

International Payments for Ecosystem Services A Review Meeting

Geneva, 28-29 February 2008

Summary

UNEP together with IUCN and in close collaboration with the CBD Secretariat organized a meeting on International Payments for Ecosystem Services (IPES) in Geneva on 28-29 January 2008. The objective was to review the draft chapters of a forthcoming publication on this topic, disseminate initial results, seek comments for further improving the drafts, and more importantly, explore the options of a potential international framework for IPES. About twenty experts attended the meeting and 35 people attended the special session on Ecosystem Accounting. Major points from the meeting are summarized below.

1. Definitional issues

IPES does not yet have a definition of its own; the concept has been based on a definition developed by Sven Wunder for PES: “a voluntary transaction whereby a well-defined ecosystem service, or a land-use likely to secure that service, is being bought by at least one buyer from at least one provider, if, and only if, the provider secures the provision of the service”. This definition, even after adding “international level” to it, does not convey a clear sense of how IPES differs from PES. This might have affected the framing of the draft chapters, most of which appear to remain at the project and local levels. Also in this context, the issue of “voluntary” payment was raised. The point is that relying on “voluntary payment” may not be effective in reaching the international scale; voluntary payment should be part of an international regulatory framework.

Giving a clear definition to IPES requires addressing a number of complex issues: a) should the definition be loose or tight? b) should IPES apply to both “beneficiary pays principle” and “polluter pays principle”? c) should IPES include both direct (i.e. paying for ecosystem services as commodities) and indirect (paying for ecosystem stewardship) transactions? d) how is PES different from subsidy? e) where do biodiversity and natural capital fit in? f) what is meant by scaling PES up to the international level (greater volume of payments across countries, applying the PES model at the international level, or a multi-scale approach to PES)?

In this context, a reference was made to a definition of ecosystem services by Resources for the Future as “components of nature, directly enjoyed, consumed, or used to yield human well-being”.¹ This definition was not seen as contradicting the way ecosystem services are described in the Millennium Ecosystem Assessment (provisioning, regulating, cultural, and supporting services). A number of draft chapters have also used another four categories of ecosystem services: carbon sequestration, watersheds (which could include groundwater), biodiversity, and scenic beauty (which could include species), which have overlaps. In terms of the relationship between biodiversity and ecosystems, it should be noted that CBD defines biodiversity components to include genetics, species richness, and ecosystems. In general, the issue of appropriate categorisation of ecosystem services is not closed; more work needs to be done in this area.

In terms of the scope for IPES, the concept of “ecosystem services districts” was identified, which covers both social and ecological space. A general concept of “landscape-based approach” was also identified. To move forward on this issue of scope, it would be useful to have a tentative list of critical ecosystem services with commercial values provided by different regions of the world. In this regard, an OECD report was mentioned, which provides indicative values of watershed services in selected locations (e.g. USD3.7 trillion in Florida and

¹ “What Are Ecosystem Services ? The Need for Standardized Environmental Accounting Units”, James Boyd and Spencer Banzhaf, Discussion Paper, January 2006, FRR DP 06-02, Resources for the Future, Washington, DC.

USD2.2 trillion in Shanghai per year). It was suggested that such a list should be linked to existing international agreements such as RAMSAR.²

2. Measurement issues

The European Environment Agency (EEA) has been leading an initiative on ecosystem accounting, which will feed into the evolving System of Integrated Environmental and Economic Accounting (SEEA). The initiative focuses on estimating the costs to maintain ecosystem services, including both marketed and non-marketed services, domestic ecosystems' contributions to the rest of the world, and the costs of maintaining ecosystems that generate products for exports. It attempts to answer a few basic questions: a) for "renewable" ecosystems and their functions/services, are they maintained over time? b) is the full cost of maintaining them covered by the current payments (including prices for imports) for marketed goods and services? c) for the total amount of ecosystem goods and services supplied by the market/government (at a price) or by ecosystems (for free), is it growing overtime?

In this regard, a reference was made to a project of state-level ecosystem accounting in India. For such efforts, a reference baseline of ecosystems needs to be established taking into account the commitments to international conventions. It was also suggested that the work on life cycle assessment, biodiversity and ecological footprint, and ecological accounting be looked at together to see how they might advance the issue of ecosystem services measurement and categorisation. The key principle is to make any measurement and categorisation effective in communication terms.

A number of specific techniques for measuring ecosystem services were introduced, including ways of assigning scores to particular parcels of land based on the slope, size, and frontage of the parcels, a dollar-input – biophysical output model, and considering the interactions among different parcels of land, etc. Practical issues in measuring ecosystem services were also highlighted such as the lack of empirical data to determine the baseline. In addition, some techniques for measuring the costs of service provision were described including basing such costs on land values, farm budgets, proxy variables such as distance to road, trying different contracts with different providers, and competitive inverse auctions (whose poverty/equity implications need to be watched). A GIS system was proposed for integrating data on diverse ecosystem services, threats, and opportunity costs related to particular ecosystem sites. These tools are of major interest to potential PES buyers.

Despite the availability of various tools, however, the measurement of biodiversity and ecosystem services remains a challenge, as they are found in "mountains and rocks" and in our chain of life. To resolve this measurement issue and reach consensus, the need for an IPCC equivalent for the CBD was identified. It was also pointed out that the discussion on measurement tends to be highly technical, which may fail to engage policymakers. It would be useful to effectively communicate tested approaches to policymakers, such as a scoring system that has been used in Germany's biodiversity offset programmes or the biodiversity indicators system used in the Netherlands, which could be described in the publication. These measurement issues should be addressed early on in the IPES publication.

3. Demand for ecosystem services

Based on a survey study in Costa Rica, four major determinants of the private sector's demand for ecosystem services were identified: a) financial and non-financial expectations; b) knowledge and experience with ecosystem services; c) company attributes such as its shareholders; and d) perceived behavioral control factors such as the

² In this context, the UNEP South China Sea regional project has undertaken work on the valuation of the coastal ecosystem services in the subregion (with focus on mangroves). See http://www.unepscs.org/Regional_Task_Force_on_Economic_Valuation.html

existence of an intermediary. In the case study, local companies appeared to be willing to pay more for ecosystem services than international companies, but the overall rate of response to the survey is low and generally the magnitude of Willingness-To-Pay (WTP) is low.

Motivations for the private sector may also be broken down to the following categories: a) acting on business opportunity; b) managing the costs of key inputs, c) maintaining “license to operation”; d) enhancing or maintaining the value of a company’s natural assets; e) managing reputation risks or building brand names; f) managing staff morale; and g) charity.

To address the issues of low response rate, it was suggested that sector- or company-specific analysis with a better description of specific biodiversity components might better differentiate the demand for ecosystem services. For example, there are companies that need to offset their biodiversity footprints such as construction companies and there are those that stand to profit from the conservation and sustainable use of biodiversity and ecosystem services such as pharmaceutical, food, tourism, and water hedge-funds businesses. Their motivations for participating in PES are rather different.

Also, an international regulatory agreement may help generate a better response rate, as it would raise awareness of both the risks and benefits to companies. The banking sector, for example, feels that there is a lack of legal framework that would guide its PES decisions. In this regard, more work is needed to analyse how such an agreement can translate positive and negative financial consequences into companies’ balance sheet. The cost of enforcing such regulations across countries and cultures, however, should also be considered. Alternatively, a study of how the prospect of a national level legislation may prompt responses from companies would be useful.

In this regard, a reference was made to a matrix of biodiversity footprint developed by the Netherlands’ Environmental Assessment Commission for various products and firms. If such a matrix were used in a survey, it might also generate a better response from companies. A related issue is environmental pressure through international trade. A pilot project was mentioned in which an oil company estimates its biodiversity footprints from oil extraction and use this as a basis for considering the compensation needed to mitigate the associated environmental impacts. There is also work in Switzerland on the potential conversion of agricultural subsidies into PES and set aside some of the payments for compensating foreign exporting countries that supply ecosystem services embedded in goods imported to Switzerland. In such schemes, consumers may also share the burden of payments.

To address the challenges of the low WTP for ecosystem services at the international level, a number of actions were proposed: a) identify and quantify (the benefits of) an ecosystem product; b) matching scale and motivation (i.e. IPES needs to be underpinned by motivation at the international level); c) matching scale and beneficiaries (i.e. IPES needs to focus on beneficiaries who operate internationally (e.g. multinational corporations) or receive benefits internationally (e.g. consumers of imported products); c) marketing and communication; and d) institutional arrangements to facilitate PES transactions. To implement these actions, a significant amount of testing and capacity building and perhaps a prototype market would be needed.

Another way to articulate key conditions that would raise the private sector’s demand for ecosystem services to the international scale is that there must be either a regulation or clear financial returns and business case or stakeholder demand and expectations (including shareholders, investors, and consumers) or a combination of these conditions. These may also be summarized into “RRR” – regulation, returns, and reputation.

4. Supply of ecosystem services

On the supply side, the potential opportunities and risks of PES for the poor were identified. Opportunities include increased income, business experience, and sustainable resource management knowledge in the short-term, and higher ecosystem resilience and land productivity in the long term. Risks include higher than expected

opportunity cost, loss of access (e.g. to medicinal plants) and management rights, loss of jobs, increased land grabbing, supply of certain ecosystem services at the expense of others, inability to comply with PES contracts for factors beyond control, and incompatibility with local culture values.

Ideal conditions for the poor to supply ecosystem services were also identified: a) demand for ecosystem services is clear and financial rewarding; b) supply of the services is threatened; c) supply constraints are possible to remove; d) honest brokers exist; and e) the existence of enforceable property and contract laws. A major principle for pro-poor PES is that communities living in areas considered as sources of ecosystem services should be better off with PES than without it.

Also on the supply side, a technique to target PES was also presented based on a case study in Costa Rica to ensure the effective and efficient delivery of desired ecosystem services. The technique is based on joint consideration of the ecosystem services of interest, the risks of their losses, and the costs of service provision. For example, a particular site that provides high value of ecosystem services but faces a low risk of service loss and a high opportunity cost of service provision would generate smaller “additional” service value under a given payment arrangement relative to another site that has a smaller value of ecosystem services but faces a higher risk of service loss and low opportunity cost of service provision.

5. Implementation issues

For IPES (focusing on biodiversity) to be operational at the international level, two conditions similar to those underlying the Kyoto Protocol may need to be met. The first is to have a global regulatory mechanism that sets the limit on the use of a resource (as the limit on carbon emissions in the case of Kyoto). The second is allocating newly created environmental property rights (including over the by-products of using an environmental asset as in the case of carbon) across countries within the set limit (as emission permits in the case of Kyoto). Future efforts on IPES should focus on how to meet these conditions for a global biodiversity market. Although currently there is no CBD COP decision on any regulatory mechanism, there is an interest to explore the potential of innovative approaches expressed in several decisions. A possible entry point is CBD’s work stream on protected areas.

In this context, the workshop revisited the concept of an International Bank for Environmental Settlement (IBES) developed in 1995. The IBES was proposed as a global investment bank to not only administer the carbon market but also cover a range of other environmental markets (watersheds, forests, water bodies, global spectrum, global indigenous knowledge, and biodiversity) with the objectives of creating economic values from ecosystems while ensuring sustainable use, satisfying basic needs and overcoming wealth gaps between North and South, and achieving financial sustainability for the operation of the IBES. Within this overall institutional structure, different financial instruments may be used for different environmental services.

A practical implementation issue is how to have a cap-and-trade system for biodiversity, which is by definition diverse and multi-dimensional. In this regard, the IPES publication should attempt to clarify related property rights issues at the international level. It would also be useful to look into the ongoing effort to establish an international system for accessing genetic resources. Innovative financial tools may be designed to create profit-making entities that bundle diverse ecosystem services into securitized, internationally tradable financial products and members of poor local communities can own the shares of these entities.

Reduced Emission from Deforestation and Degradation (REDD) provides a unique linkage between the carbon market and biodiversity conservation/sustainable use. But it also exemplifies the challenges in bundling payments (from carbon and biodiversity purchasers) for different ecosystem services (carbon sequestration and biodiversity): a) different interpretations of REDD; b) implementation obstacles (setting baselines, preventing leakages, and ensuring permanence); c) ensuring additionality and preventing perverse incentives; d) concerns over livelihoods and equity; and e) the relationships between national and project approaches, and voluntary and regulatory markets. In addition, there are concerns over the potential of REDD flooding the carbon market.

To start addressing some of these issues, UNEP-IUCN has made an effort to examine how carbon and biodiversity investors might share the costs of paying for REDD. For the biodiversity component of REDD, a “fund” mechanism was suggested to pay for general biodiversity benefits and a “partnership” among different beneficiaries to pay for specific biodiversity benefits, although the issue of determining beneficiaries remains to be addressed.

6. Way Forward

Motivating the private sector to participate in IPES remains a challenge. Future efforts should include: a) continue documenting and highlighting business benefits; b) utilise media to exemplify the benefits from the carbon market and raise interest in watershed markets and biodiversity markets; and c) mobilise financial institutions to encourage their business clients to participate in IPES.

Different chapters have significant overlaps that need to be reduced. Authors were encouraged to review the chapters written by others while revising their respective chapters, taking into account the logical flow and the international scale. Another way to avoid the repetition with regard to different operational options and financial mechanisms is by referring to an overall international framework (linked to regional/national/local levels) to be added to the publication. Although currently there is a lack of enthusiasm from governments for any legally binding international agreement, the IPES initiative could focus on creating the conditions necessary to generate that enthusiasm.

There is a need to raise awareness of the potential benefits from IPES among countries, based on the work carried out thus far under the IPES initiative. Some countries may then bring IPES onto the agenda of related international institutions such as the CBD. At the same time, the involvement of scientists is essential for providing technical guidance on the design of an IPES system. This design has to take into account national legal frameworks and local conditions for implementation. Demonstrative case studies may be annexed to the publication. In addition, a number of pilot projects in partnership with a number of governments covering ecosystems such as protected areas would be highly demonstrative. All of this would require substantive funding support. A proposal may be developed to scale up the efforts in these areas over the next two years for the results to be ready for CBD COP-10.

For the occasion of the CBD COP-9 in May 2008, it was proposed that a short summary piece be prepared by the end of March 2008 to present the state of discussions in the group on the preliminary direction for IPES, complementing the existing introductory piece. This summary can be based on a one-page abstract from each of the IPES draft chapters, with names of experts recognised. It was also suggested that UNEP, IUCN, and other partners/governments make a statement in one of the CBD COP-9 working sessions to promote further work on IPES. In addition, it was suggested that a side event during the CBD COP-9 be organised to share the preliminary results of the IPES initiative. Revised chapters may be reviewed around the same time.