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Payment for Ecosystem Services in Costa Rica

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Country: [Costa Rica](#)

Sector(s): [Forestry](#)

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Costa Rica developed a payment for ecosystem services system to support its policies for sustainable forestry and reforestation.

Context

In the 1980s Costa Rica had one of the highest deforestation rates in the world, with forest cover falling from 72 percent in 1950 to 21 percent in 1987 (Méndez, 2011). This decline was encouraged by government policies which promoted the conversion of forest areas to be used for agriculture and cattle ranching.

Rehabilitating this land for sustainable forestry and agriculture was recognized as a more efficient use of natural resources.

Sustainable forestry and reforestation have a long payback period and forested land has

traditionally been open to expropriation and squatters. While Costa Rica has a strong conservation movement, based on its unique biodiversity and connections between local and international scientific institutions, the cattle ranchers and landowners are also a powerful group whose support is crucial for any economic transformation (Porrás, 2013). The Costa Rican government had long sought to encourage sustainable forestry by creating protected natural reserve areas, and had also gradually reversed the perverse incentives and increased the positive economic incentives for forest conservation and forest expansion. (Rodríguez, 2010). However, these subsidies became politically unsustainable during the

economic crisis of the 1980s and were abolished as part of the structural adjustment program agreed with the World Bank (Daniels et al., 2007).

Nevertheless, the social, environmental and economic case for sustainable forestry continued to grow. Costa Rica's position close to the United States, and with a highly educated population and stable politics, was opening up new economic avenues in tourism, bioprospecting, and high-tech manufacturing and services, for which protecting the country's environment, reputation and unique forest, marine and coastal resources was crucial. At the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 (known as the Earth Summit), Costa Rica committed to lead the country towards environmental sustainability. This commitment was reflected in the National Development Plan 1994-1998 published by the Government of Costa Rica, which presented a strategy that targeted sustainable development and social equity (FONAFIFO, 2013). Forestry was moved to the new Ministry of Environment and Energy (MINAE), separating it from the Ministry of Agriculture where there were conflicts in the agendas. All conservation agencies were merged into a single, more efficient agency.

The forestry subsidy program was developed into a system of payment for ecosystem services (PES) to support the transition to sustainable development.

Approach

In 1996 the PES program was introduced in Forest Law No. 7575, establishing the National Forestry Financing Fund (FONAFIFO), under MINAE. Forest owners receive payments

through FONAFIFO in recognition of the environmental services that forest ecosystems provide to farmers, other resource users, and the international community.

Article 3 of the law recognizes four environmental services provided by the forest as (1) biodiversity, (2) watershed function, (3) scenic beauty, and (4) greenhouse gas mitigation through carbon storage and sequestration. Landowners can access PES by means of a contract between the landowner and FONAFIFO under one of the following categories: forest protection, reforestation, natural forest regeneration, agroforestry systems, and forest management. Each of these categories has specific requirements for assessment and contract length and offers a different payment tariff. These criteria are uniform across all contracts excluding the exceptional ecosystem service value, which may receive added compensation. An additional scheme called Reforesta was introduced in order to incentivize the reforestation sector, which had a slow response due to large upfront cost with long payback periods (FONAFIFO, 2013).

FONAFIFO is a semi-autonomous agency governed by representatives of the public and private sectors, including MINAE, the Ministry of Agriculture, the national banking system, and some selected small producers and wood industries. Its role is to manage the financial resources provided by the Ministry of Finance and other sources and ensure that these are disbursed to small and medium-sized forest producers within the rules of PES.

The government maintains control of the PES budget through the Ministry of Finance (which defines the final budget) and MINAE (which determines the distribution of funds across the different modalities and provides direction with regard to priority zones through the National System of Protected Areas).

Because of its decentralized structure, FONAFIFO has flexibility for administering the funds after they have been approved. Every year, both FONAFIFO and MINAE publish the PES budget, procedures and criteria for selection of priority areas. Interested landowners meeting the requirements have 50 days from the publication date to submit the necessary paperwork to the appropriate regional FONAFIFO office (Daniels et al., 2007). PES requires the landowners to present a management plan designed by a professional forester, who will also be responsible for monitoring its implementation. Contracts are routinely audited to verify that foresters and landowners provide accurate monitoring reports. Non-compliant landowners forfeit future PES payments, and foresters can lose their license for incorrectly certifying compliance (Johns, 2012).

PES is financed by a number of different sources – national, international, private and public. At the national level, the Costa Rican government has developed two mechanisms: fuel tax and water tariff. The funds from these sources are collected by the Ministry of Finance and transferred to FONAFIFO.

By law 3.5 percent of national fuel tax revenue should be earmarked for PES financing; the government is thus championing the ‘polluter pays’ principle, internalizing the externalities. The fuel tax has been the main source of financing for PES since its establishment. In 2012 the fuel tax contributed over USD 20 million to the PES program, representing 80 percent of the total funding collected (FONAFIFO, 2013).

Despite the large contribution from fuel tax, one of the key limitations of this resource is the historical uncertainty of collection and onward allocation to FONAFIFO. This trend places the future sustainability of the PES program in question, as the PES budget allocation has to

compete with other national development priorities.

The water tariff is an obligatory charge introduced by the government in 2006. It applies to all users of water, public and private, as payment for the use of ecosystem services associated with water provision. The tariff requires that 25 percent of the total amount collected by MINAE be assigned to FONAFIFO in order to be invested in PES in areas relevant to the generation of hydrological ecosystem services. Between 2006 and 2010 the water tariff contributed USD 4.8 million, which has been used to finance 13,483 hectares (ha) of forest land (Sanchez, 2012). The water tariff diversifies the financing sources and increases the financial sustainability of PES; however, it faces the same challenge as the fuel tax. In addition, this scheme has experienced delays in the execution of the funds collection due to institutional challenges.

Although it is 80 percent domestically funded, the PES program has received significant international financial support. The World Bank Ecomercados program raised around USD 50 million in the period 2000-2007. This initial funding was renewed in 2008 for the period to 2012 with USD 30 million provided by a World Bank loan, a USD 10 million grant from the Global Environment Facility, USD 47.5 million by the Costa Rican government, and USD 2.7 million by other funders. (Sanchez, 2012.) The investment channeled through Ecomercados is intended to strengthen and expand the PES program and to strengthen the management and monitoring processes (FONAFIFO, 2013). The PES program has also received a USD 3.4 million REDD+ readiness grant from the World Bank’s Forest Carbon Partnership Facility (FCPF) to help the country to prepare for REDD+. (FONAFIFO, 2013). In September 2013 FONAFIFO also signed a letter of intent with FCPF from the World Bank for USD 63

million, which will include 340,000 ha in the PES program in the categories of reforestation, regeneration and agroindustrial systems, which will help to capture 30 million tons of carbon dioxide (CO₂). Deutsche Gesellschaft für Internationale Zusammenarbeit provided EUR 3.5 million to support the National Climate Action program, which is part of the National Strategy for Climate Change (La Nación, 2013).

FONAFIFO has negotiated voluntary local agreements with private and public hydroelectric companies, where the companies compensate for the watershed service received from the forest. This has generated funds of around USD 424,000 (FONAFIFO, 2013).

FONAFIFO has also developed a system of Environmental Services Certificates (CSA) to monetize forest protection. Initially CSAs can be a voluntary purchase as a symbol of environmental commitment, but the final aim is for them to be tradable (Rodriguez, 2002). CSA is a relatively young scheme currently associated mainly with the provision of watershed services, which are locally identifiable. Only about 40 businesses have purchased CSAs, generating approximately USD 700,000 since their launch in 2008 (FONAFIFO, 2013). This represents just about 1 percent of the annual budget for PES.

Since the introduction of these schemes for private sector participation, under a quarter of the total funds for the PES program has been granted to private landowners (Ecosystem Marketplace, 2014). In 2012 private sector investment in PES accounted for under 0.5 percent of the total budget and 1.3 percent of the budget assigned for 2013 (FONAFIFO, 2013).

Recently the government established a goal of carbon neutrality and new finance mechanisms for PES have been introduced. These include the Costa Rican Compensation Units (CCUs), each

of which represents one ton of offset CO₂ emissions. Some PES projects under the reforestation, agroindustrial systems, and natural regeneration categories can obtain CCUs, which are purchased through FONAFIFO by companies looking to be certified as carbon neutral. This provides PES with an additional finance source (Granados, 2013). Each CCU has been sold by FONAFIFO at USD 7.5. Since the introduction of CCU in 2013 until September 2013 FONAFIFO has obtained a total of USD 70,792 through CCU sales (Rojas, 2013).

In September 2013 Costa Rica launched the Voluntary Domestic Carbon Market, in which CCUs are traded under the characteristics and methodology defined in the Norm INTE 12-01-06-2011 (UNDP, 2013). This market allows for different actors to be part of the trade process, rather than having FONAFIFO as the single trader (Ortiz, 2013).

Outcomes

Since 1997 the program has helped to conserve nearly one million ha of forest, exceeding by a large extent the Costa Rican National Parks system, which covers 540,000 ha. Overall the forest area has risen from 21 percent in 1987 to 51.4 percent in 2005 (FONAFIFO, 2013). Despite certain data limitations, the PES program is widely acknowledged to have had a significant impact in shifting land uses in the country and recovering forest land over a sustained period of time.

Challenges remain in developing a mature environmental services market where these services can be traded between providers and users. While PES is a solid 'polluter pays' system where consumers compensate landowners for ecosystem services, in practice it remains in

large part essentially funded through a nominally ringfenced allocation of consumer taxation through the Ministry of Finance. Few buyers have been found for environmental services credits. Developing this market will require clearer definition of environmental services, as well as regulation on the demand side. In order to be able to target forest land with high opportunity cost it might be required to introduce a differentiated payment.

Currently the prices for the environmental services are uniform across the categories defined by FONAFIFO, calculated based on an average cost across the country. However, the cost opportunity can vary greatly depending on the geographic location and land use. The uniform prices offered by the current tariffs of the PES are not competitive against intensive agriculture or urbanization development (Madrigal, 2009). In order to be able to target forest land with high opportunity cost it might be required to introduce a differentiated payment that can also assimilate the changes, in time, of the economic context.

Lessons

Successful features

- *Flexibility and ability to integrate lessons learned through experiences.* PES has changed on numerous occasions in order to be more inclusive and increase its impact capacity; this includes simplification of procedures, definition of specific criteria of prioritization, and fees reductions.
- *Inclusive institutional architecture.* FONAFIFO has stabilized as a solid institution at the national and international levels, generating trust for national and international

investment. FONAFIFO exemplifies good governance thanks to its wide stakeholder representation and engagement.

- *Role of government in raising resources for PES.* More than 80 percent of PES funding has been raised through the national fuel tax revenue and water tariff, which were introduced by the Government of Costa Rica.
- *Development and use of an innovative instrument for mobilizing savings from individuals and business.* CSA is an innovative financial instrument developed to incentivize the purchase of environmental services by people or businesses that have benefited from the existence of the forest and payment to landowners for conservation of the forest as service providers.

Limitations

- Even though PES has captured investment from different sources in creative ways, its continued reliability on allocations from the national budget is cause for concern as a sudden policy change could strongly affect the program funding.
- The slow private sector reaction to innovating incentives raises further concerns on the sustainability of the scheme over time. The reason behind the slow reaction of the private sector is unclear and requires further research.

Defining beneficiaries and tariffs that reflects the benefits obtained is challenging. Services such as biodiversity, scenic beauty, and carbon storage and sequestration have been more difficult to account for than watershed, as the identification of specific beneficiaries is difficult to determine, allowing for 'free riders' (i.e., people/businesses that benefit without contributing). This effect seems to be a barrier to the growth of the private sector involvement in the PES.

Further Information

FONAFIFO: <http://www.fonafifo.go.cr/>

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