5.1 Payments for environmental services

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Are they sustainable?
The concept behind Payments for Environmental Services (PES) is to provide incentives and benefits for people who now utilise environmentally valuable ecosystems in return for them agreeing to utilise these services in such a way as to protect or enhance their local and external benefits. In certain circumstances individuals or communities can be directly rewarded for providing these services to external stakeholders. PES schemes fill the gap between the payments for environmental goods that markets provide and the unrecognised demand for environmental services.

In other words, PES is intended to create markets for environmental services that have not yet been “commoditised.” Although drinking water can be sold in a bottle, a unit of regulation of river flow is harder to define or sell, as is the existence value of a viable tiger population. There is a lot of enthusiasm for starting PES schemes, but it is unclear whether they are sustainable. The sustainability of a PES initiative likely depends on two factors:

- how stakeholders view its efficiency and fairness; and
- how well contextual factors are integrated.

Both buyers and sellers also have to agree on the level of efficiency and fairness of the PES mechanism. If buyers after a few years wonder what in fact they are paying for, or if the sellers start to see the payments as an entitlement, the scheme is likely to collapse. What started as financing for sustainable forest management may itself become unsustainable. It may even jeopardize the forest management that became dependent on it.

This article discusses a number of lessons and insights that emerged from five years of implementing the “Rewarding Upland Poor for the Environmental Services they provide” project (RUPES Phase 1) in Asia and from discussions to start up pro-poor rewards for

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Environmental Services in Africa (PRESA). These insights may help others who are in the early phase of enthusiasm for PES to understand more about its potentials and pitfalls.

The best-known global financing mechanism is Reducing Emissions from Deforestation and Degradation in developing countries or REDD. REDD\(^3\) has increased the expectations of international financial sources that back national schemes. These schemes could be designed to support other environmental services as well, with the government (or its agencies) acting as an intermediary between local action and global benefits. Scientists have recognized several pitfalls, however.

**Pitfalls**

The first difficulty is defining the thresholds of land-use types and the minimal intensities of such land use that are eligible and still expected to provide environmental service. The word “forest” is a poor delineator, as it often has an institutional rather than ecological interpretation. For example, some officials in the Indonesian Ministry of Forestry claimed last year that there had been no deforestation in recent years, since they did not lose control over any land. The FAO definition of forest includes areas that have been clear-felled but are expected to be replanted, so the absence of trees was indeed not a criterion. Rather than forest versus non-forest, most landscapes include a range of uses, from pure agriculture to natural forest or its remnants, with various forms of agroforestry and tree plantations in between. If eligibility for PES can be directly linked to evidence of the provision of such services, issues of definition can be left for academic discussions. If time-lags, scale effects and difficulties in attribution of a landscape-level service to the constituent land use prevent the use of direct outcome-based incentive mechanisms, however, definition becomes an important issue.

**Flows and stocks**

Any form of PES is aimed at maintaining the natural capital from which a future flow of services is expected. The payments are intended to offset the lost opportunity costs due to destruction of the natural capital. The sustainability of such payments may be questionable since the provision of such services depends heavily on the uncertain condition of natural capital.

Economic transactions can apply to current or future environmental service flows as well as stocks, but they require discounting methods to relate future to current benefits. In a world of increasing scarcity of natural capital, it can be argued that the appropriate discount rate is a negative one. Financial flows (payments) to accompany (in reverse direction) the flows of environmental services should build up capital to match the natural capital.
Furthermore, environmental service providers can contribute to sustainable management if they help in forming “other capital” that match the natural capital. There are five types of other capital:

- human capital, such as support for health, education and empowerment;
- social capital, such as trust, respect and reciprocity between different groups;
- political capital, such as having a voice that counts in broader discussions;
- physical capital, such as roads with proper drainage, bridges and local hydro-electric systems; and
- financial capital, such as trust funds.

**Efficiency and fairness**

The notions of “efficient” and “fair” are based on a number of principles, criteria and indicators that apply across situations and context. Efficiency generally requires that the mechanisms are realistic, conditional and voluntary; fairness that they be pro-poor.

**Realistic mechanisms**

The fact that forests provide environmental services is not enough. The type of environmental services being provided and to whom they will be provided must be clarified before developing any appropriate incentive systems. Appraisal methods can help identify what aspect of watershed services is at stake, how carbon storage can be enhanced, what part of the agro-biodiversity complex can be conserved and the chances for recovery if the services have fallen below thresholds.

A number of trade-offs need to be recognized. For example, fast-growing trees use more water than other vegetation and may reduce stream flow, so their benefits for wood production and carbon sequestration come at a cost. The longer-term evolution of payment systems should be able to accommodate a shift in circumstances — such as long-term improvements in water quality or soil condition — that take time to emerge.

**Conditional mechanisms**

Conditionality of rewards is the primary difference between PES and simple subsidies. In PES schemes, the service providers have to be bound by a contract that will evaluate their eligibility for payment. Service stewards will be rewarded only when they provide a service and the user is satisfied that the service has been provided. PES schemes have to have reasonable and realistic targets, however. If the targets are too high, disappointment will follow when they are not achieved; if they are too lax, the scheme’s sustainability is likely to be affected. In current initiatives both of these failings have in fact materialized. In the case of watershed service schemes, performance criteria need to incorporate climate variability and trends, as well as unexpected events.
Voluntary mechanisms
Unlike realistic and conditional criteria, the voluntary aspect of PES initiatives refers to a relative rather than an absolute attribute. Generally, stakeholders' involvement is at least partially based on community-scale efforts rather than individual decisions. A range of incentives and disincentives, including — local enforcement of rules, material inducements and compliance with social norms — can ensure participation at the individual scale. The PES provides the incentives, but without the disincentives of rule enforcement and internalizing standards of behaviour, the positive effect will be small.

Over time it is feasible that the norms of acceptable behaviour (and/or the regulated/mandatory framework) will shift upwards, so that conditional rewards are replaced by baseline expectations. In other circumstances the rewards may, after a time, be perceived as entitlements rather than as conditional incentives. In both cases the PES may not be sustainable, but it will still be part of shifting the roles of the different stakeholders, in the first case by enhancing environmental services, in the second by improving livelihoods.

Pro-poor
Exclusion of socially marginalized people can undermine the effectiveness and sustainability of PES schemes. If the poor are ignored, PES systems will not be sustainable. The rural poor may report to burning and destroying assets if they feel seriously neglected. On a more positive note, care for environmental services can have substantial benefits for poverty reduction. Even more importantly, seriously listening to local people about how conservation efforts should be carried out can increase the effectiveness of any PES schemes. In order for a PES scheme to be pro-poor, it has to be constructed to meet one of three criteria:
- it does not harm the poor;
- it fairly includes the interests of the poor; and
- it differentially benefits the poor.

Poverty has many dimensions, with which PES can interact in different ways. Respect — or social capital — for marginalized people may be one of the first and most important consequences of analyzing the stewards of environmental services, reversing a long tradition of looking down on them. The rural poor must have a voice in the development of PES mechanisms. Enhancing local access to clean water and ensuring local control over a grab of local resources by outsiders (legal or illegal, formally or informally sanctioned by those in power) may be more important than financial payments. When asked, rural poor people (especially women) may prefer financial flows to be invested in local health and education services rather than providing small sums of money over many households, with the risk of the majority of revenue being captured by the elite.
From a global viewpoint, the pragmatic perspective on making incentive mechanisms pro-poor comes in addition to a moral imperative and a worldwide commitment to the Millennium Development Goals. If the goal of ending absolute poverty is achieved by 2015 — which is unlikely — the pro-poor approach might be more valued than it is currently. Realistically, however, relative and absolute poverty will persist.

Enforcing strict conditionality in the face of rural poverty may be problematic, since health and education services are in fact social entitlements that were due anyway. Creating a spirit of shared responsibility and interdependence is important, but it needs to be balanced by the requirements of transparency, joint monitoring of actual achievements in reducing poverty and enhancement of environmental services.

In exploring the question of sustainability of PES, it is important to monitor current cases over a sufficiently long period of time. Only then will it be possible to describe and analyze the changes in relationships between stakeholders that will undoubtedly emerge.

Endnotes
1. The terms “environmental services” and “ecosystem services” are both used globally. Both are commonly defined as comprising four aspects: (i) watershed function; (ii) biodiversity protection; (iii) landscape beauty; and (iv) carbon sequestration.
2. Ecosystem services are the benefits that people obtain from ecosystems, as described by the Millennium Ecosystem Assessment in 2003. They include provision functions (supply of goods) and regulating, cultural and supportive functions (or environmental services). The Conservation Finance Guide, 2002, defines ecosystem services as “the provision of natural resources and healthy functioning ecological systems that produce environmentally and economically valuable goods and services.”
3. The Clean Development Mechanism of the Kyoto Protocol supports some forms of afforestation and reforestation but excludes activities that protect existing carbon stocks and forms of “avoided deforestation.” The 13th Conference of Parties (COP) of the UNFCCC (UN Framework Convention on Climate Change) in Bali affirmed the importance of Reducing Emissions from Deforestation in Developing countries (REDD). Greenhouse gas emissions from forest conversion/deforestation makes up roughly 20% of total anthropogenic emissions.
4. The initiation of PES schemes in Asia (and Africa) had just started at the beginning of this millennium. On average, the implementation of such schemes has lasted less than five years. Almost no PES scheme has been implemented over a long period of time.
Further reading


