

PASOLAC: Nicaragua, El Salvador, Honduras

Pilot schemes in ten communities in Central America

SUMMARY

PASOLAC-Programme for Sustainable Agriculture on the Hillsides of Central America, funded the Swiss Agency for Development and Cooperation (SDC/COSUDE), is piloting ten PES initiatives in Honduras, Nicaragua and El Salvador. PASOLAC provides technical support with the design and implementation of the schemes and assists with initial funds. The schemes are developed in association with local municipalities and promote the adoption of soil and water conservation techniques and pollution control measures

Nicaragua	Municipalities of Achuapa, San Pedro Norte (Chinandega) and Rio Blanco (Matagalpa) The community of "El Regadío" and Natural Reserve "Tisey-Estanzuela" (Estelí)
El Salvador	Cerro Cacahuatique in Morazán (involving the municipalities of Sensembra, Guatijiagua, and Yamabal) Public utility company of Tacuba (Ahuachapán) Municipalities of La Palma and San Ignacio (Chalatenango)
Honduras	Public utility companies of Campamento (Olancho) and Jesus de Otoro (Intibucá).

MATURITY OF THE INITIATIVE

Proposals and base studies since 2000. Several pilot schemes already ongoing. For additional information on the most advanced cases see three experiences in El Salvador, Campamento and Jesus de Otoro in Honduras and San Pedro del Norte, in Nicaragua.

DRIVER

NGO-driven (local NGO with international funds from SDC), with support from local municipalities. Their schemes are oriented towards conservation and management of soil and water sources in areas of steep slopes. The goal is to reduce water scarcity in urban and rural areas. The schemes take advantage of a decentralization policy momentum and PASOLAC seeks to improve livelihoods for small and medium-scale hillside farmers in Honduras, Nicaragua and El Salvador. It has local arrangements with over sixty institutions including producers, municipalities, NGOs, government groups and education institutions. It provides funds to support different initiatives, including pilot projects on PES.

STAKEHOLDERS

Supply

Small farmers producing coffee, maize, beans and vegetables on hillsides. Through the scheme, farmers receive support to adopt soil and water conservation measures. There are currently ten initiatives, and in most of them the farmers are small-scale, but in some cases there are medium-scale farmers in the catchment areas. According to PASOLAC, although it would be undesirable that rich farmers receive the payment, in some cases it might be unavoidable, because the important issue is the change in land management practices.

The ten PASOLAC initiatives could cover up to 15,000 ha, although interventions have only taken place on 3,500 ha so far.

Demand

Local government: In almost all the cases the water users are represented by local municipalities or the designated water municipal boards (*Junta de Aguas*).

Willingness to pay (WTP) studies have been conducted at each site to estimate the potential funding from downstream users (see economic impacts for details).



Intermediary

A local PES Municipal board, created with assistance from PASOLAC administers the Fund for Environmental Services (see Payment Mechanism). The Municipal Ordinance states who the board members are and how the board operates. Members are selected from the municipality, farmers and water consumers.

Facilitator

PASOLAC is a Central American NGO which assists the establishment of the PES scheme through: 1) biophysical and socio-economic diagnostic studies for upstream areas; 2) valuation and WTP studies for downstream users; 3) the creation and negotiation of the rules for a Trust Fund in each local initiative, with emphasis on legal and institutional issues; 4) provision of seed capital for the trust fund - the fund is expected to support the learning process of local organisations (especially referring to management of funds); 5) documentation of evidence and materials.

MARKET DESIGN

Service

Water quantity and quality. Protection, conservation and management of strategic water sources. The schemes assume that land management will increase the ecosystem capacity to improve or maintain water flows through improved infiltration of rainfall.

Commodity

Mainly *Improved management practices.*

through alternatives to slash-and-burn, management of crop stubble (*rastrojos*), forest conservation, management (selective logging) and natural regeneration, management of coffee farms (waste management) and soil and water conservation measures like wind-barriers and live fences, stones or bamboo dikes.

Payment mechanism

Intermediary-based. Water fees/work exchange. The schemes hope that as local downstream consumers pay for production and capture of water, they will also be willing to contribute for the hydrological services as well.

PASOLAC supports the creation of a (trust) Fund for Environmental Services (F.E.S.) to be administered by the Municipal Board. A separate bank account must be opened, and in all of the PASOLAC cases a Municipal Law (*ordenanza municipal*) was drawn up to specify changes to tariffs, additional charges, or fund allocation to the bank account. The *Ordenanza* clearly states how the fund will grow and be managed, how contracts are to be signed and by whom.

Terms of payment

Users contribute either with an additional environmental fee as part of their water bills, or with labour to implement the land management activities promoted.

Providers receive ongoing payments in cash and technical assistance.

Funds involved

PASOLAC contributes with approximately US\$12,000 per project and expects similar investments from local municipalities. Seed capital for the PES Funds ranges between US\$ 2,000 a 4,000.

ANALYSIS OF COSTS AND BENEFITS

Economic

The payments are generally low and some cases do not cover the opportunity cost of the land.

By supporting sustainable agriculture methods PASOLAC expects to help improve local livelihoods for small and medium-scale farmers. Start-up transaction costs are covered by PASOLAC, which also provides seed capital for capacity building. After that, the PES scheme is supposed to be self-reliant on the collection of local fees.



Downstream users and Willingness to Pay (WTP) for Environmental Services: PASOLAC has supported WTP studies in six cases. The total number of users is 15,000 (for all the cases), most of them not receiving a good water supply.

Only two localities receive drinking water all year round, and most of them suffer from water scarcity at sometime in the year. More than 60% of users were willing to pay some amount for hydrological services, either in the form of cash payment (an extra fee), or through work. The latter was particularly favoured by poorer groups.

These schemes are in place only in Campamento and Jesus de Otoro (Honduras) and in Tacuba, El Regadio, and Yamabal (El Salvador). Downstream users are willing to pay for the hydrological services IF they receive a good service of water, and if they are consulted when the new fees are determined.

Environmental

The problem. Hillsides in the PASOLAC areas are characterised by severe soil and landscape degradation. Degradation of the watersheds is resulting in compaction of soils and reduction of infiltration rates, decreasing groundwater levels and contributing to springs drying up. Spells of low dry-season flows followed by strong floods are occurring more regularly and cause significant losses in agricultural production.

According to PASOLAC, it might take three to five years for changes in water quantity to be observable, but only about one year for changes in water quality depending on the technology introduced.

PASOLAC also claims that the Soil and Water Conservation practices and natural regeneration it has introduced are contributing to climate change mitigation and adaptation, and reduction of vulnerability to extreme events (droughts and extreme rainfall). *Note: although these could be potential benefits from these types of projects, it is difficult to judge whether the current plot sizes are big enough to justify the claims.*

Social

Non-financial benefits for upstream farmers include capacity building and technical assistance in improving land use and farming methods.

Most of the downstream water users are relatively poor and also receive a deficient water service.

According to PASOLAC the PES projects have helped encourage negotiations towards conflict resolution upstream and downstream (see case of Jesus de Otoro). "Collaborative relations are now nurtured by contracts and understanding of urban-rural connections". (Perez, 2005)

LEGISLATION ISSUES

Contracts. Contracts between the farmers and the fund administrators dictate the technologies and land management expected from farmers, and the level of payment. Before any contracts are made a management plan is prepared for the water catchment area, which includes the names of all the farmers, land area, technologies or practices to be introduced and the costs of these practices.

According to PASOLAC the use of PES is more efficient and less cumbersome than the current command-and-control approaches used in Central America, with all the regulations and punitive methods (fines, jail, etc). PES provides a positive incentive to change behaviour.

PASOLAC prefers to deal with municipalities as it considers them to be relatively autonomous in their capacity for decision-making over local natural resources.

Legal issues: Decentralisation has helped the process by allowing local municipalities to make decisions on the management of natural resources and the promulgation of Municipal Ordinances to support the creation of the funds. However, local municipalities can be hindered by national laws. However, the use of these local level pilot experiences can raise the profile of the groups and result in national level initiatives. For example, in Honduras, the National Committee for Goods and Environmental Services (CONABISAH) has been created based on the PES experiences in the country.

and is developing a national PES strategy and revising the current Forestry Law. In Nicaragua the Office for Clean Development Mechanism has conducted a survey of current PES experiences to help design a better institutional framework for the regulation of these mechanisms.

MONITORING

The municipality and the farmers sign an agreement used for monitoring.

MAIN CONSTRAINTS

Although studies have confirmed willingness to pay, there is however a large gap between WTP and actual payment. PASOLAC considers that in at least half of the pilot projects there is WTP but no actual funds are raised because the local municipalities do not have a system in place to collect these funds.

MAIN POLICY LESSONS

PASOLAC suggests that the most important factors to support PES are:

- *Political support:* There must be political support from the local water institution.
- *Consultation of downstream users:* the existence of WTP from local populations is affected by how these users are consulted. In most cases the water fee cannot be changed by the water regulator, it has to go through a local consultation process.
- *Support at national level.* In most cases local payment capacity is low as downstream communities are relatively poor so the funds collected are not enough and will only support a very small area upstream. So even if it is important to have local political support from municipalities, it is vital to have support at a national level.

Positive developments from PES development:

- *Learning-by-doing.* The methodology created and supported by PASOLAC is gaining support from national ministers in the three countries, and they consider that there is the possibility of creating funds with money from national sources.
- *From local to national:* the use of these local level pilot experiences can raise the profile of the groups and result in national level initiatives. For example, in Honduras, the National Committee for Goods and Environmental Services (CONABISAH) has been created based on the PES experiences in the country and is developing a national PES strategy and revising the current Forestry Law. In Nicaragua the Office for Clean Development Mechanism has conducted a survey of current PES experiences to help design a better institutional framework for the regulation of these mechanisms.
- *Good governance for water management:* In some cases PES has helped to create institutional and legal frameworks in places where they did not previously exist (i.e. San Pedro Norte), but in most places it has served to reinforce and promote capacity building in places where these groups already existed.
- *Conflict-resolution:* PES is an effective mechanism to aid upstream-downstream dialogue and resolve (or take steps towards resolving) conflicts through active participation.
- *Impacts on poor upstream farmers:* where possible the PES could have a positive benefit on small-scale farmers. However this should not be the ultimate goal of the project, but rather the actual delivery of the environmental services. Early involvement of all stakeholders could benefit poor farmers.

The basic "principles" for PES adoption: 1) The watershed produces water; 2) there is clear demand from an institution (public, private or mixed), which represents the demand for intervention; 3) the institutional and judicial system at the municipal level will allow PES to operate.

PASOLAC considers that institutions that can develop PES are those with:

- 1) a legal structure in place (*personería jurídica*);
- 2) autonomous work schedule;
- 3) decision-making power;
- 4) already managing funds from those (indirectly) demanding water (i.e. populations);
- 5) mechanisms to ensure local participation;
- 6) transparency in management of funds;
- 7) technical capacity to implement PES.



OTHER INFORMATION

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REFERENCES

Martinez, M. 2004. *Experiencia de Pago por Servicios Ambientales (PSA) de la Junta Municipal de Agua, Municipio de Campamento, Olancho, Honduras*. PASOLAC Honduras. Presented at the PES Latin American Electronic Forum: Payment Schemes for Environmental Services in Watersheds. FAO <http://www.rlc.fao.org/foro/psa/pdf/local.pdf>

Perez, Carlos. 2004. *Pagos por Servicios Hidrologicos al nivel municipal y su impacto en el desarrollo rural: la experiencia del PASOLAC*. Presented at the Foro Electronico Latinoamericano: Sistemas de Pago por Servicios Ambientales en Cuencas Hidrograficas. Organised by FAO, 12/04-21/05 2004 <http://www.rlc.fao.org/foro/psa/pdf/perez.pdf>

Pérez, C. 2005. Recovering positive mountain externalities: reversing land degradation through payment for environmental services at the local level. PASOLAC. <http://www.pasolac.org.ni/paginas/documentos/PASOLAC-Payment for Environmental Services - 2005.pdf>

Pérez, C. 2004. Pagos por Servicios Ambientales al Nivel Municipal en Honduras, El Salvador y Nicaragua: "la contribucion del PASOLAC al desarrollo de un enfoque innovador que contribuye a la agricultura sostenible en laderas". Informe Anual Regional. 473, PASOLAC. Serie Tecnica 10/2004 <http://www.pasolac.org.ni/paginas/documentos/Informe Anual Regional 2003-2004.pdf>

LINKS