

Philippine PES Experience: Forests and Watersheds *Discussion*

Rex Victor O. Cruz
College of Forestry and Natural Resources
University of the Philippines Los Baños
College, Laguna

Common Environmental Services

Services for Sale

- Biodiversity conservation
- Watershed protection
- Carbon sequestration
- Landscape beauty

Healthy Ecosystems and Natural Resources

ECOSYSTEM GOODS AND SERVICES

GOODS (provisioning services)

- Food, fiber and fuel
- Genetic resources
- Biochemicals
- Fresh water

CULTURAL SERVICES

- Spiritual and religious values
- Knowledge system
- Education and inspiration
- Recreation and aesthetic values

REGULATING SERVICES

- Invasion resistance
- Herbivory
- Pollination
- Seed dispersal
- Climate regulation
- Pest regulation
- Disease regulation
- Natural hazard protection
- Erosion regulation
- Water purification

SUPPORTING SERVICES

- Primary production
- Provision of habitat
- Nutrient cycling
- Soil formation and retention
- Production of atmospheric oxygen
- Water cycling

Common Environmental Services

Buyers

- Pharmaceuticals
- Plant improvement
- Tourism industry
- Water users
- GHG emitters

Common Environmental Services

Sellers

- Upland communities
- IPs
- LGUs
- NGOs
- SCUs

Common Environmental Services

Requirements

- Demand and supply of ES
- Mechanisms to pay for ES
- Suppliers of ES
- Mechanisms for use of PES

Common Environmental Services

Challenges to PES in Forests and Watersheds

- Identification of drivers of change in ES
 - Multiple drivers
 - Attribution of ES to SELLER
 - Provision of multiple incentives/
motivations

Interconnected Resources and Services

INDIRECT DRIVERS OF CHANGE

- Demographic
- Socioeconomic
- Political
- Science & Technology
- Culture and Religion

DIRECT DRIVERS OF CHANGE

- **Climate change**
- Land use and land cover change
- Overutilization
- Absence of livelihood opportunities
- Species introduction

CHANGES in ECOSYSTEM

- composition
- population
- extent
- **SERVICES**

SUSTAINABLE ECOSYSTEM SERVICES

Provisioning Services

- wood
- fiber
- water
- biochemicals

Regulating Services

- climate regulation
- pollination
- seed pollination
- pest and diseases
- Water purification

Cultural Services

- religious values
- education and values formation
- aesthetic and inspirational
- knowledge system

Supporting Services

- soil formation and retention
- nutrient cycling
- water cycling
- provision of habitats

Common Environmental Services

Challenges to PES in Forests and Watersheds

- Lack of standards for monitoring ES
 - Absence of baselines
 - Comparability of metrics for ES
 - Who measures
 - Who verifies

Common Environmental Services

Challenges to PES in Forests and Watersheds

- Externalities
 - Opportunity cost
 - Social cost (erosion of culture and traditions)
 - Reduction of value of ecosystems to ES on sale