

Paying for Water Services

Stefano Pagiola

Environment Department

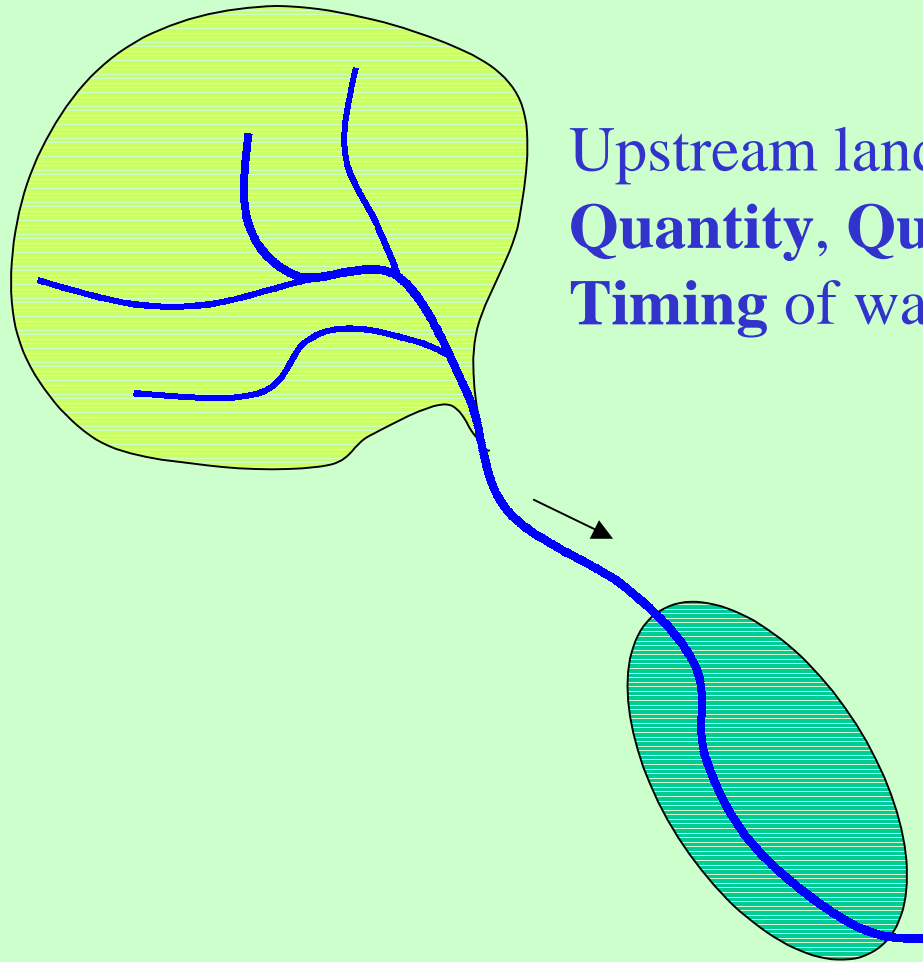
World Bank

Workshop on New Markets for a Green Economy

Teresópolis, 24-26 March, 2001



Water Services



Upstream land uses affect
**Quantity, Quality, and
Timing** of waterflows

Possible downstream
beneficiaries:

- Domestic water use
- Irrigated agriculture
- HEP
- Fisheries
- Recreation
- Downstream ecosystems

The Problem:

- Land users typically receive no compensation for water services
- Make land use decisions based solely on on-site benefits
- Leads to socially sub-optimal land uses

Past responses have largely failed

- Direct government intervention
- ‘Demonstration’ approaches
- Regulatory approaches
- Subsidies (in cash or in kind)
- Low adoption rates
- Adoption followed by abandonment

New Approach: Payment for water services

If we want land users to ‘grow’ a water service we need to buy it from them

Principles

- Beneficiaries pay for the services they receive
- Land users are paid for the services they generate

Experiences

- **Costa Rica**
 - Pago por Servicios Ambientales: payments for forest conservation or reforestation
 - ‘Environmentally-adjusted water tariff’ in Heredia Province

Experiences

- **Plan Verde, Colombia**
 - Part of revenue from HEP generators and from water charges used for conservation
 - Assigned to Regional Agricultural Corporations (CARs) for conservation activities

Experiences

- **Quito and Cuenca, Ecuador**
 - Part of revenue from water fees used for conservation
 - Quito: used by National Parks for conservation activities
 - Cuenca: municipal water authority buys land in watershed and places it in conservation use

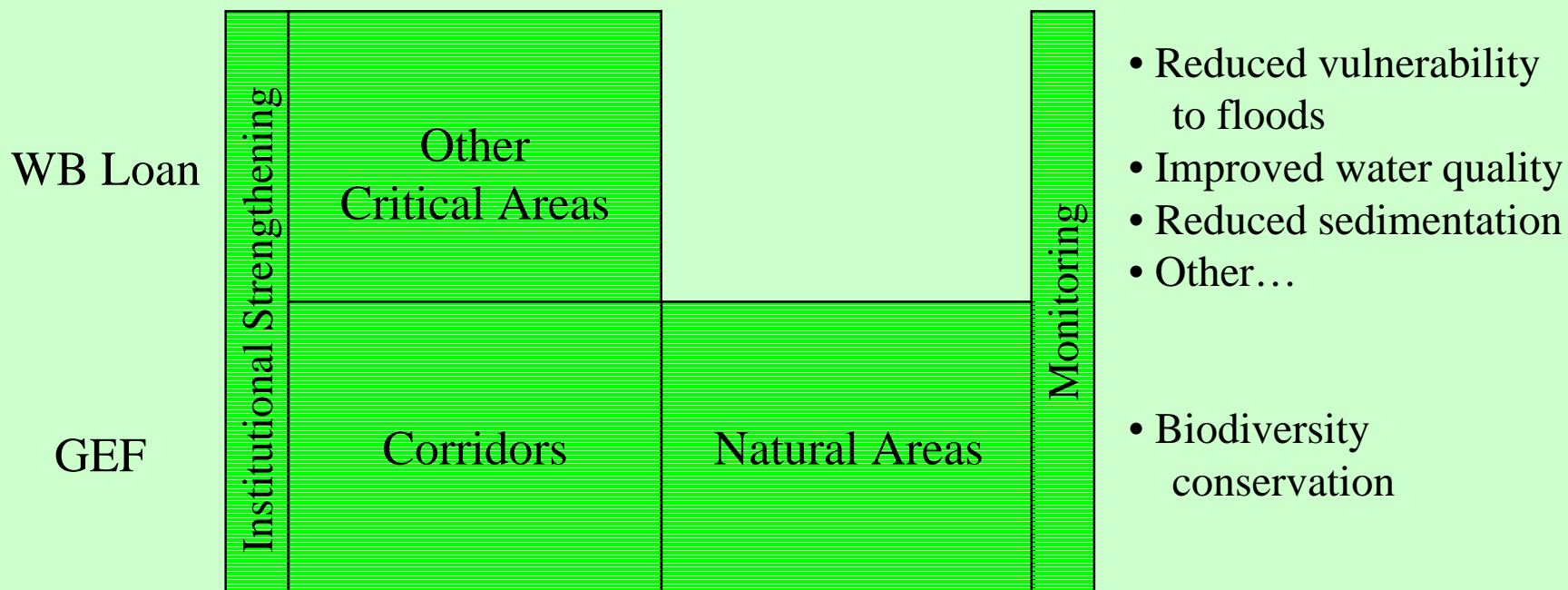
World Bank Efforts

- **El Salvador:** National Environmental Management Project
- **Ecuador:** Integrated Water Resource Management Project
- Training Program in collaboration with IUCN

El Salvador:

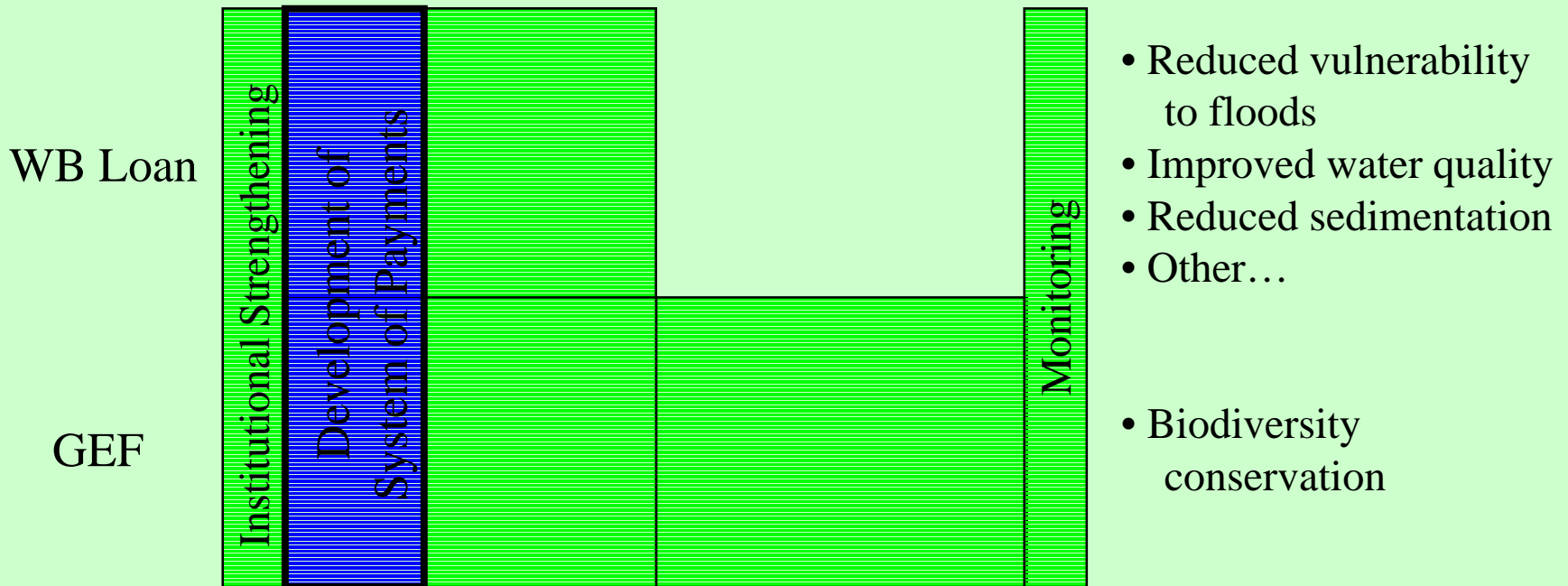
National Environmental Management Project

Financing	Project Components				Outputs
	1.	2.	3.	4.	
		Payment for Env. Services	Management Natural Areas		

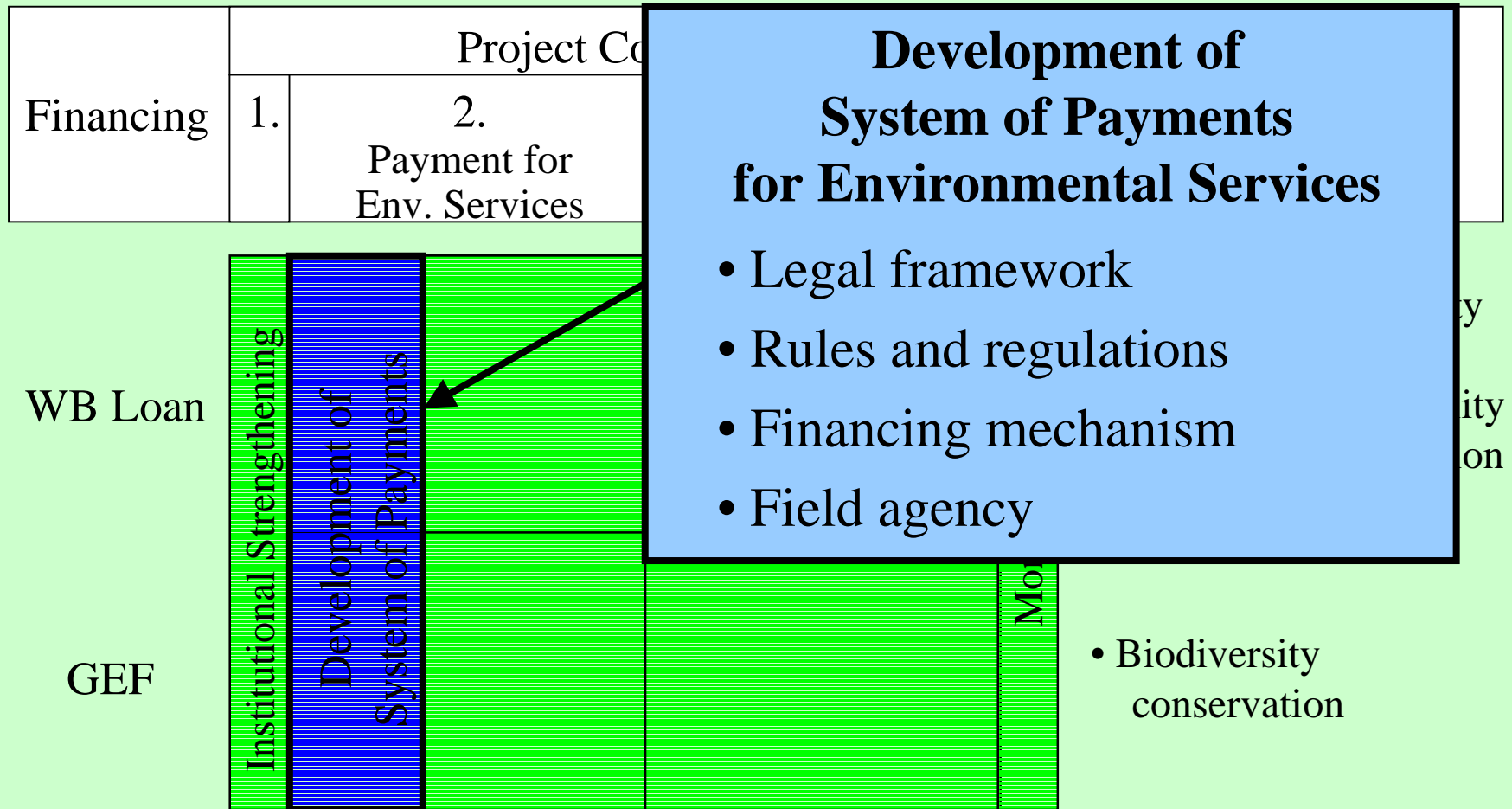


National Environmental Management Project: Preparation

Financing	Project Components				Outputs
	1.	2.	3.	4.	
		Payment for Env. Services	Management Natural Areas		

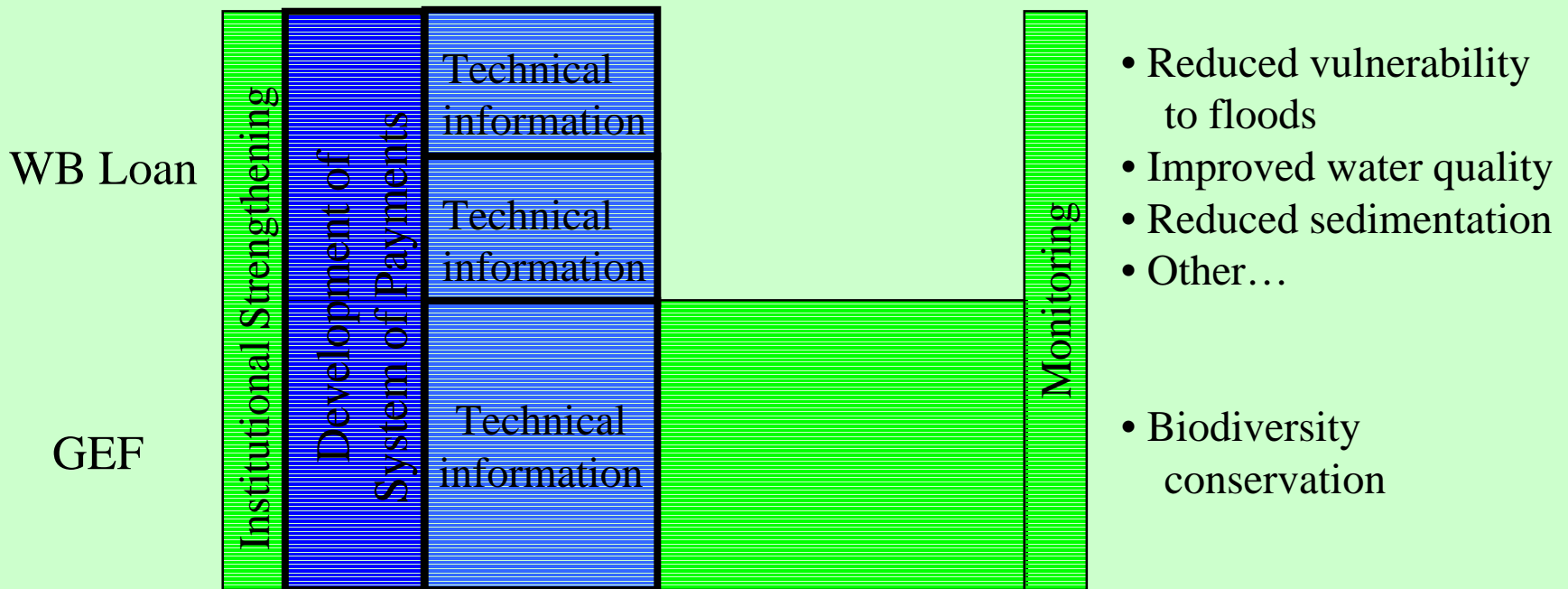


National Environmental Management Project: Preparation



National Environmental Management Project: Preparation

Financing	Project Components				Outputs
	1.	2.	3.	4.	
		Payment for Env. Services	Management Natural Areas		

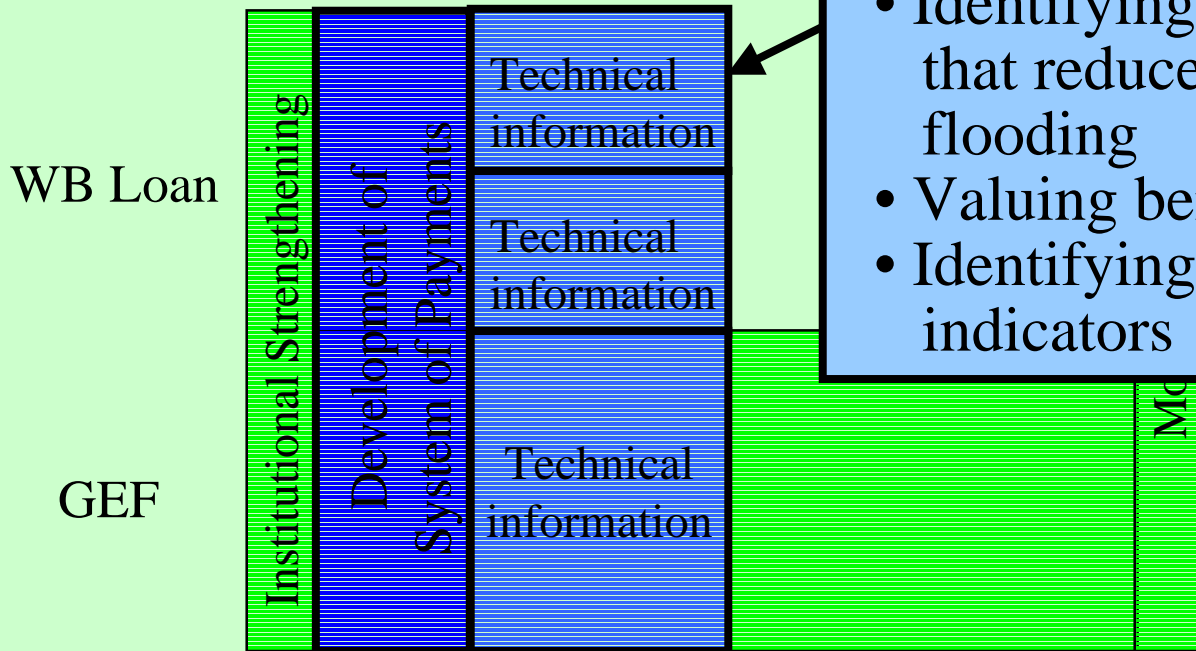


National Environmental Management Project: Preparation

Financing	Project Components		
	1.	2. Payment for Env. Services	M N

**Technical Information:
Flood Prevention Services**

- Identifying and mapping critical areas
- Identifying land use practices that reduce downstream flooding
- Valuing benefits
- Identifying monitoring indicators



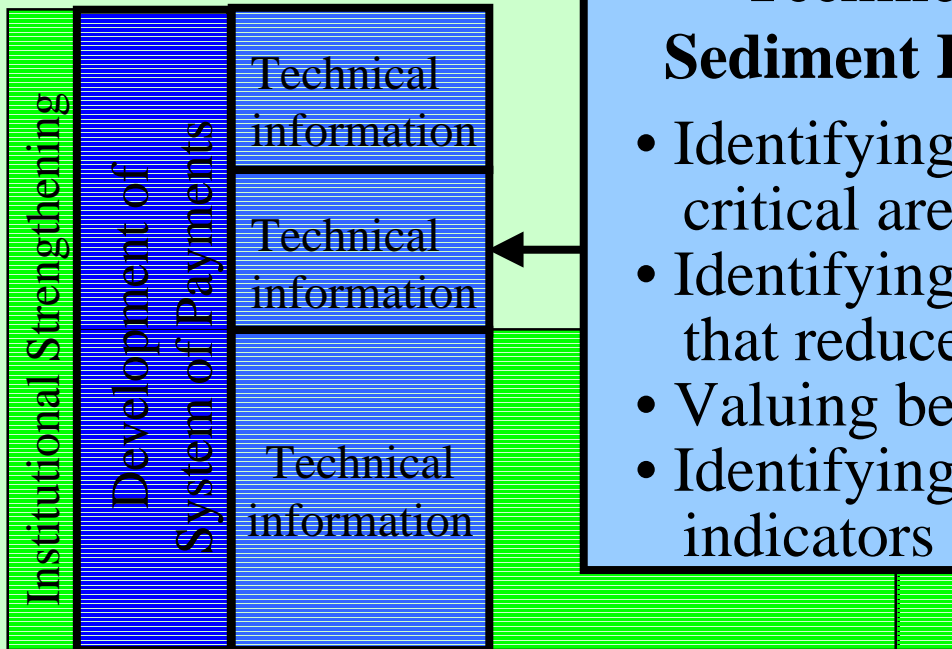
- Biodiversity conservation

National Environmental Management Project: Preparation

Financing	Project Components				Outputs
	1.	2. Payment for Env. Services	3. Management	4.	

WB Loan

GEF

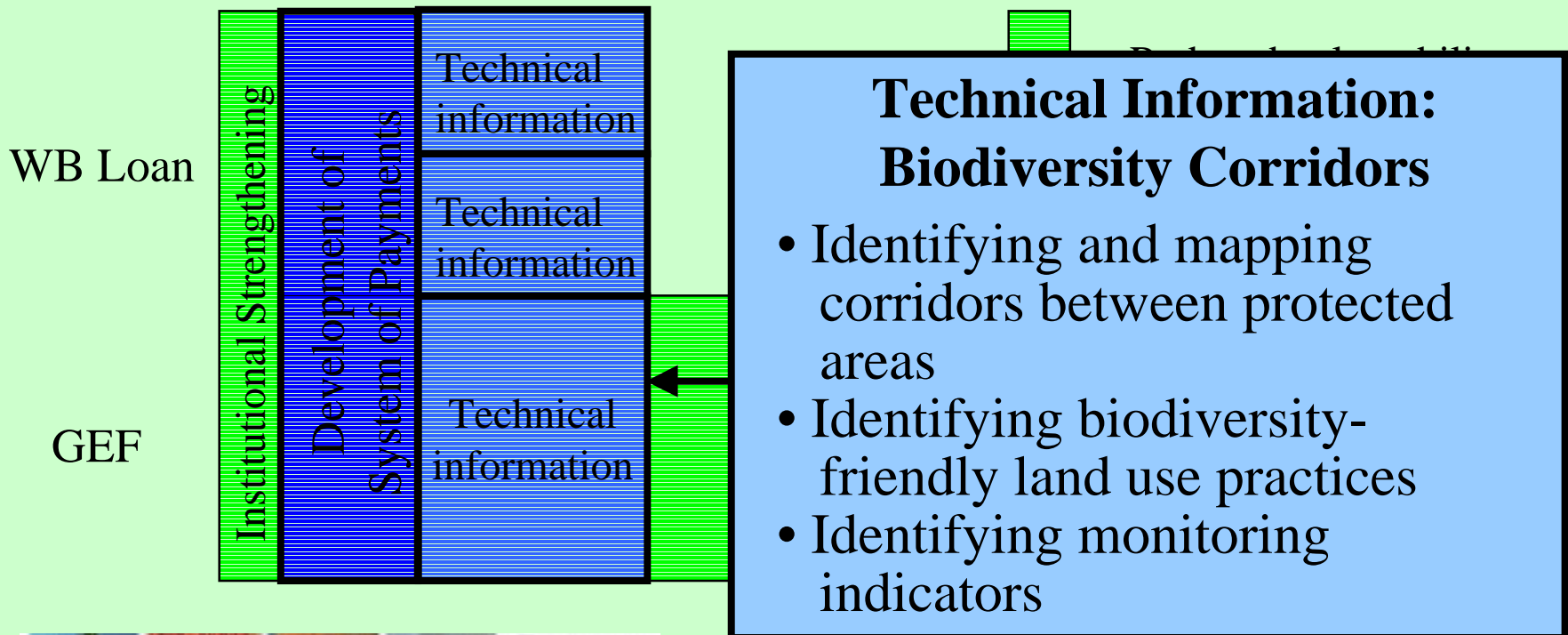


Technical Information: Sediment Reduction Services

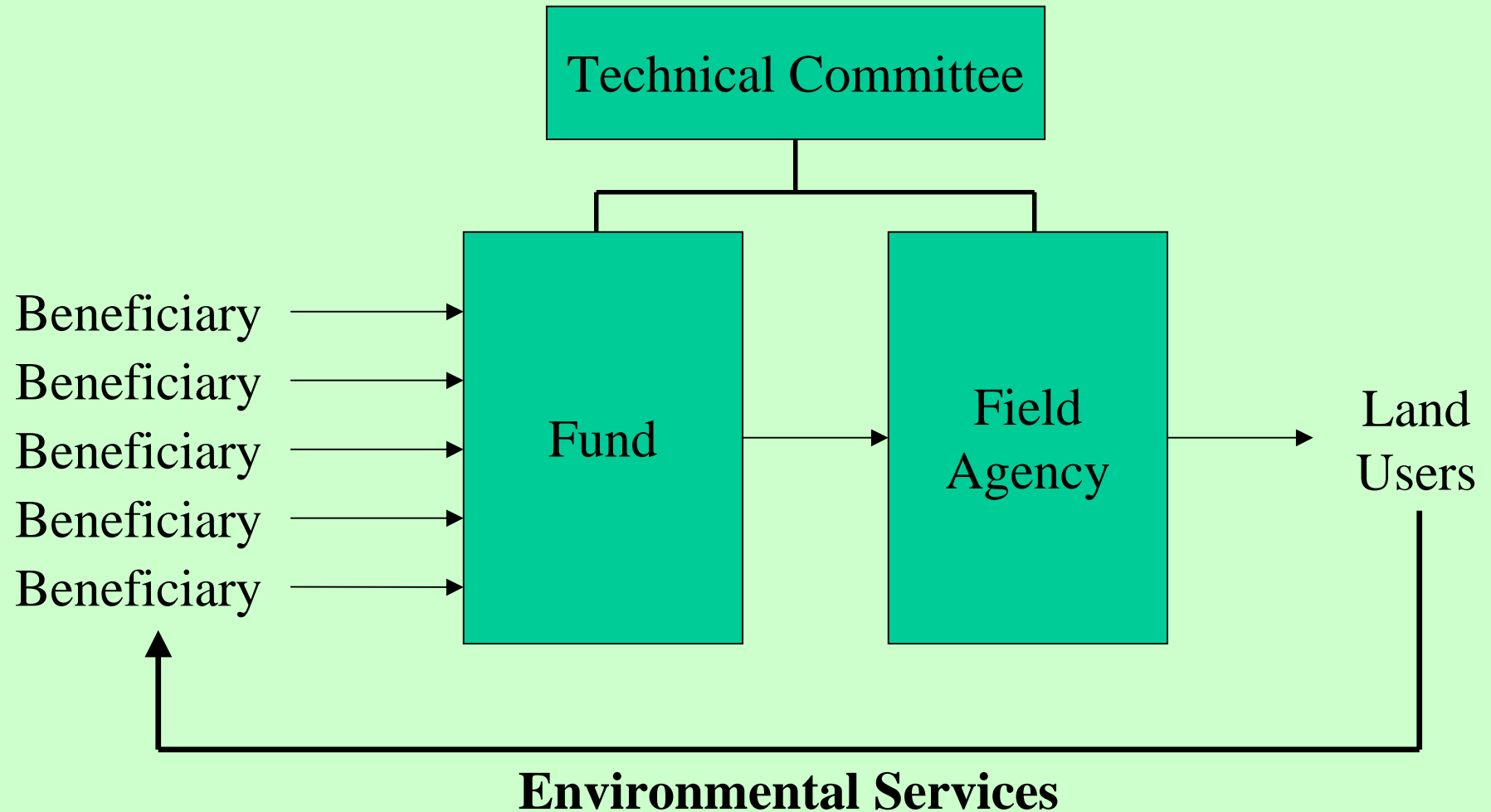
- Identifying and mapping critical areas
- Identifying land use practices that reduce sedimentation
- Valuing benefits
- Identifying monitoring indicators

National Environmental Management Project: Preparation

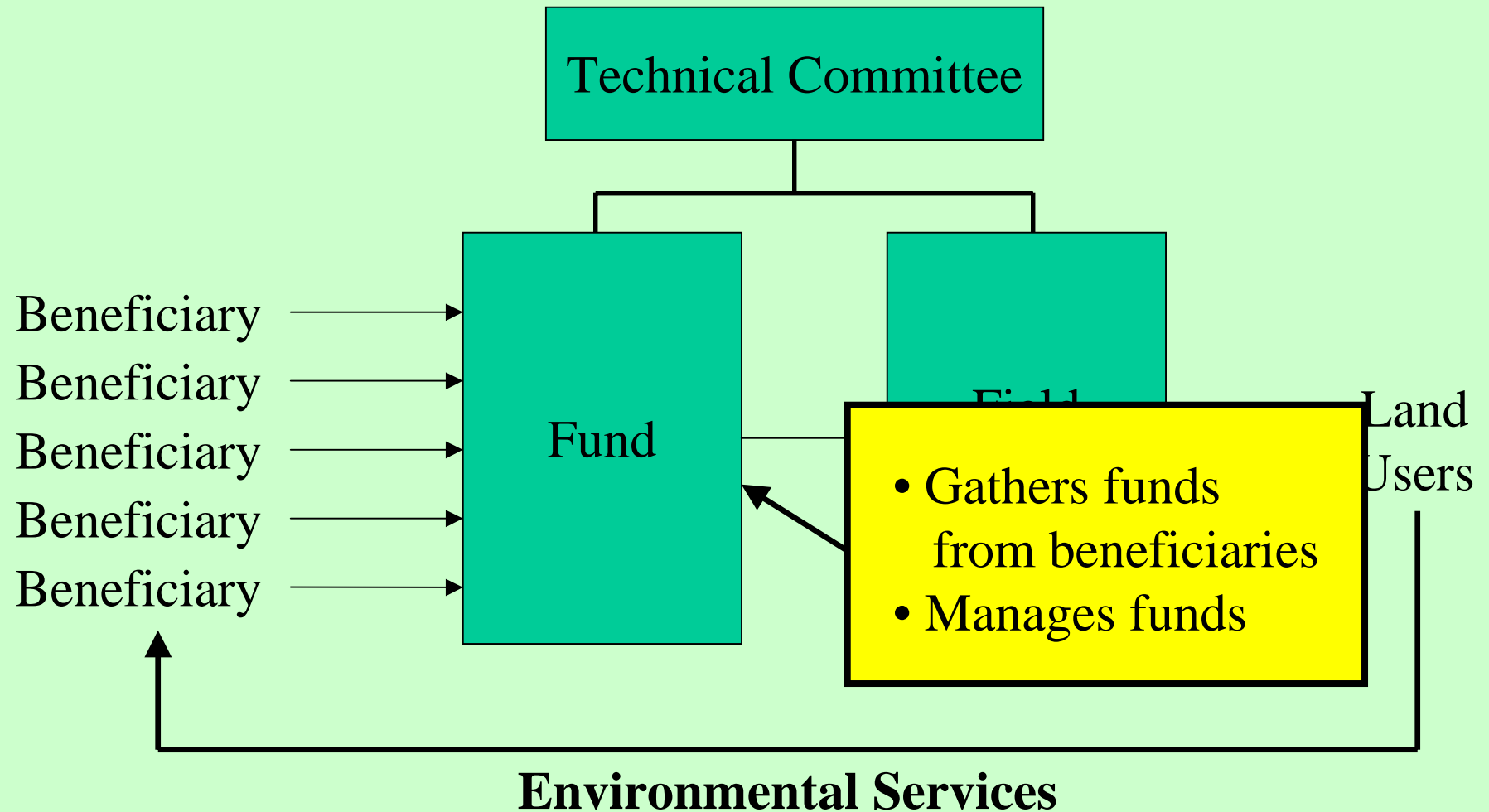
Financing	Project Components				Outputs
	1.	2. Payment for Env. Services	3. Management Natural Areas	4.	



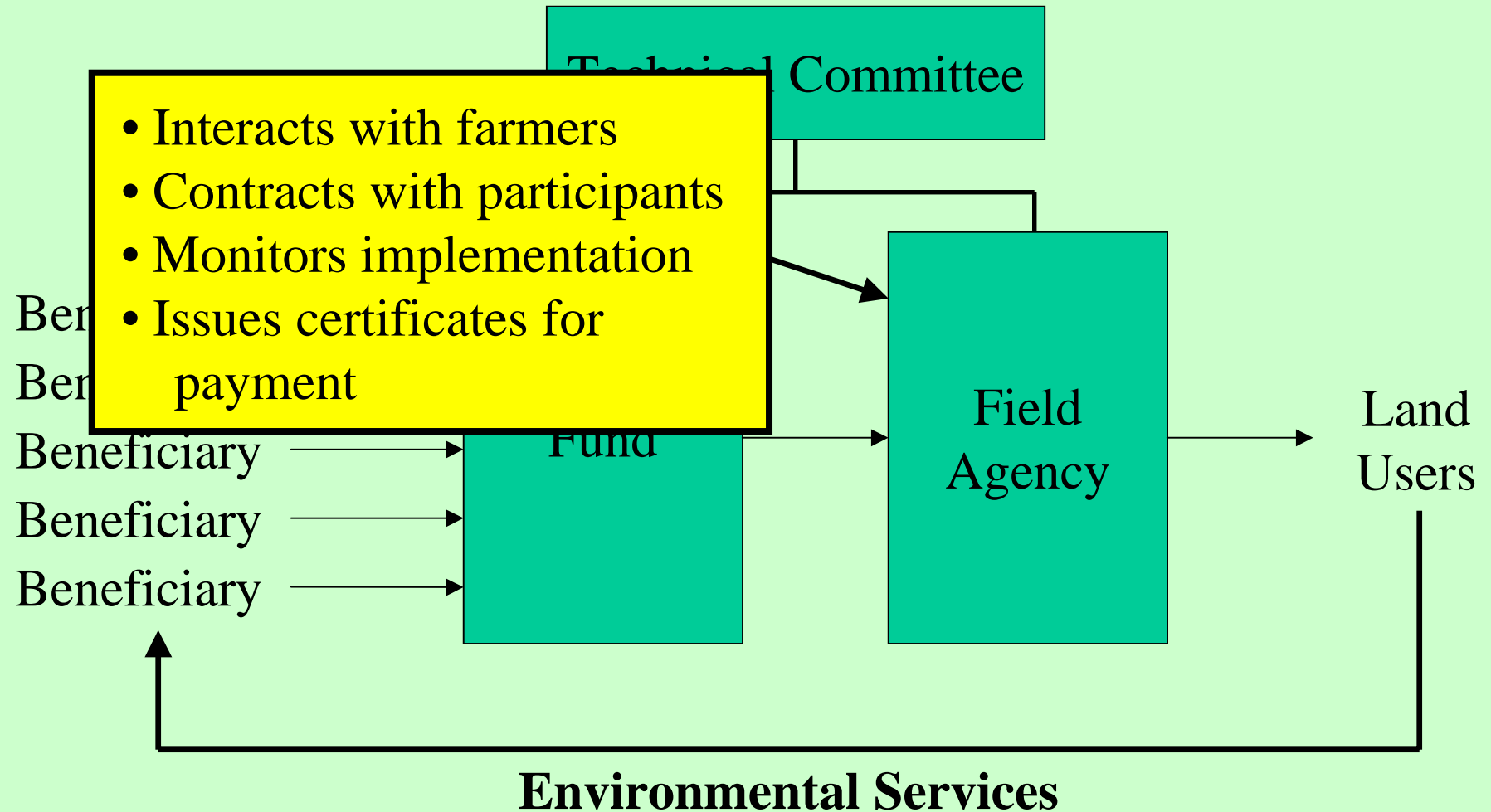
Institutional Parts



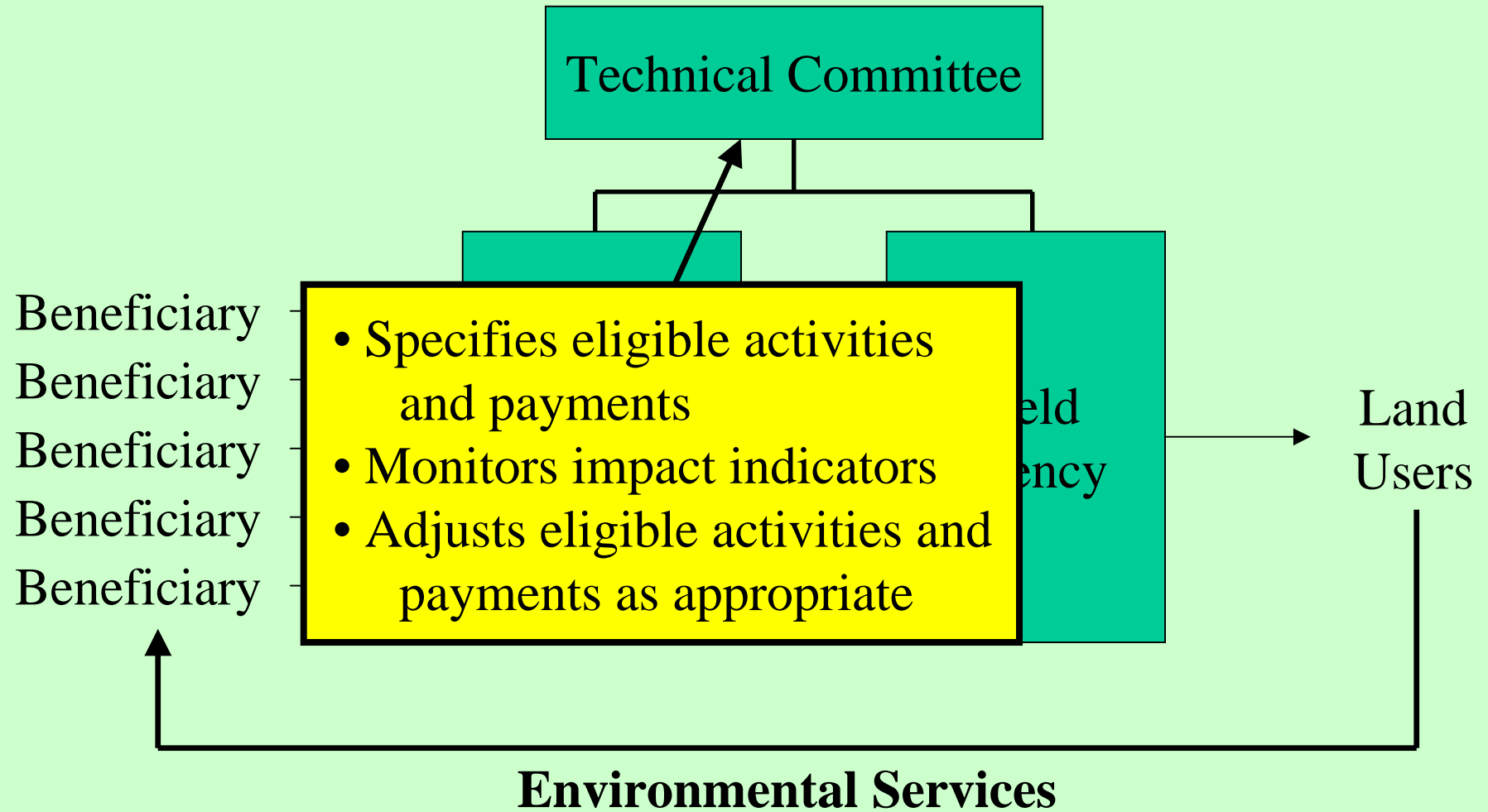
Institutional Parts



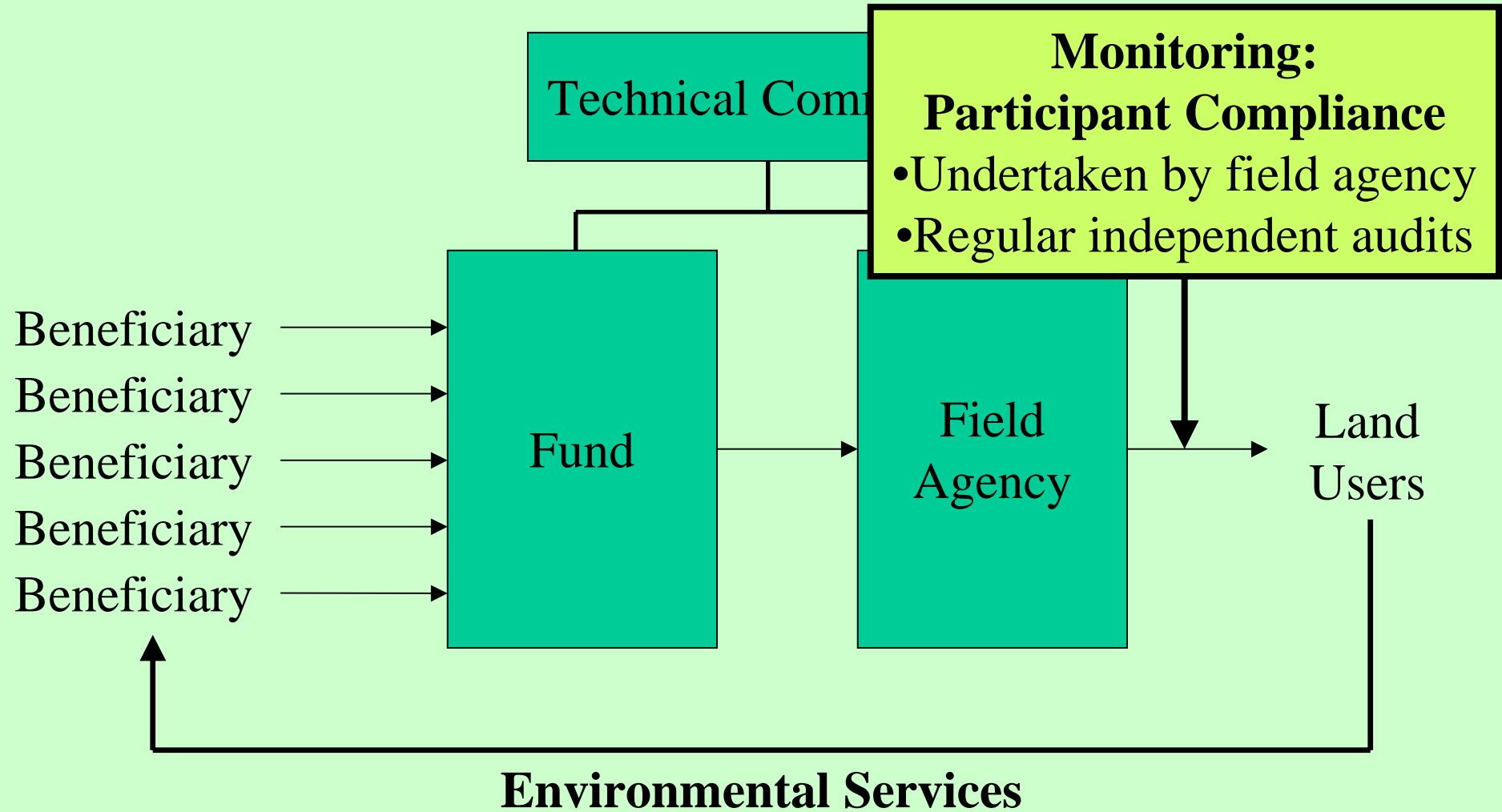
Institutional Parts



Institutional Parts



Institutional Parts



Institutional Parts

Technical Committee

Monitoring:

Effectiveness of eligible land uses in generating environmental services

- Undertaken by Technical Committee
- Reported to beneficiaries
- Used to adjust eligibility rules

Land Users

Beneficiary
Beneficiary
Beneficiary
Beneficiary
Beneficiary

Environmental Services

