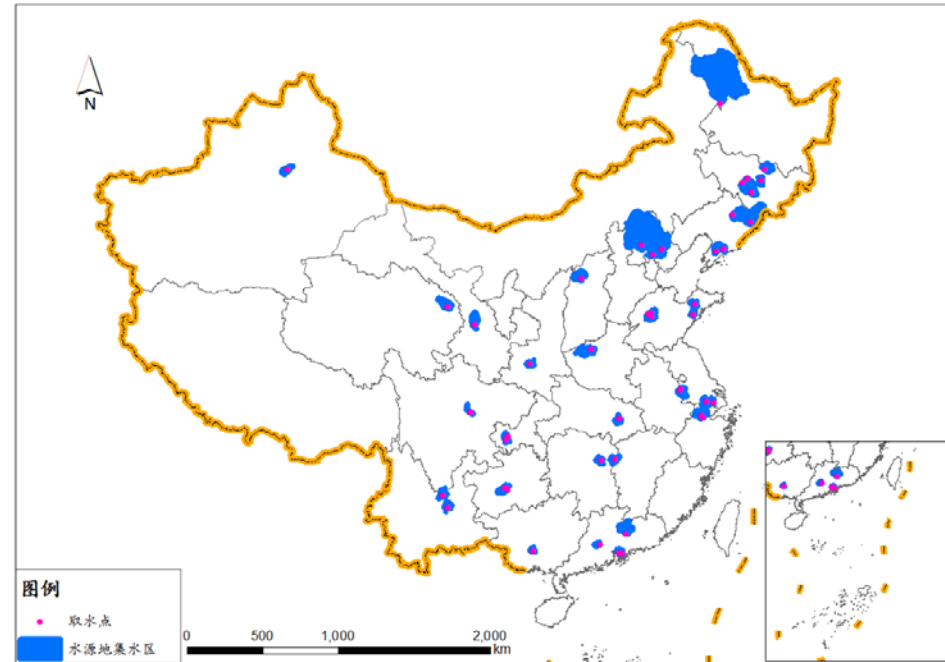
Pan-China Megacity & Watershed Assessment

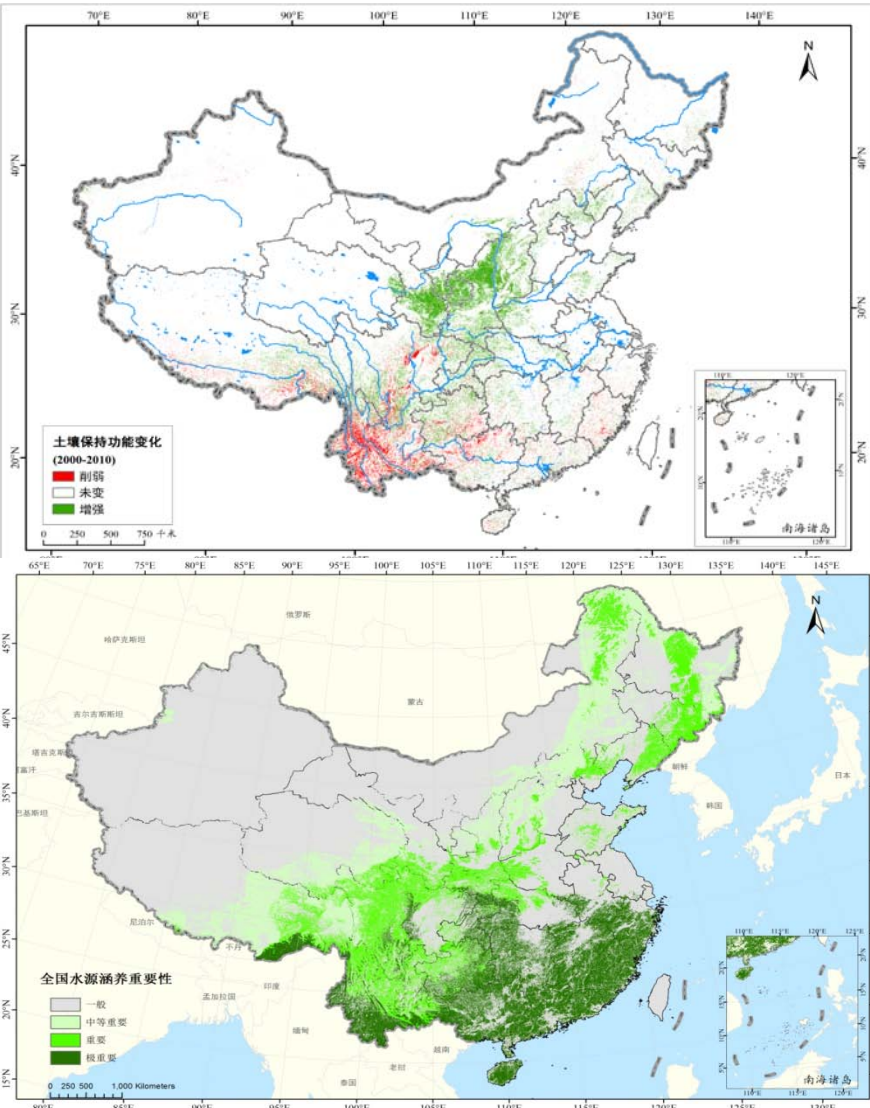
Objective:

Analyzing **30-50** Chinese mega-cities and their drinking water sources (15-20 watersheds) to assess risks in drinking water security and the needed forest landscape restoration.

Tasks:

- Selection and mapping of watersheds (completed);
- Risk evaluation at the national level (methodology developed considering ecosystem changes of the watersheds and water use and wastewater discharge of the cities)
- Model of landscape restoration in and around watershed for security of water supply (5-8 case studies identified, really study after the national risk evaluation)
- Key constraints and potential for expanding watershed-based restoration



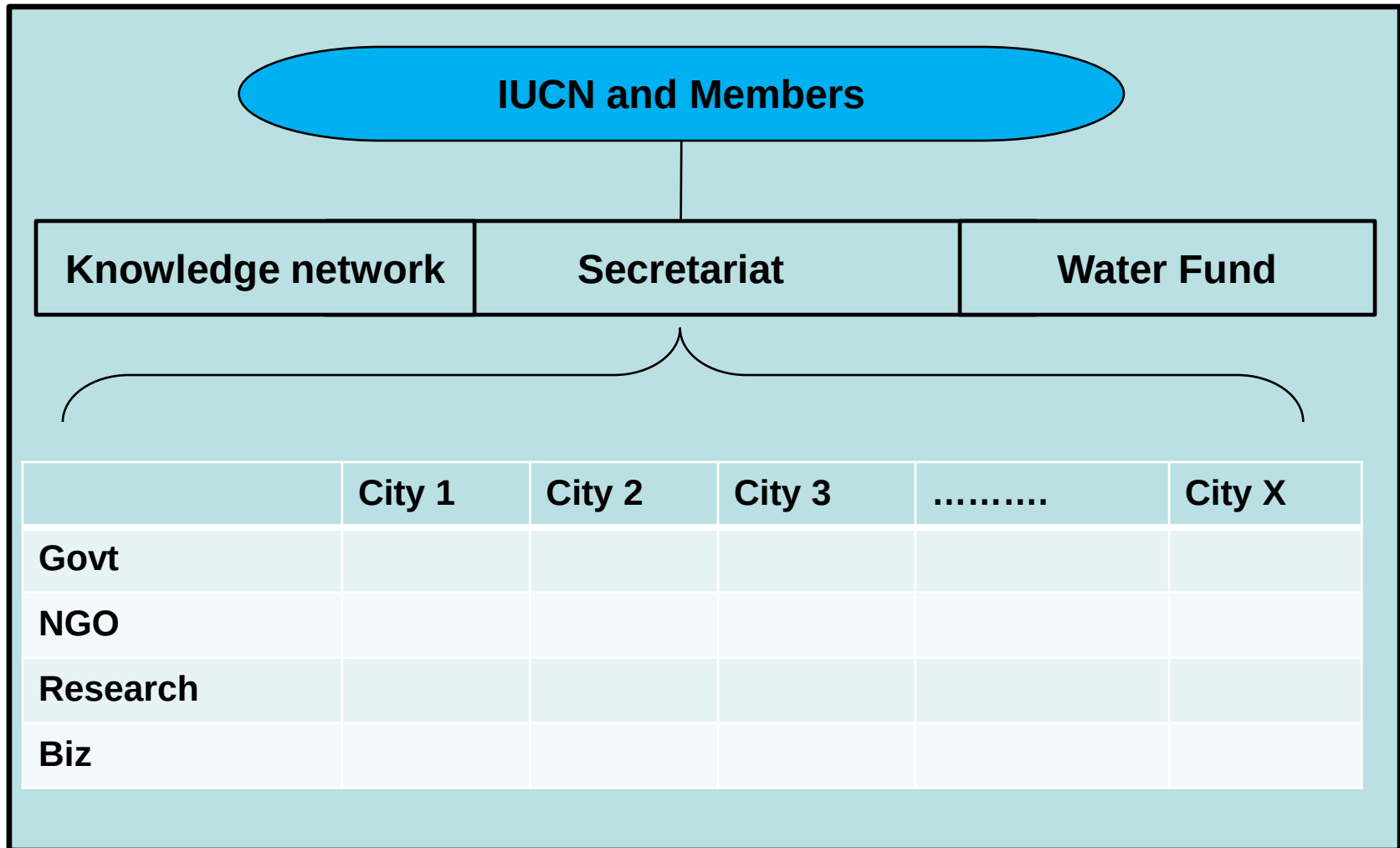


What can be learned from China's experience on forest landscape restoration?

- Overview analysis of FLR programmes planned and implemented by China;
- Case studies on the social, environmental and economic benefits, multiple ecosystem functions and their trade-offs, including water;
- Key success factors and enabling conditions from China's FLR experiences ?
- Potential for China to increase the functionality of existing large-scale reforestation (plantations) initiatives.



Partnership for Megacity Watershed Protection (PMWP)



Key Messages

- For city residents:

Not only demand matters, but also supply – Caring Your Nature

- For government authorities and decision-makers:

Nature is also your water infrastructure - Investing in Nature

- For visibility among all audiences:

Nature helps us find solutions – Respecting Nature

National Campaign:

Raising public awareness on watershed protection and saving nature



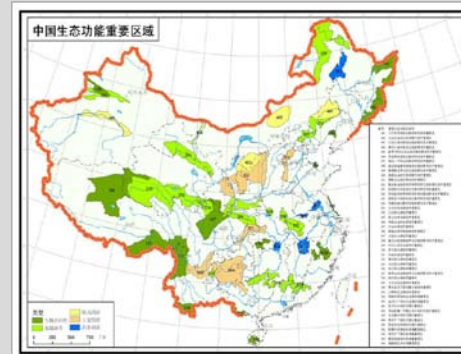
Cell Phone App 手机软件App

- Receiving info 接受信息
- Uploading and Sharing 上传和分享
- Participation 参与



Website 网络

- Maps and Info 地图和信息
- Pics and Stories 照片和故事
- Networking 社交



Pan-China Megacity Assessment 中国大城市评估

- Maps 地图
- Data & Analysis 数据和分析



International Union of Conservation of Nature

China Programme Office



Other Nature-based Solutions to Sustainable Drinking Water and Watershed Protection

The IUCN Water & Nature Initiative

1

New national water policies

2

Multi-stakeholder platforms empowered

3

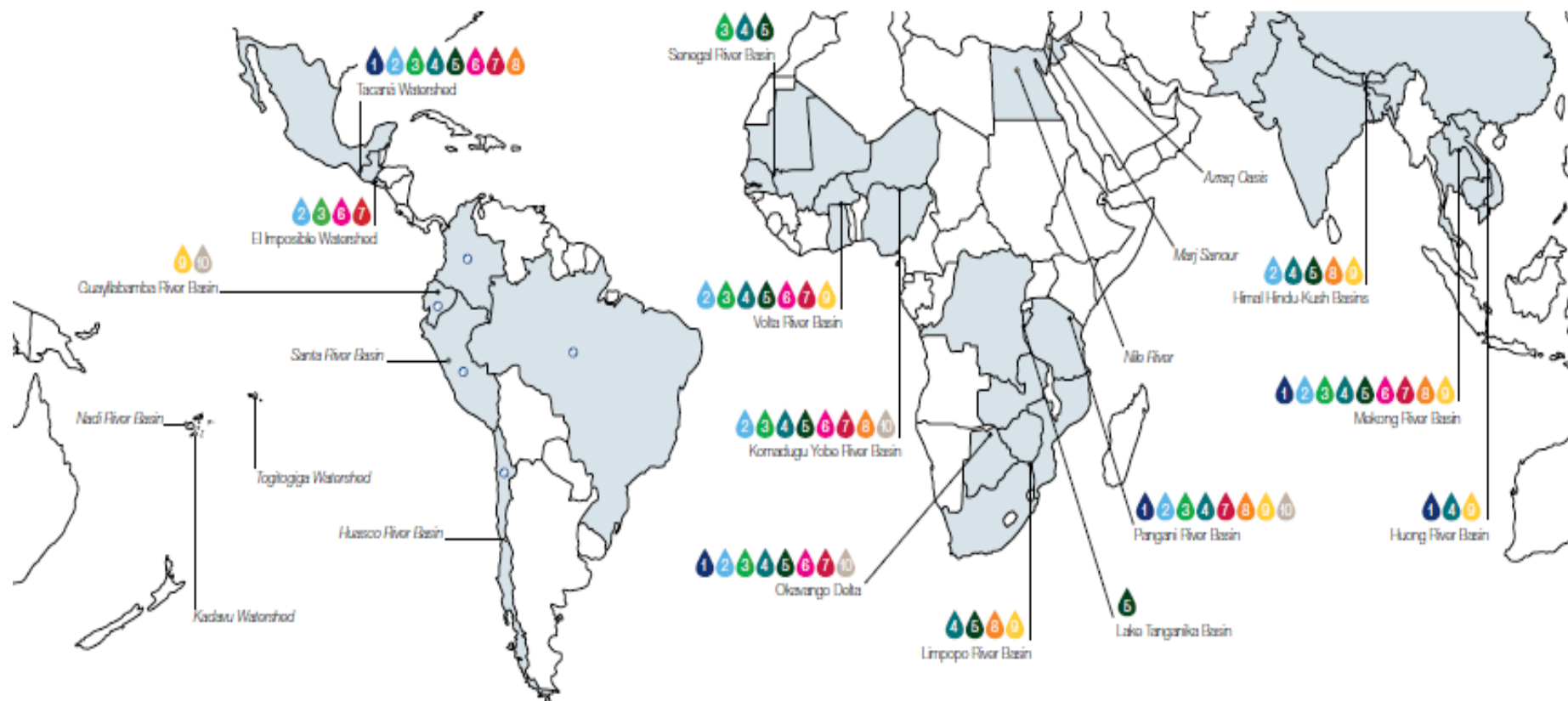
Basin-level water forums

4

Partnerships for sustainable water

5

New transboundary agreements



6

New income generation for poor people

7

New assets for sustainable livelihoods

8

Reduced vulnerability to climate risks

9

Toolkits drive innovation

10

Major basin financing mobilised

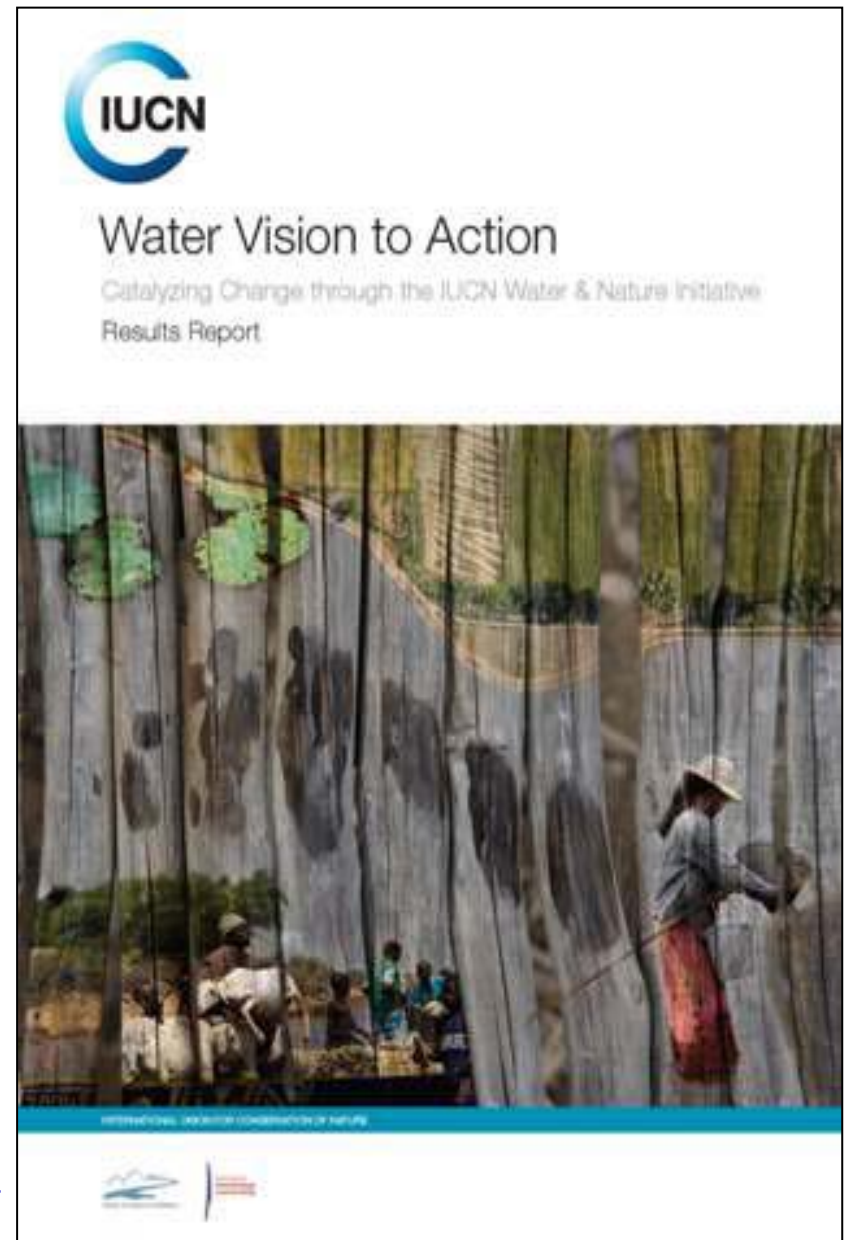
RESULTS REPORT

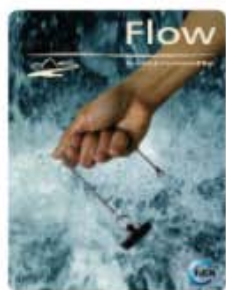
Water Vision to Action

Catalyzing change through the IUCN Water & Nature Initiative

- Demonstration Results
- Communication and Learning
- Lessons Learned
- Impact Pathways
- Recommendations for Policy & Practice

http://cmsdata.iucn.org/downloads/final_wani_results_report_lr.pdf





Water and Nature Toolkits

FLOW – *The Essentials of environmental flows*

PAY – *Establishing payments for watershed services*

VALUE – *Counting ecosystems as water infrastructure*

CHANGE – *Adaptation of water resources management to climate change*

SHARE – *Managing waters across boundaries*

RULE – *Reforming water resource governance (Coming soon)*

NEGOTIATE – *Reaching agreements over water (Coming soon)*

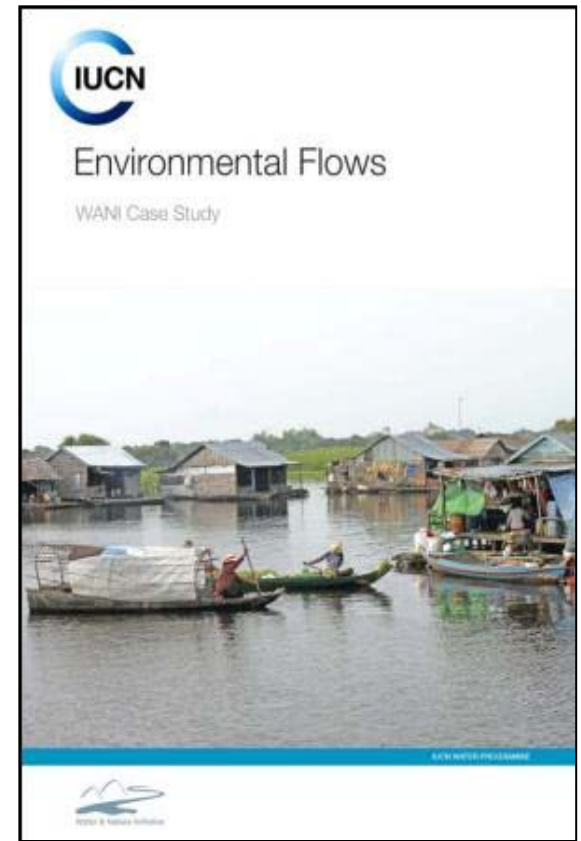
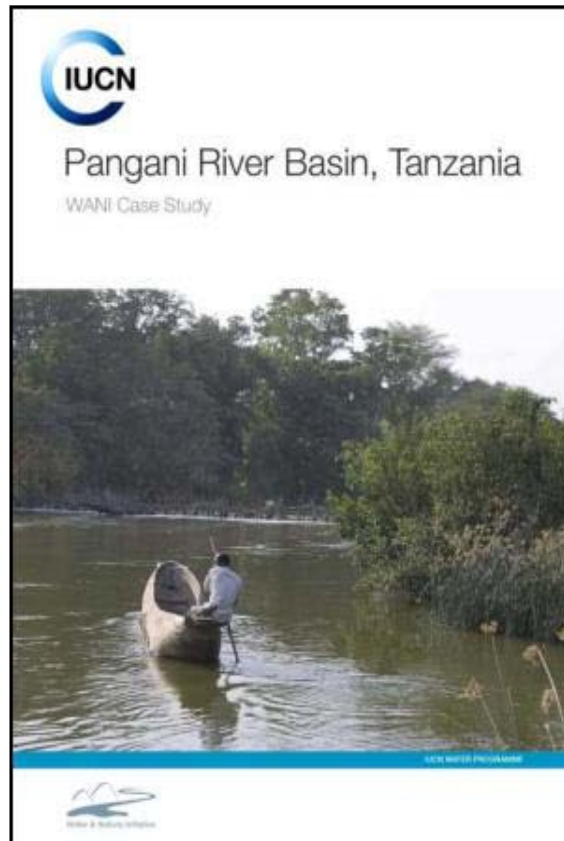
To download books:

www.iucn.org/resources/publications

For further information email water@iucn.org



The WANI Case Study Series



The WANI Case Study Series



Mekong River Basin

Mobilising grassroots engagement and facilitating high-level dialogue for transboundary water management



IUCN WATER PROGRAMME – DEMONSTRATION CASE STUDY NO.3



Tacaná Watersheds Guatemala & Mexico

Transboundary water governance and implementation of IWRM through local community action



IUCN WATER PROGRAMME – DEMONSTRATION CASE STUDY NO.5



Volta River Basin Ghana & Burkina Faso

Transboundary water management through multi-level participatory governance and community projects



IUCN WATER PROGRAMME – DEMONSTRATION CASE STUDY NO.4



TNC, FEMSA Foundation, IDB and GEF
launched in 2011



LATIN AMERICAN
WATER FUNDS
PARTNERSHIP

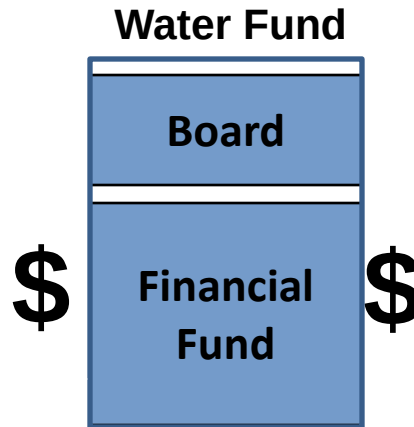
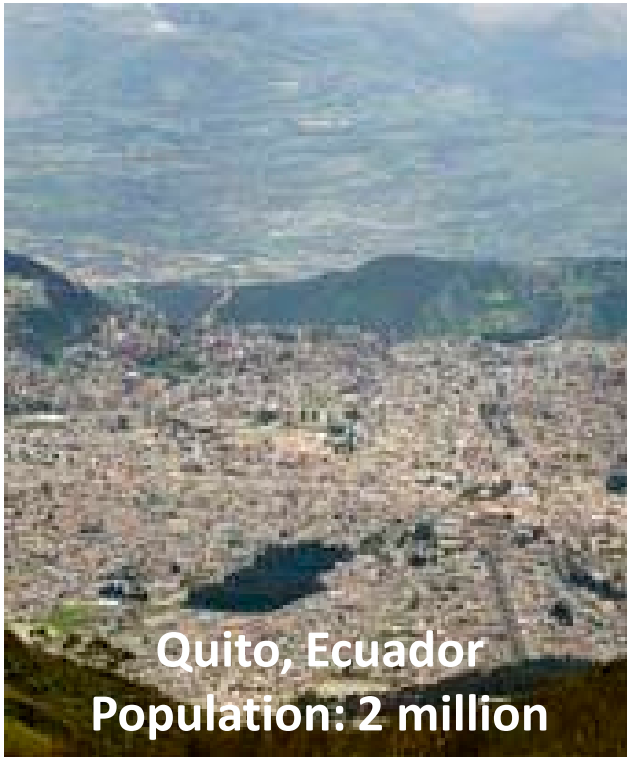


Water Funds

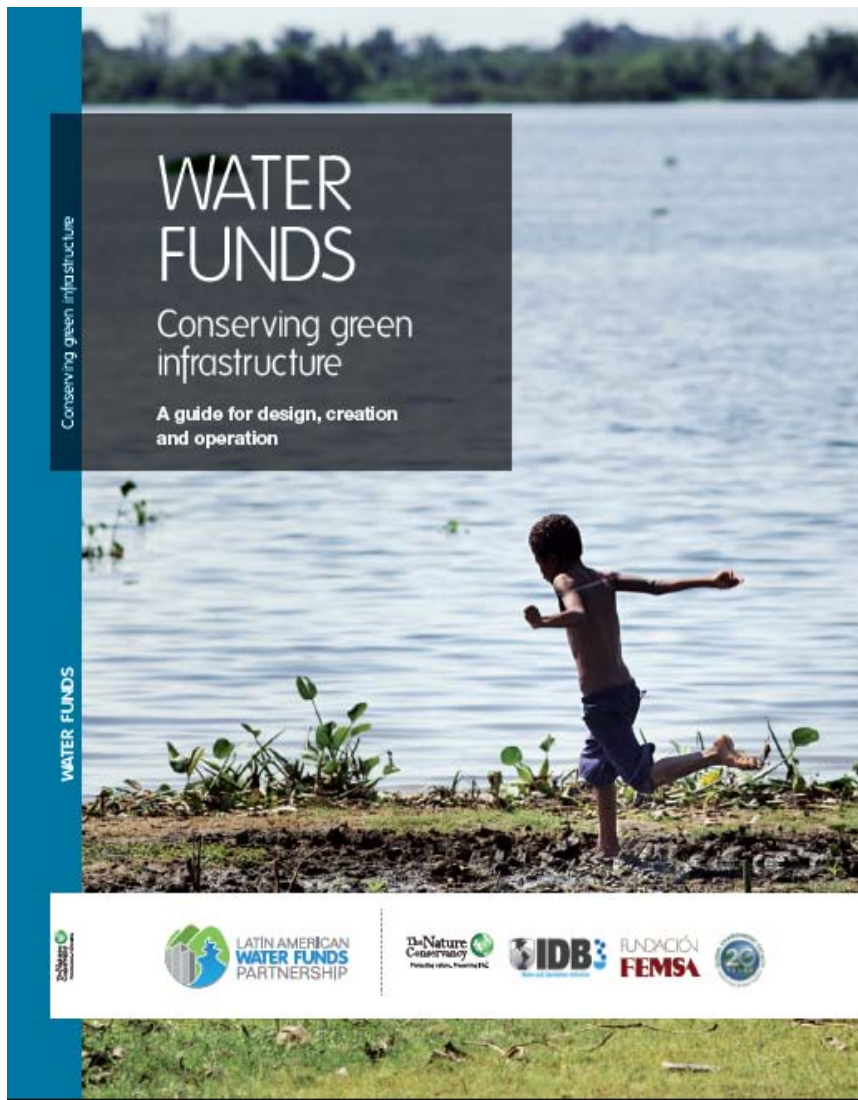
Users

ENVIRONMENTAL SERVICES MODEL

Providers



**WATER
SERVICES**



<http://www.conservationgateway.org/Files/Pages/water-funds-conserving-gr.aspx>

<http://www.fondosdeagua.org/>

Water Funds Business Case:

Conservation as a Source of Competitive Advantage

- ▶ The Business Imperative
- ▶ Why Green Infrastructure Over Gray?
- ▶ Water Funds as Green Infrastructure: How do they work?
- ▶ Cases



LATIN AMERICAN
WATER FUNDS
PARTNERSHIP



The Nature
Conservancy
Preserving nature. Promoting life.



FUNDACIÓN
FEMSA



IDB
Inter-American Development Bank



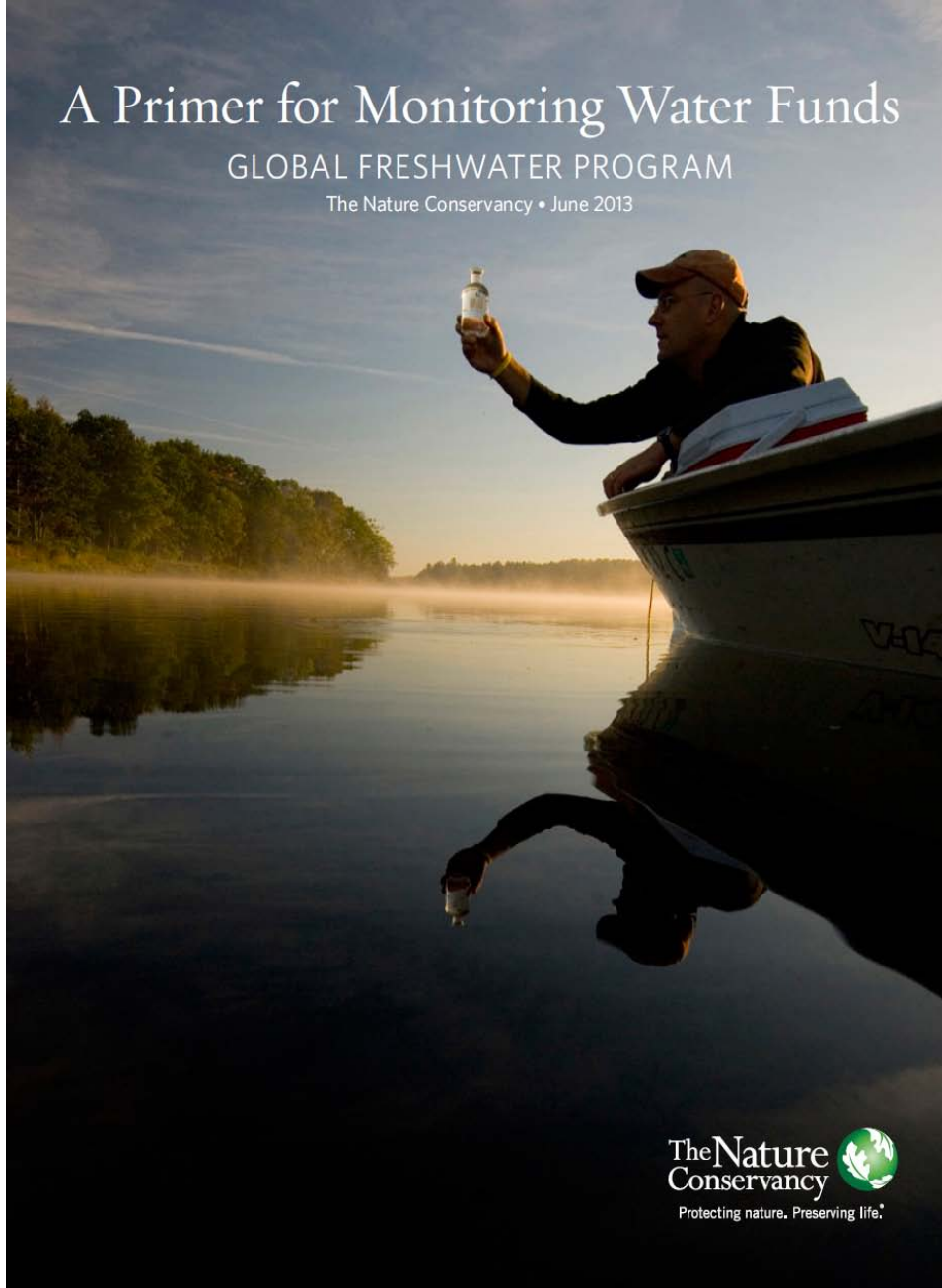
gef
Global Environment Facility

<http://www.fondosdeagua.org/Water%20Funds%20Business%20Case>
http://www.watershedconnect.com/documents/files/water_funds_business_c

A Primer for Monitoring Water Funds

GLOBAL FRESHWATER PROGRAM

The Nature Conservancy • June 2013



The Nature
Conservancy 
Protecting nature. Preserving life.