



## PESMIX in short

***“Payments for Environmental Services: new panacea or useful auxiliaries for managing landscapes? ” (PESMIX ) is a three years research project funded by ANR<sup>1</sup> . It is focusing on the integration of PES schemes within environmental policy mixes in Mexico and Madagascar.***

### Context

Programs of payments for environmental services (PES) have become quite popular today, recognized worldwide as a possible tool to maintain endangered ecosystems, especially in developing countries since PES are also portrayed as tools for poverty reduction. In their establishment process, PES schemes fit within an institutional pathways, their design is influenced by a diversity of actors (State, international NGOs, civil organizations, farmers organizations, communities ...), affecting their relative positioning to other policy responses to environmental management. As PES develop and cover wider area, their territorial interactions with the existing environmental, agricultural and rural development policy instruments become acute.

While in the past, PES programs were compared to a set of alternative instruments such as social regulations, command and control, certification, fiscal and subsidies policies or Integrated Conservation and Development Projects (ICDP), it is considered relevant today to identify their points of synergies and identify how PES could be a useful tool among the mix of economic and legal instruments in order to better manage environmental externalities. This suggests that to be successful as a market solution to environmental problem PES requires a reconfiguration of state and community relationships with the markets and ecosystems (Vatn, 2009).

### Objective of the project

The objective of this research project is twofold:

- Understand what new brings PES in an existing environmental policy mix to manage environmental issues
- How PES programs do combine or enter in conflict with these instruments within landscapes that are engaged in different development/conservation trajectories.

The overall aim is to identify opportunities of improvements in order to promote ES provision in an efficient and equitable way. To this end, the PESMIX research project proposes to study the interactions PES schemes have with other economic and legal instruments at two steps of their development: the phase of design, which will determine the degree of ‘PES principles’ applied, and the phase of their implementation in the field that will rely on the implicit conditions of PES performance.

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<sup>1</sup> ANR is the National Research Agency responsible to fund research in France.



## Hypothesis and methods

### *PES design: hybridization vs synergizing processes*

The literature distinguishes PES-like schemes from pure-PES, however, the origin and the distance that separates them from a pure-PES are not conceptualized. We propose in this project not only to assess this distance but also consider that PES-like are the results of a hybridization process of PES with other instruments. The Mexican PES scheme is already considered by some observers as a hybrid of market-like mechanisms, state regulations and public subsidies (McAfee and Shapiro, 2008). Pure-PES schemes on the other side have been promoted as a “new panacea” to promote environmental management and forest conservation. While it is recognized today that to better manage environmental externalities PES should better integrate the environmental policy mix (Wunder and Pagiola, 2008), few studies today have so far gone in depth in analyzing the modalities and conditions of such synergies. This will be the overall goal of PESMIX.

### *PES implementation: synergies vs conflicts with existing instruments to guarantee incentives coherence*

In order to assess the possible articulation PES schemes might have with other tools of environmental policy, an overall assessment will be undertaken in situ according to the three performance criteria that are the effectiveness, efficiency and equity of the programs. In particular, the full cost of PES schemes will be assessed with regard to three categories of costs: the opportunity costs, the transaction costs and, when relevant, the investment costs.

There are important issues regarding the methodology to evaluate the **opportunity cost**. There is the need to set a counterfactual scenario, an exercise which can be subject to strategic behavior due to information asymmetry between the potential beneficiary and the potential payer. Compensating the opportunity cost, as most of the PES schemes aims doing, entails also some ethical questions: for the poorest individuals, this would mean staying at their current poverty level, while those who have high opportunity costs often have several development opportunities they can explore.

There is a debate about the role of PES for reducing poverty (Pagiola et al, 2005), with some claiming that, for ensuring the efficacy, PES should only address environmental issue, provided other instruments are used in parallel to reduce poverty. On the other hand, it is difficult for organizations, such as the World Bank, committed to fight poverty to promote instruments that keep the poorest in critical situations in the name of the environmental services. Hence, there are several reasons to consider that the opportunity costs is not an appropriate measure of the compensation that should be proposed to the land users. This leads to the **investment costs**, associated to the “assets-building” PES that explicitly aims at enabling for sustainable options helping the poorest to ameliorate their social condition, an option to be assessed in specific sites and on case-by-case basis.

The **transaction costs** are likely to vary considerably between emerging and “least developed” countries, and the comparison between Mexico and Madagascar promises to be particularly useful for a realistic assessment of such transaction costs.

Finally, while assessing the effectiveness of the PES programs, we will make sure to analyze PES economic incentives in line with the overall incentive structures faced by forest users groups in order to better understand their possible response to PES schemes. For example, subsidies program may

undermine PES impact if directed to support the agricultural production of farmers, they could induce changes in their land-use practices. In Mexico, this is the case of the Procampo (support per ha of maize cultivated) and Alianza para el Campo programs (support of expansion of oil palm and avocado).

### ***PES and the legal order***

To identify how PES could be better linked to other environmental instruments coexisting at different scales, we should picture the juridical coherence in which the environmental policies are spread at local, national and international scales. Relationships between PES and legal order will be considered from two perspectives:

- PES might put a pressure on law compliance. In all countries, there are legal provisions and for conserving the environmental services and change in land use is often regulated. PES are incentives-based, and are sometimes implemented in places where the practices having caused the (negative) externality PES wants eliminate, are already prohibited or regulated. Without change in the regulating framework, PES would remunerate people simply to comply with the law, which could be a factor of weakening of the law itself. On the other hand, a public policy based on PES would tend to deregulate the activities remunerated by the scheme, to avoid the difficulty previously raised; but lowering the legal requirements regarding the environment could send ambiguous signals to the population regarding how to behave vis-à-vis the environment. Finally, remunerating those that were considered as the “non-compliers” can be felt inequitable by those who were complying with the law, and entail some perverse incentives.
- In its canonic definition, PES finds its legal form in the contracts of “conservation easements” and land lease for conservation, which are well regulated and legalized in developed countries. Nevertheless, the hybrid nature of PES and the coexistence of highly diversified schemes on the same territory in the South necessitate to consider their introduction in the legal order.

### ***A Mexican-Malagasy comparison***

The PESMIX project proposes an approach based on the comparison of PES schemes in two countries namely Mexico (emerging country) and Madagascar (least developed country which could be classified as “fragile State”). We believe the very distinct PES paygages – two large national public funded PES in Mexico vs a multitude of small scale private-led PES – associated with the different institutional pathways of these countries will help us identify the various formation of a PES policy mix.

*Two public national PES vs a multitude of private local PES* - We suspect that national PES schemes are mainly developed in countries with strong public governance. The nature of the buyers and the scale of the schemes is hypothesized influencing the type and level of *PES hybridation process* (national PES have great chance to be associated with fiscal and subsidy programs, while private PES with certification). In addition, in a perspective of a continued growing numbers of private initiatives and spreading of national programs –resulting in a possible overlapping in payments - the spatial coherence of the PES programs and their potential impact on local environmental governance and efficacy (ES trade-offs) might be endangered.

*Common property forests with complete NRM devolution vs open access forests with weak NRM devolution* – In both countries, ES payments are mainly made to communities - few individual farmers being able to benefit from PES schemes - as the forest is under collective ownership and PES

are targeted to small and poor land users. We suggest that the characteristic of the communities and the degree of NRM decentralization process will influence the way PES enter in synergies or conflict with other instruments in their implementation and contracts will be perceived and accepted by land users and their potential effectiveness. The *ejidal* system in Mexico is characterized by well defined boundaries and community members (forest users) and a formalized local governance system with a written internal set of rules (*règlement interne*) give the community certain independence in the choices relative to the exploitation and management of the forest. In Madagascar the State is still legally the landlord of the forests, and the “transferts de gestion” that gives management right to local communities is still an on-going process which is far from being generalized. In general, communities have limited capacities (or, sometimes, will) to exclude outsiders from a competing use of natural resources.

## Tasks and activities

The project is organized in five tasks:

### **T1- International comparison and downscaling**

Objective :

Develop a typology of PES according to specific criteria and nourish the conceptual framework of the project

Activities:

- World comparison and analysis of PES-type mechanisms (based on an analytical review of 50 PES initiatives).
- Secondary data gathering, PES schemes mapping and sites selection
- Sites characterization (agro-ecological diagnostic and analysis of socio-historical land use dynamics) in Mexico and Madagascar.

### **T2 – Costs and conditions of instruments efficacy and equity**

Objective:

Evaluate the effectiveness, the efficiency and the equity of PES schemes as well as the interacting instruments used along them in the same territories.

Activities:

- Environmental effectiveness of PES schemes principally based on “matching analysis” allowing to make a “with and without PES” comparison.
- Cost analysis of implementing PES programs will be broken into three components: the opportunity costs, the transaction costs and the investment costs.
- Equity assessment of PES impacts on livelihoods, development opportunities for individuals and households within and between communities.
  - Assessment of instruments interacting with PES in the same areas will be assessed following the same basic principles.

### **T3 - Conditions of instruments integration in legal orders**

Objective:

Identify and analyse the conditions of the integration of PES in the law:

- the ones induced by the organisation of the existing legal regimes
- the ones referring to the security of the contractual relationships
- the ones deriving from the coexistence of several management instruments on a single territory.

Activities:



- Legal qualification of the PES within a typology of environmental contracts
- Discussion about the compulsory dimension of the provision of service
- Characterisation of the legal regime of the payments
- Description of the impact of the instruments analysed (PES and others) on CBNRM

#### **T4 – PES within a policy mix for improved conservation-development synergies**

##### Objective:

Assess the role of PES in an environmental policy mix within landscapes that are engaged in different development/conservation trajectories

##### Activities:

- Typology of existing configurations of PES and environmental policy mix developed.
- Modeling and conceptual framework of the integration of PES within an environmental policy mix.
- International workshop

#### **T5 – Coordination and dissemination: Overall project coordination and results dissemination.**

##### **Partnership**

**CIRAD** (Centre de Coopération Internationale en Recherche Agronomique pour le Développement)

Three research units from the Environments and Societies Department will contribute to PESMIX:

- The Goods and Services of Forest Ecosystems (**B&SEF**) research unit studies the tropical forest goods and ecosystem services, in face of global changes.
- The Management of renewable resources management » (**GREEN**) unit provide knowledge, methods and tools based on the modeling of complex systems to support collective processes for renewable resource management and to help stakeholders improve their capacity to manage their eco-social system.
- **SELMET** (Livestock systems in Mediterranean and Tropical areas) leads studies on animal production systems through a pluridisciplinary team and analyzes the relations between performance and the environment in its broadest sense.

**INE (Instituto of National of Ecologia)**, Direccion General de Investigacion en Politica y Economia Ambiental in Mexico.

- The Environmental Economics and Policy Research Unit which will be involved in PESMIX is looking to improve the understanding of the interactions between biophysical and socioeconomic processes in order to support policy design to achieve economic growth with greater equity and in a sustainable way. INE has accompanied the development and implementation of the PSA-H (National program for the payments for hydrological services).

##### **ESSA (Ecole Supérieure des Sciences Agronomiques)**

In addition, the Departement of Social sciences of **Iberoamerica University** and the **Instituto nacional de Nutricion de Salvador Zubiran (INNSZ)** will joined INE in implementing PESMIX research in Mexico and the **Centre National de la Recherche Appliquée au Développement Rural (FOFIFA)** will join ESSA in Madagascar.