The degradation of ecosystems worldwide threatens the survival of 1.6 billion people who depend on these ecosystems (water, biodiversity, land tenure, resource use, carbon) and two-thirds of the “environmental services” worldwide. In response to this danger, payments for environmental services (PESs) emerged in the 1990s. An alternative to traditional policies based on heavy State intervention (standards, laws, taxes, grants, etc.), often deemed inefficient and disconnected from local issues, 300 PESs were inventoried in 2010 (OECD, 2010). What are the advantages and limitations of PESs? To what extent are they a tool fostering sustainable local development?

According to Sven Wunder, PESs are voluntary transactions in which an environmental service (or the use of the land procuring this service) is assigned to a service provider (a community, a local government, or a village group). The buyers of environmental services are primarily consumers: tourists, water or electricity companies, multinational firms seeking CSER, etc. The transactions may take the form of financial incentives or technical support.

Toward the Financialization of Environmental Services?

The value of environmental services is estimated at €23,500 billion per year, approximately half global GDP. Yet, biodiversity is threatened. PESs have been accepted as an innovative financial mechanism, notably by the 10th Conference of the Parties to the United Nations Convention on Biological Diversity in Nagoya, Japan, in October 2010.

Recently, during the COP11 in Hyderabad, India, in October 2012, 180 countries promised to double financial flows (both public and private contributions) to help developing countries finance their biodiversity preservation programs by 2015. However, exact figures have not yet been set. Nearly 200 billion dollars a year would be needed to attain the Nagoya goals (WWF International, 2012).

Other forms of innovative financing for environmental conservation exist: the voluntary carbon offset market, financial derivatives linked to species extinction risks, the establishment of environmental mortgages (in exchange for microcredit), etc. The large number of actors, financing modalities and the institutional framework all come with strong challenges when it comes to global governance, equity and regulation.

PESs: A Stake in Land Reforms

Operational rights (access, cultivation, collection, etc.) and administration rights (sell, rent, etc.) are not necessarily held by the same people, and can exist simultaneously over the same land. The existence of clearly established property rights can be problematic in the identification of PES suppliers and practices that are unfair to populations and harmful to the environment.
(lack of transparency, balance of power between communities, state forestry companies or the wealthiest individuals).

Confusion about beneficiaries also reveals opportunistic behaviors among owners and buyers of PES, who may evict people, privatize access to resources, speculate on natural resources and the associated land, and make the communities that use the land poorer.

PESs cannot solve institutional weaknesses—in this case in the area of land tenure—and need minimally adequate institutions to enforce property rights, ensure justice, control access to shared spaces, and punish those who do not comply if needed.

From Opportunity Cost to an Investment Approach

While in theory, the cost of an environmental service (ES) is the sum of opportunity costs, protection costs involved with ecosystem conservation and transaction costs from elaborating PESs, in practice PES projects tend rather to correspond to compensation for giving up local use rights.

The value of an ES is usually based on the service supplier’s opportunity cost above which he will renounce non-sustainable practices. In practice, PESs cover neither the real price of these services nor the cost of the necessary reforms for local populations to make practical changes and sustainable rural development policies on the national level. Therefore, one must stop seeing them as “opportunity costs” and start seeing them from an “investment” angle. PESs that serve to finance structural changes in technical itineraries become, in this way, true development instruments.

Indeed, PESs involve three challenges:

- **Economic Efficiency**: Defining and implementing PESs generate high transaction costs, which vary depending on the scale of intervention, number of intermediaries, etc. These costs, rarely evaluated, can be broken down into the costs of the monitoring, awareness raising, institution building, internal structuring and consultation needed to define and implement a PES system. To a certain extent, they are an indicator of the type of governance and participatory nature of demand.

- **Environmental Effectiveness**: Calculated through the cost of an environmental service, this is generally based on the opportunity cost that is often the outcome of negotiations and depends on the balance of power between supplier and buyer.

  The information imbalances between the parties involved generate important risks such as competition between service suppliers to lower the price or the elimination of certain sparsely populated zones. Opportunity costs can vary strongly from one zone to another. For example, the opportunity costs in areas where agribusiness is practiced are very high. In these zones, there is not enough PES finance to protect resources from des-
In Madagascar in 2010, a PES mechanism was set up by GRET and the IRD to protect the watershed basin near the Tolongoina micro power plant and ensure its sustainability. As an alternative to direct payment, capacity building support was set up for hydrological service suppliers (peasant households) so that they could provide the expected services (ceasing slash-and-burn farming and developing alternatives) to recipients (the private operator and electricity service users).

The PES in Tolongoina was elaborated by local actors as a whole. The local population formulated their expectations and constraints, and solutions were imagined collectively by the community, households and the private operator including existing environmental management systems. The Tolongoina PES contributed to sustainable local development by saving the environment from harmful practices while providing households with new resources. By adopting a research-action approach, the Tolongoina experiment made it possible to internalize the environmental service and attain satisfactory institutional arrangements.

Source: rHyvière Program launched in 2008 by GRET in close collaboration with the IRD.
• a bottom-up approach to the selection of incentives and compensation; and
• a support for existing environmental management systems.

* Ensure that PES Serve Rural Development

For PESs to leverage changes in household practices and structural changes when it comes to national rural development, their design must integrate the various costs: capacity building, awareness raising on agricultural practices, training and long-term support to build multi-activity models and value chain structure models.

Performance indicators and indicators to measure the impact of changes in practices must be central to the reflections so that PES can become a true instrument for inclusive and sustainable growth in the rural sector.

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Based on the forthcoming publication:


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Lexicon

• PES: payment for environmental services.
• Environmental Services (ESs): benefits that people derive from ecosystems without having to act to obtain them: oxygen production, natural water filtering, natural carbon sequestration, land, seas, subsoil, etc.

Sources

• Rhyviere Program, Réseaux hydroélectriques villageois, énergie et respect de l’environnement, 2008-2013, GRET.