

Payments for Environmental Services,
An important instrument in development policy to maintain global ecosystems

Good ecosystem management provides benefits from the local to global scale, but these benefits are usually not recognized. PES seeks to transform environmental benefits into economic incentives, enabling landholders to chose and enforce conservation and sustainable land uses. PES can contribute to maintain ecosystem and improve the living conditions of local people, but some basic elements, a range of institutional conditions and appropriate regulatory framework should be considered to make PES work in an effective way.

Context:

The efforts to conserve ecosystems in the last decades were well meant but not sufficient. The Millennium Ecosystem Assessment, states that the majority of ecosystems on which human well-being depend, are being degraded or used in an unsustainable way (MEA 2005). Main drivers for this situation are economic and population growth, but also discouraging policies, rules and prices that undermine conservation efforts. Innovative market based instruments seek to mobilize financial resources and improve the performance of conservation initiatives by recognizing the importance of ecosystem services, their contribution to human well being and the need to boost tangible synergies between conservation and development in order to achieve the Millennium Development Goals.

Understanding PES as a market instrument:

Good ecosystem management provides benefits from the local to global scale - e.g. the local population benefits from clean water and productive soils and the regional to global community benefits from hydrological flows, biodiversity conservation and climate regulation. These benefits are usually not recognized in monetary terms, and therefore do not have an explicit economic value and are not taken into account in decisions on resource use. This turns unsustainable land uses more profitable, feasible and attractive in a short term. The fact that many environmental benefits and costs do not have a monetary value can be considered an institutional and market failure. Payments for Environmental Services (PES) seek to address these failures by considering (or internalizing) the benefits and costs (externalities) of particular land uses, including their impacts on ecosystems (Engel, et al 2008). PES transforms environmental benefits into economic incentives by establishing a voluntarily transaction between the supplier of a service, who is paid by the consumer of this service for its supply. The recognition of the benefits of conservation and restoration practices are supposed to create economic incentives for the ones who control the land (called "providers") by enabling landholders to chose and enforce more environmental friendly activities (e.g. water users downstream pay landholders upstream to reduce erosion and conserve water sources). Thus, the logic behind PES is that through an institutional arrangement or a financial transaction, environmental externalities can be tackled in a more effective way.

PES establishes a contractual relationship, where there should be at least: (i) one well-defined environmental service (or agreed land use that is expected to provide it), (ii) one buyer and (iii) one provider, who is responsible to continuously provide continuously provides the service (Wunder, 2005).

PES in the real market life:

PES and markets require appropriate conditions in order to be established and work jointly. Clear property rights and a suitable legal framework are necessary. Especially, it is needed that involved institutions are committed (e.g. water companies), that a certain level of information among stakeholders is assured in order to allow fair negotiations and that beneficiaries are willing to pay for the service. Thus, often these conditions need to be developed and consolidated to make fair market transactions possible. In this sense, projects usually have considerable start up costs, for design of the scheme and the negotiation of the transaction. In the case of carbon and biodiversity markets, projects are also required to bring comprehensive information characteristics of the place where they are located to design baselines and permit monitoring (e.g. carbon stock, biodiversity indicators and vegetation cover). These costs are frequently taken on by non-governmental organisations or institutions from the development cooperation.

Nowadays, there are about 300¹ initiatives worldwide in different stages of implementation and most of them are localised in Latin America. This regional bias is related to favorable conditions such as functioning Institutions with enough capacity to administrate financial resources and decentralization trends where local and regional governments open up the space for initiatives at these levels. Especially in PES water, many municipalities and water companies used this opportunity to build schemes that support conservation and sustainable land uses in the upper parts of their watersheds (e.g. Pimampiro, Ecuador and Heredia, Costa Rica). Additionally, some good PES practices like the National Fund for Forest Financing (FONAFIFO) in Costa Rica resulted in a regional domino effect, disseminating the idea to other countries (such as in Bolivia and Nicaragua). In parallel, local initiatives also provided the opportunity to develop national schemes (e.g. Mexico and Ecuador).

Initiatives vary from local to national level, can be government or user financed, and are mostly anchored in other mechanisms such as conservation trust funds. Arrangements can be made with individuals or communities, depending on the land tenure rights. Payments are made in cash or in kind, according to the context and what people have negotiated. The quality of schemes varies regarding the management capacity of the institutions involved, type of contract, conditionality of the payments, degree of compliance of the committed land uses.

A major challenge is to find buyers, which are willing to pay for the environmental benefits. In fact, most of the schemes are still financed at least partially through public funds. Markets on environmental services are growing but are still in an incipient stage of development, depending on the institutional context (e.g. regulations and degree of compliance), type of environmental service and perceived benefits. Public awareness and information also play an important role, through mobilizing actors and increasing their willingness to pay.

State of the art of Markets on Environmental Services:

Until now, carbon markets are the only PES real markets and could be either voluntary or driven by regulation. Conservation projects can so far only play a role in the voluntary schemes but this situation can change over the next years in the post Kyoto regime. Main "buyers" in this sector are electricity, industrial and transport companies. Markets for sustainable watershed management are being established mainly at local and regional levels. Water and hydropower companies, as well as domestic and industrial consumers support conservation measures in the upper parts of their watersheds, hoping to ensure the quality and quantity of water flows. In PES for biodiversity the involvement of the private sector is still limited but growing. Companies who pay for biodiversity services usually use and have an impact on biodiversity directly or indirectly, like the ones that promote production chains (coffee and timber), or the ones interested in access and benefits sharing (pharmaceutical companies). Some of them act for social responsibility or philanthropic reasons and others are interested in improving their image and reputation. Main shortcomings of such initiatives are the high transaction costs involved and the fact that a number of the financial sources could be controversial, since the companies involved can sometimes be the ones that also produce the damage (i.e. biodiversity offsets).

Main challenges: bringing together conservation and development:

Even though many PES initiatives have flowered in the spring of market oriented approaches not all of them survived or reached the desired environmental impacts. Two important reasons are the lack of appropriate conditions, through which fair negotiations can develop, and difficulties in combining different interests and environmental goals. In many cases, some key elements for PES do not emerge (e.g. buyers), or sometimes it can be difficult to bring providers, services and buyers together in a single contract. Other times, the environmental problem can not be addressed through a PES scheme because its underlying causes are rooted in other sectors (such as agricultural subsidies).

The actual success of PES depends on the management capacity of the institutions of the scheme and the design of "appropriate incentives", to ensure environmental impacts of the land uses and socio economic impacts for the services providers. As an example, if hydrological flows are to be improved, restoring native vegetation in the highlands is likely to be more suitable than monoculture of exotic trees species, while having different users and diverse impacts. In this sense, there is a need to

¹ Landell-Mills, N, and Porras, I.T. (2002). "Silver bullet or fool's gold? A global review of markets for forest environmental services and their impact on the poor," IIED, London.

understand the relations between land uses and environmental services, as well as to clarify formal and informal property rights on natural resources. A range of institutional and organizational aspects should be considered, regarding accountability, transparency and governance. In line with this, the negotiation process, contract design and levels of trust are just as important as the consideration of socio-cultural norms and beliefs. The availability of technical expertise and economic resources influence also the design, outputs and functionality of the schemes. Last but not least, the offered payment or incentive needs to be sufficiently interesting to the service provider.

PES and Poverty: PES are usually voluntary arranged, especially from “the providers side” (landholders) and generally means a possibility to diversify incomes, particularly for the ones that live in marginal rural areas (e.g. highlands or remote forest areas). However, the socioeconomic impacts of PES depend also on the type of land use to be promoted (strict conservation versus sustainable use). Mostly, if strict conservation measures are promoted, the creation of other income possibilities i.e. in buffer zones, are necessary to assure that the approach can support poverty alleviation. Specific conditions to join a scheme, may difficult the participation of poorer sectors if they are not located in the place where environmental services are generated. However, generally poverty reduction impacts can be improved, if poverty applied as one criterion to select and prioritize provider groups. A weak organisation and little access to information hinder the participation of poorer rural sectors and can reduce the quality and the output of the negotiation. Nevertheless, experience shows that those who have access to and join the system mostly are agreed with it. From “the buyers side”, when there is not a capacity to pay, the payers should be found somewhere else. Worries regarding the possibility to exclude the poorer sectors from access to resources (e.g. water), have not been confirmed until now. In fact, most of the poorest urban sectors frequently do not have access to the services to be taxed. Fees and taxes can be designed in a way that poor sectors are not affected. The scheme should be adapted to the living conditions and the needs of the local people and be negotiated in a transparent and fair way. The negotiation process may be time consuming and need to comply with some basic requirements for success such as availability of information among the different interest groups involved, regulating power asymmetries as well as strengthened capacities of local actors.

Looking forwards:

After a decade of trial and error, some of the initiatives are now well established; others are in a more initial stage or still need to be consolidated and some did not take off. PES proved to be an adequate tool, when there is a potential demand (interest, need and willingness to pay) and the aspects mentioned above are taken into account. Thus, in many cases, the functionality of such schemes might lack effectiveness or even fail, if cross sectorial policy, institutional or market failures underpin the efforts that PES try to address. Political interests can sometimes undermine the desired environmental goals, while overloading the initiatives with too many objectives can at the end of the day kill the main goal by not reaching any of them. Efficiency can be relative to the context, since many times basic conditions (such as defined land tenure and basic information) should be first clarified and provided to enable any start.

An appropriate regulatory framework can mobilize companies to invest in environment and conservation activities, increasing the demand for PES. Some examples are the Kyoto Protocol which commits industrialized countries to reduce their emissions and the EU Environmental Liability Directive that obliges companies causing environmental damages to pay for them, if they cannot be avoided. At the national level, environmental fiscal reforms can encourage the integration of conservation into the system of intergovernmental fiscal relations, mobilizing resources as well as changing consumption and production patterns. A better understanding of the different actors with their corresponding interests can contribute to increase the engagement of the private sector.

PES has often been analysed in an extensively, since expectations on it were rather high. The lessons learned contribute to understanding particular requirements to make it work. PES is only one instrument among others and should be designed, implemented and combined in a coherent form with other appropriate instruments and policies. We should move from an instrument to a problem solving approach broadening the scope and diversifying the strategy. This implies working in the appropriate framework conditions, seeking for coherent combination of instrument and policies and understanding when PES can contribute to solve part of the problem. The last means recognizing institutional and economic aspects such as operative, administrative and opportunity costs derived from land and other

resource uses that compete with conservation. If these guiding principles are obeyed, PES can evolve to an effective mechanism to conserve ecosystems.

The Development Cooperation can contribute with financial support, advising partners to improve framework conditions and strengthening weaker actors to get better outcomes by the negotiations. In fact, the Development Cooperation has been playing a significant role in supporting the design, implementation, monitoring and evaluation of PES. Such tasks include the definition of property rights, facilitation of economic valuations and the development of markets, through awareness rising and environmental communication. Key tasks include the coordination and concertation of different stakeholders by fostering win-win agreements among them. Lessons learned show that negative impacts can be avoided if governance, economic and technical aspects are well considered. In line with this, Donors should coordinate their efforts to promote sustainable schemes that improve the livelihoods of the local people and contribute to maintain ecosystems.

References :

Engel, S; Pagiola, S; Wunder (2008): Designing payments for environmental services in theory and practice: An overview of the issues. In *Environmental Economics*, Number 68. Edited by Elsevier. (www.elsevier.com/locate/econecol)

Poats, S (2006): Report on the Latin American Regional Workshop on Compensation for Environmental Services and Poverty alleviation in Latin America. Quito, Ecuador (www.worldagroforestry.org/downloads/publications/PDFS/WP14962.PDF)

Wunder, S (2005): Payments for environmental Services, some nuts and bolts. Occasional Paper No 42. CIFOR. (www.cifor.cgiar.org/publications/pdf_files/OccPapers/OP-42.pdf)

Asquith, N and Wunder, S (2008): Payments for Environmental Service, The Bellagio Conversations. Fundación Natura Bolivia, Santa Cruz, Bolivia (www.cifor.cgiar.org/Publications/Detail?pid=2553-22k)

Other related Links

- PES /IIED
<http://www.iied.org/eep/pubs/MarketsforEnvironmentalServicesseries.html>
- Economic Commission for Latin America and the Caribbean (ECLAC) bzw. CEPAL
<http://www.eclac.cl/faq/default-i.asp>
- GTZ-CEPAL
http://www.gtz.cl/cepal_de.htm
- Worldbank:
<http://lnweb18.worldbank.org/ESSD/envext.nsf/44ByDocName/PaymentsforEcologicalServices>
- Conservation Finance Alliance:
http://www.conservationfinance.org/About_CFA_pages/About_CFA.htm
- FAO
<http://www.rlc.fao.org/foro/psa/>
- Ecosystem Valuation
<http://www.ecosystemvaluation.org>.
- Ecosystem Markets Place
www.ecosystemmarketplace.com

Resumen

La conservación y uso sostenible de los ecosistemas provee beneficios a escala local y global, los cuales usualmente no son reconocidos. Los esquemas de pago por servicios ambientales (PSA) buscan transformar dichos beneficios ambientales en incentivos económicos, permitiendo a los propietarios escoger y promover usos de la tierra sostenibles. Los PSA pueden contribuir a conservar los ecosistemas, así como a mejorar las condiciones de vida de las poblaciones locales. No obstante, se requieren algunos elementos básicos, como una serie de condiciones institucionales, un marco regulatorio apropiado y una demanda efectiva por conservación, que se traduzca en una fuente de financiamiento sostenible, para que los esquemas de PSA puedan funcionar adecuadamente. La cooperación al desarrollo juega un rol importante en la creación de capacidades institucionales y

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humanas con miras a desarrollar arreglos y negociaciones que conlleven beneficios para la salud de los ecosistemas y el mejoramiento de los medios de vida de las poblaciones locales.