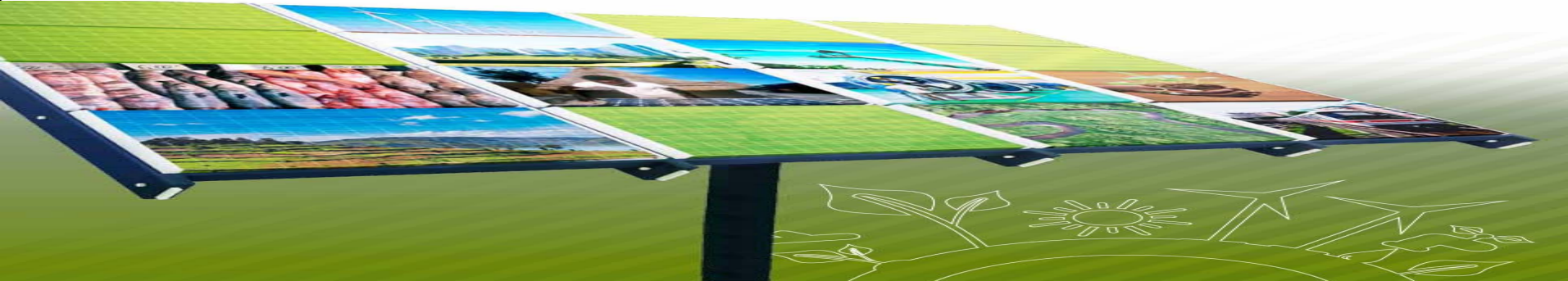




Towards a **GREEN** economy



WATER IN THE GREEN ECONOMY IN PRACTICE: TOWARDS RIO +20

3-5 OCTOBER 2011; Zaragoza, Spain

SESSION: Investments and fiscal measures for the protection and improvement of biodiversity to promote green growth

Focus: Payments for Environmental Services

ELISA TONDA , UNEP

Sustainable Consumption and Production – Resource Efficiency



THEME: INVESTMENTS IN PROTECTION AND IMPROVEMENT OF BIODIVERSITY

**Title: Investments and fiscal measures for the
protection and improvement of biodiversity
to promote green growth**

Session Convener: UNEP



OUTLINE

- Introduction
- Ecosystem services provided by a typical watershed
- Payment for Ecosystem Services
- Lessons learned from the regional case studies
- Introduction to case studies:
 - FONAG – the Fund for the Protection of Water, **Ecuador**
 - Payment for environmental services pilot project in Lake Naivasha, **Kenya**
- Discussion



Introduction

Central requirement for greening of economic growth is the **proper recognition and valuing of the services provided by ecosystems.**

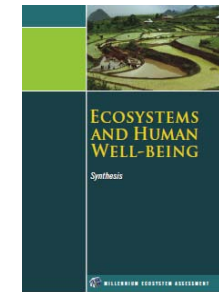
Linkage between:

(i) degradation of ecosystem services + **(ii)** growing resource scarcity + **(iii)** the rising costs of providing those services artificially = have been widely neglected until relatively recently!

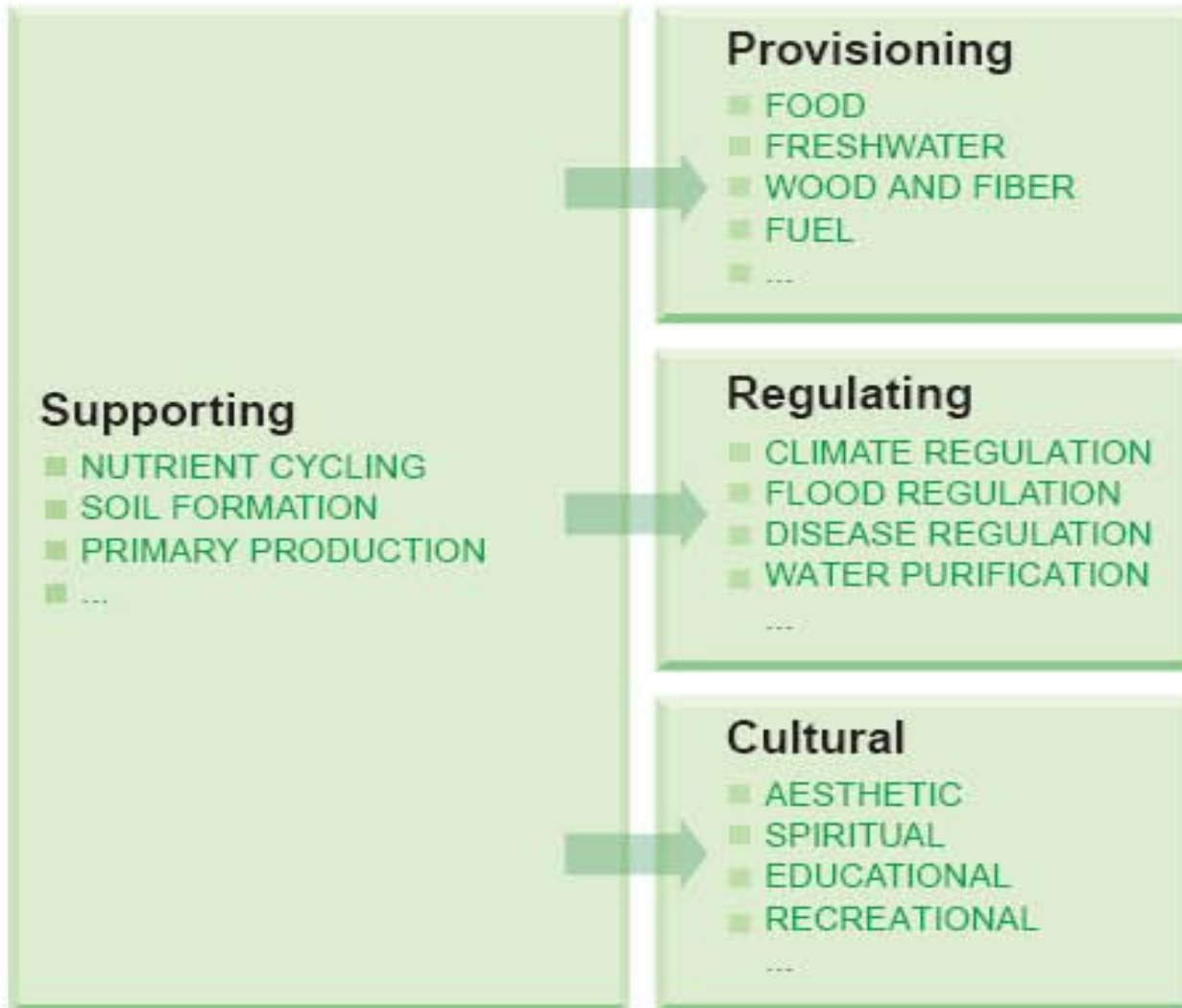
Example: Costly water treatment plants.



Millennium Ecosystems Assessment, 2005



ECOSYSTEM SERVICES



Ecosystem services provided by a typical watershed



1. Provisioning services – i.e. services focused on directly supplying food and non-food products from water flows



- Freshwater supply
- Crop and fruit production
 - Livestock production
 - Fish production
- Timber and building materials
 - Medicines
- Hydroelectric power

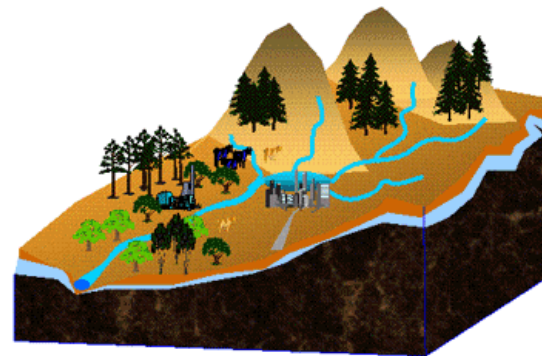


Ecosystem services provided by a typical watershed (cont)



2. Supporting services – i.e. services provided to support habitats and ecosystem functioning

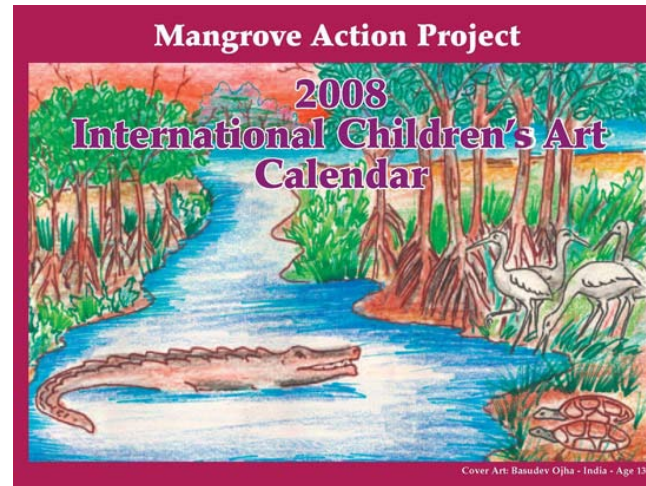
- Wildlife habitat (i.e. biodiversity conservation)
- Flow regime required to maintain downstream habitat and uses



Ecosystem services provided by a typical watershed (cont)



3. *Cultural and amenity services* – i.e. services related to **recreation and human inspiration**



- Aquatic recreation
- Landscape aesthetics
- Cultural heritage and identity
- Artistic and spiritual inspiration



Ecosystem services provided by a typical watershed (cont)

4. Regulating services – i.e. services related to regulating flows or reducing hazards related to water flows

- Regulation of hydrological flows (buffer runoff, soil water infiltration, groundwater recharge, maintenance of base flows)
- Natural hazard mitigation (e.g. flood prevention, peak flow reduction, landslide reduction)
- Soil protection and control of erosion and sedimentation
- Control of surface and groundwater quality



Payment for Ecosystem Services (PES)

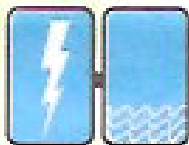
- PES= One of the most widely implemented approaches during the last five to 10 years
- Although its use is still in relative infancy in many countries
- Some confusion surrounds the use of this term

Greiber (2009):



*“What makes a PES a PES is that in any **payment** arrangement **those who pay** are aware that they are **paying for an ecosystem service** that is valuable to them or to their constituencies – and **those who receive** the payments engage in meaningful and measurable activities **to secure the sustainable supply of the ecosystem services in question.**”*





**EMPRESA DE
SERVICIOS
PUBLICOS DE
HEREDIA, S.A.**

Heredia, Costa Rica

Cédula Jurídica 3-101-D-2028

No. CONTRATO 270196
No. MEDIDOR 856596
No. RECIBO 8058344

PERIODO AL COBRO 07-2009
FECHA VENCIMIENTO 22/07/2009
LOCALIZACIÓN 23-10-0425
DIRECCIÓN ESPECIAL

FACTURACION SERVICIO DE AGUA GAMEZ HERNANDEZ LUIS CARLOS

SR GETS ERMITA 300-N MI

Código y descripción de tarifa	Lectura actual	Lectura anterior	Consumo diario m3	Consumo m3
03 DOMICILIARIA	35	1	1.17	35

CODIGO	DETALLE	IMPORTE	HISTORIAL DE CONSUMO m3		
			MESES	AÑO	Nº
ACU	ACUEDUCTOS	7,384.25			
HID	TARIFA HIDRICA MEDIO	337.75			
			01	2009	0
			02	2009	0
			03	2009	0
			04	2009	0
			05	2009	0
			06	2009	1
TOTAL		7,732.00			

Fecha lectura anterior	Fecha lectura actual	No. días
02/06/2009	02/07/2009	30

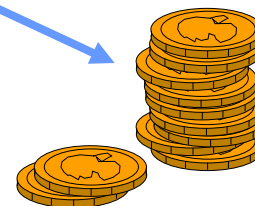
No. recibos pendientes	Monto sin intereses	Intereses pendientes
00	0.00	0.00

Monto del periodo	Pendiente anterior	Total general
7,732.00	0.00	7,732.00

Si cancela después del vencimiento se cobrará en la próxima facturación un cargo por mora de: **154.64**

SI NO TIENE RECIBOS PENDIENTES CANCELE SOLO EL MONTO DEL PERIODO

OBSERVACIONES



Courtesy of Luis Gámez (Heredia, Costa Rica)

Payment for Ecosystem Services (PES) (cont)



Constraints:

- PES presupposes **services supplied by a particular ecosystem are understood in a real 'on the ground'** (rather than purely theoretical context) and that means of **valuing these economically are available.**
- Need of scientific/technical and socio-economic **background studies** for a successful PES scheme and, these are inevitably **costly and time-consuming.**



Lessons learned from the regional case studies

- Investments and fiscal measures for the protection and enhancement of biodiversity – such as PES – need to be **carefully designed and targeted to**
- **Pilot projects** provide a valuable means of **testing and adapting** internationally or nationally proven approaches to local conditions
- May be better to **‘start small’ and to ‘scale up’** rather than to try to implement a fully fledged financial mechanism from the beginning



Lessons learned from the regional case studies (cont)

- Stakeholders may include all or a selected group of direct **suppliers/sellers or users/buyers**
- Sustainable provision of ecosystem services can be achieved through **changes in land-use practices and incentives to farmers** that are both **equitable** and targeted at **maintaining or enhancing livelihoods**



Lessons learned from the regional case studies (cont)



- PES is not a panacea. **Challenges** are:
 - **identifying ‘beneficiaries’ and ‘suppliers’**
 - building trust and a spirit of partnership or mutual ‘buy-in’ among stakeholders



- **downstream water users should contribute financially** to protection, maintenance or restoration/rehabilitation of ecosystem services by upstream landowners/managers



Lessons learned from the regional case studies (cont)



- PES is not a panacea. **Challenges (cont)** are:
 - ensuring that any financial mechanism proposed is **in line with applicable policy and legislation**

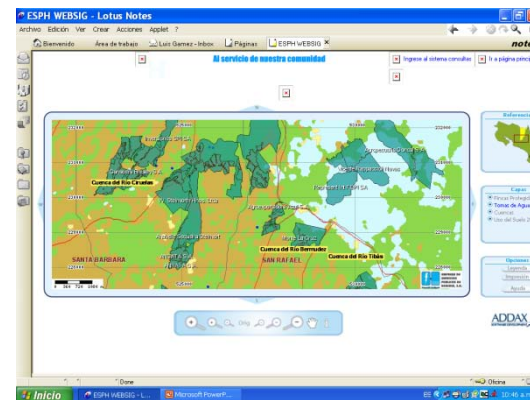
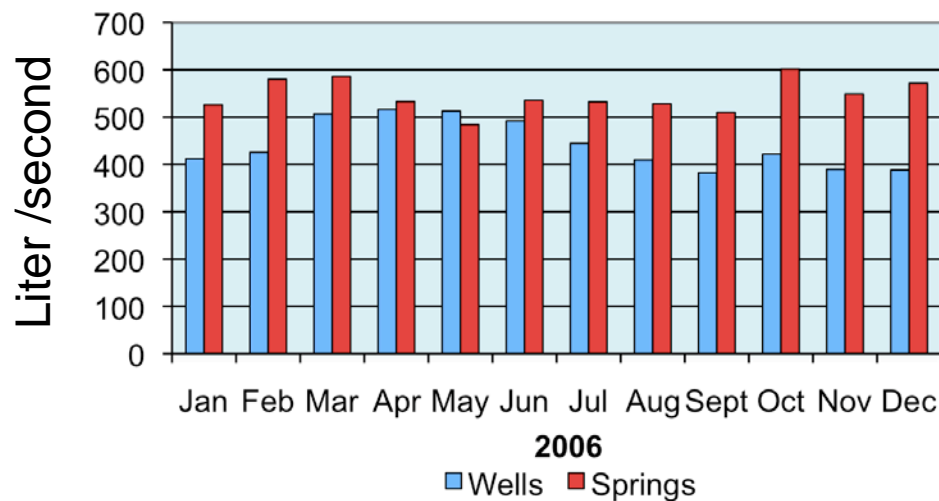
A screenshot of a website titled 'EL PORTAL PARA TODOS LOS PARAGUAYOS'. The page displays the text of 'LEY N° 3.001/06 DE VALORACIÓN Y RETRIBUCIÓN DE LOS SERVICIOS AMBIENTALES'. The document is dated 'Miércoles, 04 de Noviembre de 2009 18:27' and is attributed to 'JAMA'. The text includes the title 'LEY N° 3.001/06 DE VALORACIÓN Y RETRIBUCIÓN DE LOS SERVICIOS AMBIENTALES', the phrase 'EL CONGRESO DE LA NACIÓN PARAGUAYA SANCIONA CON FUERZA DE LEY:', and the section 'CAPÍTULO I DISPOSICIONES GENERALES'. A sidebar on the left lists various navigation options such as 'ENÚ PRINCIPAL', 'Inicio', 'Noticias', 'Enlaces', 'Servidor de noticias', 'Departamentos PY', 'Paraguay Internacional', 'Foro de Periodistas Py', 'Gobierno Py', 'Laguna Blanca', 'Libro de visitas', and 'Directorio Empresas y Servicios'.

- setting the **charges** paid by water users at acceptable level
- setting **levels of payments** to upstream land/water managers that are **equitable**

Lessons learned from the regional case studies (cont)



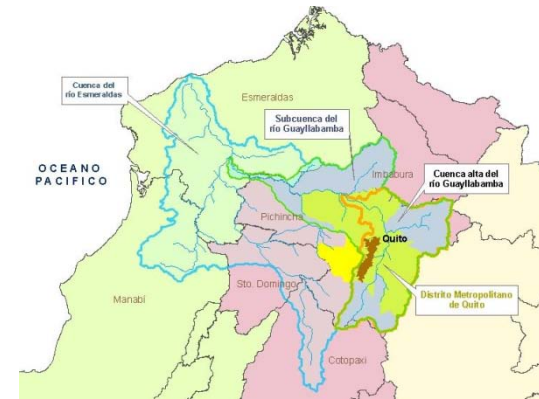
- It is vital to have a **baseline scenario**
- A programme of **monitoring** of economic, social and environmental factors



- A programme of **public awareness**

Introduction to case studies

1. FONAG – THE FUND FOR THE PROTECTION OF WATER, ECUADOR



Private trust fund established in 2000 for a period of 80 years and **regulated under Ecuador's stock market law**

1998: pilot project; **2000:** payments to FONAG began in January and; **2002:** financing of watershed protection projects was initiated

Fund is an example of payment for the environmental services provided by ecosystems



Introduction to case studies (cont)

2. PAYMENT FOR ENVIRONMENTAL SERVICES PILOT PROJECT IN LAKE NAIVASHA BASIN, KENYA



WWF (WWF-Kenya) working in partnership with CARE-Kenya - are providing funding and coordination as intermediary institutions to develop PES as **a market-based scheme for delivery of sustainable natural resource management and improved livelihoods**

The project is designed **to serve as a pilot and learning model** for further expansion and replication



DISCUSSION



- General questions for panelists
- Specific questions for panelists



¡GRACIAS / THANK YOU!



Towards a

GREEN economy

