

IPES Publication Outline

5 October 2007

Summary

Payments for ecosystem services (PES) have recently been gaining increasing attention on the international stage as a promising new environmental policy instrument which aims to motivate ecosystem-hosting communities to restore damaged ecosystems and sustain the supply of critical services. With various national programs and pilot projects underway around the world, the need for institutional support for PES at the global level is becoming increasingly significant. However, in such a new and fast-growing field, there still remain important challenges to overcome before PES are widely applied at the international level.

The challenges that stand in the way of an international development of PES are present both on the supply and demand sides. Also, the institutional support necessary for joining those two main parties together is still not in place at the international level. Indeed, policy makers, practitioners, and researchers alike all face a considerable task when addressing the future development of international PES (IPES). While pursuing the debate on the many conceptual and technical uncertainties surrounding this field, experts will also need to work on building institutional capacity and gaining more support from various stakeholders. Coordination among the various organizations and the pilot projects that they implement will also be essential for the development of IPES.

Before IPES can be established as an effective approach to ecosystem management, a general understanding of the current state of IPES and the obstacles that prevent it from developing further needs to be reached. An expert workshop co-hosted by UNEP and IUCN, in close collaboration with the CBD Secretariat, on scaling up PES to the international level in September 2006 made a significant contribution to this understanding.

Based on the outcomes of this meeting, UNEP plans to further public awareness of IPES by publishing a comprehensive document summarizing the current state of IPES. This publication will contain a series of contributions (11 in total) from key experts from all over the world who are involved in the cutting edge development of this new policy instrument. Each contribution will address the different dimensions of the IPES development, from its potential for achieving biodiversity conservation targets, to an evaluation of institutional mechanisms for its implementation. The publication aims to place IPES squarely at the forefront of environmental policy-making.

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Contribution 1: David Huberman

Introduction to IPES (Based on UNEP-IUCN brochure)

a) Making the case for PES:

- Addressing the criticisms/scepticisms and explaining why we need PES, why it is timely, and why it is better than other forms of compensation
- Putting PES into context (when are they appropriate and what value added do they offer?)
- Clarifying what kind of externalities can be addressed best with (I)PES
- Natural capital as a central component of wealth (from local to global)
- Discussing the potential trade-offs between ecosystem services

b) Making the case for IPES:

- Addressing international ecosystem services:
 - i. Global level
 - ii. Trans-boundary level
 - iii. Regional level (i.e. Africa, Asia, regional seas, etc...)
- Components of biodiversity providing globally significant ecosystem services (existence, insurance, option, bequest values)
- How IPES can make conservation more cost effective, efficient, and equitable
- Tapping into additional sources of funding
- Better matching supply and demand at the global scale
- Other international ES:
 - i. Scenic beauty (World Heritage Sites)
 - ii. Trans-boundary watersheds
 - iii. Carbon sequestration
 - iv. Resistance to invasive pests and pathogens
 - v. Trans-boundary regulating services (storm buffering, soil formation/retention, habitat protection for migratory species)

Contribution 2: David Huberman (tbc)

The Production of Ecosystem Services

- a) The production of ecosystem services at the global level:
 - Carbon sequestration
 - Biodiversity-related
- b) The production of ecosystem services at the regional level:
 - Watershed protection
 - Pollination
 - Soil conservation
 - Storm buffering
 - Microclimatic regulation

Contribution 3: Renat Perelet (Institute for Systems Analysis)

Role of IPES for Increasing Supply and Demand of Biodiversity

The first section will focus on the providers and beneficiaries of biodiversity as an ecosystem service. The part detailing biodiversity providers should incorporate the following topics:

- Identifying relevant groups and individuals
- Role of national governments
- Integrating scales

The part detailing biodiversity beneficiaries should incorporate the following topics:

- Differentiating between private and public beneficiaries
- Private sector (businesses, investors, consumers)
- Tourism industry, pharmaceutical/perfume industries
- NGO's and foundations
- The public

The second section will focus on the role IPES can play for increasing the demand for and guaranteeing the supply of biodiversity as an IPES. This section will discuss concrete IPES institutional mechanism models such as cap and trade and the following other options:

- An integrated approach?
- Piggy-backing on the carbon market?
- Internet-based tools?
- An international framework for a landscape/ecosystem approach?
- World Heritage Sites as a foundation for something else...?
- Global network of Protected Areas?

This section will also discuss guiding international principles for biodiversity IPES design, including but not limited to:

- CBD – 2010 targets
- RAMSAR
- CITES
- UNFCCC
- World Heritage Convention
- European Union Directives

The last section will focus on the assessment of potential IPES for biodiversity. This section will discuss the assessment of decentralized IPES approaches (such as open marketplaces, auctions, certification and cap-and-trade). Specifically, it will focus on requirements for the decentralized approach, such as allocation mechanisms and the need for commodification – does one need a single metric? As sub-topics the paper should include:

- Commodity markets and the law of one price
- Markets for heterogeneous or unique goods: auctioning mechanisms

Payment mechanisms under the decentralized approach will also be discussed, with special emphasis on the possibility of different forms of payment, including but not limited to technology and medicine transfers.

In addition to assessment of the decentralized approach, this section will examine institutional templates through which biodiversity IPES can be developed. Specifically, the participant should discuss:

- Carbon markets
- Avoided deforestation
- Ecosystem marketplace
- Debt-for-nature swaps
- Millennium Development Goals
- Official Development Assistance (ODA) targets

Lastly, this section should evaluate integrated/multiple approaches to biodiversity IPES, such as diversified funding mechanisms within a given area, region or watershed.

Contribution 4: Thomas Köllner (ETHZ)

The demand side of IPES – the motivations

- Providing users with an incentive to take full account of the costs of their actions, and to compensate providers for the costs incurred
- Reducing the costs of complying with regulations
- Business advantages (lower costs, new opportunities)
- Branding and reputation

Contribution 5: Wendy Procter (CSIRO)

Developing the demand side of IPES

The first section will focus on the challenges to developing the demand side of IPES. This section will draw on the work done in the first two sections of part two which looks at the ‘beneficiaries,’ i.e. those who are expected to gain from an IPES scheme, as well as the ‘motivations,’ i.e. the incentives or conditions necessary to encourage participants in the scheme. The content of this section should address the following major points:

- Disconnect between the spatial and temporal scales at which the costs and benefits occur
- Lack of information
- Lack of institutions
- Establishing a business case for conservation
- IPES still relatively new and controversial

The second section to be written by the consultant will cover translating the benefits from environmental services into willingness to pay. The content of this section should address the following major points:

- What services to include?
- What is the appropriate scale at which to create markets?
- What do we know about global WTP for option/insurance/existence/bequest values? And how can they be measured?

The third section written by the consultant will be included in Part 6, which examines the supply side of IPES. This section will cover the institutional context that governs the choices made by the providers of ecosystem services. The content of this section should address the following major points:

- Transaction costs
- Opportunity cost of conservation – what variations in the costs of supplying ecosystem services?
- Property rights
- Land tenure regimes
- Control over inputs and outputs
- Role of stochastic/unpredictable factors

Contribution 6: Alice Ruhweza and Sissel Waage (The Katoomba Group)

Building Supply of Prospective ES Deals

Step 1: Identifying Ecosystem Service Prospects & Researching Potential Buyers

- Defining, measuring, and assessing the ecosystem services being provided in a particular area
- Determining marketable value
- Identifying prospective sellers and potential buyers
- Considering whether to sell as individuals or as a group

Step 2: Assessing Institutional & Technical Capacity

- Assessing legal, policy, and land ownership context
- Examining existing rules for PES markets and deals
- Surveying available PES-support services and organizations

Step 3: Structuring Agreements

- Designing management and business plans
- Reducing transactions costs
- Reviewing options for payment types
- Selecting a contract type

Step 4: Implementing PES Agreements

- Finalizing the PES management plan and beginning activities
- Verifying PES service delivery and benefits
- Monitoring and evaluating the deal

Contribution 7: Alice Ruhweza and Sissel Waage (The Katoomba Group)

"Matching Supply and Demand": Private Sector Engagement in PES

Current situation and need for improvement:

- Ongoing efforts – moving beyond carbon market
- What additional markets for ES are needed and how can we develop them?
- How do we get the WTP for globally significant ES from beneficiaries in one part of the world (mostly developed countries) to the suppliers of these ES in another part of the world (mostly developing countries)?
- How can we develop markets in trans-boundary ecosystems?

Contribution 8: Stefanie Engel and Tobias Wünscher (ETHZ)

Criteria for Matching Supply and Demand

1. Motivation
 - Scarcity of conservation funds
 - Institutional templates
 - Participants
 - Importance of effectiveness and efficiency and other criteria for getting the most environmental benefits out of available funds
 - Detail criteria for successful matching of demand and supply
 - Requirements for funding under centralised approach
2. Selecting among applicant suppliers
 - Number of applications often far exceeds available budget
 - How to select among sites to achieve maximum benefits with given budget
 - Targeting criteria to be considered:
 - Benefits (Ecosystem services provided)
 - Risk (e.g., risk of deforestation in absence of IPES; important to assure additionality in benefits provided)
 - Participation costs (incl. opportunity costs)
 - Approaches to measurement and implementation
 - Benefits
 - Difficulties: Multiple objectives with potential tradeoffs; multiple indicators even within a single objective; spatial interactions
 - Approaches:
 - Indexing approaches
 - Distance function approach
 - Iterative selection approach
 - Risk
 - Difficulty: Baseline establishment
 - Approaches:
 - Analytical models
 - Simulation (programming) models
 - Regression models
 - Costs
 - Difficulty: Asymmetric information, strategic behaviour
 - Approaches:
 - Land values
 - Farm budgets
 - Inferring from proxy variables
 - Screening contracts
 - Auctions
 - Integrating criteria for site selection (e.g., Alix-Garcia et al., Ferraro, Wünscher et al.; Box on the U.S. Conservation Reserve Program)
3. Other issues in targeting IPES
 - Leakage
 - Paying groups or individuals
 - Dealing with weak property rights

Contribution 9: Jorge Gutierrez (University of Heidelberg)

The consultant's specific contribution should focus on the matching of supply and demand under IPES and the choice of institutional mechanisms for operationalizing IPES schemes.

Institutional Mechanisms: Matching demand and supply sides

Significant challenges:

- Quantification of ecosystem services
 - i. Limits to measuring biodiversity
 - ii. Measuring interdependencies between ES
- What roles for international, regional, national and local institutions?

Contribution 10: Fulai Sheng (UNEP)

Part 6: Evaluating concrete IPES institutional mechanisms

a) *Cap-and-trade:*

- The model (Kyoto, avoided deforestation)
- The pros and cons

b) *Prototype fund:*

- The model (GEF?)
- The pros and cons

c) *Virtual Marketplace*

- The model (Ecosystem Marketplace?)
- The pros and cons

a) *Certification and offsets*

- The models (BBOP, FSC, mitigation banking,...)
- The pros and cons

b) *Other options?*

- An integrated approach?
- Piggy-backing on the carbon market?
- Internet-based tools?
- An international framework for a landscape/ecosystem approach?
- World Heritage Sites as a foundation for something else...?
- Global network of Protected Areas?

Contribution 11: Annah Peterson (Duke University), Louise Gallagher (UNEP), Ivo Mulder (The Dutch National Fund for Rural Areas) and David Huberman (IUCN)

Avoided deforestation as an IPES opportunity

- REDD as a Climate-Conservation double-dividend?
- Theoretical linking of IPES and REDD
- The Progression and Viability of REDD as an Emission Reduction Option
 - REDD in mandatory markets
 - REDD in voluntary markets
 - REDD as a Competitive ERO
- The Future of REDD: Voluntary and Mandatory
- The non-profit to for-profit trade-off
 - Non-profit REDD projects
 - For-profit REDD projects
- Guiding the non-profit to for-profit transition: An IPES opportunity?
 - Certification vs. Bundling
 - Incorporating payments for biodiversity conservation into REDD
 - Targeting biodiversity beneficiaries: General vs. Site-specific
 - The centralised 'global fund' option
 - The decentralised 'partnerships' option

Contribution 12: Editors

Conclusion