

Payment for Environmental Services in Costa Rica: The National Forestry Financing Fund

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The Costa Rican Payment for Ecosystem Services (PES) program is the global pioneer in incentives national forest conservation. In 1996, Forestry law 7575 set up The National Forestry Financing Fund (FONAFIFO) to encourage the conservation and reforestation of lands outside of national parks and wildlife reserves. FONAFIFO's general objective is to finance small and medium-sized producers, through loans or other mechanisms, to promote forest plantation and reforestation processes, the establishment of forest nurseries and agroforestry systems, the rehabilitation of deforested areas, and also to benefit from technological advances in the use and industrialization of forest resources. The program now covers 500,000 hectares—more than 10 percent of the country—and has between 8,000 and 10,000 people enrolled. The goal FONAFIFO is to expand the payments' area of influence to one million hectares.

Strategic Objectives Include:

- Position FONAFIFO as an institution specialized in the fundraising and investment of financial and technological resources, both of national and international origin required for the development of Costa Rican Forestry Sector-related activities.
- Recognize, identify and gain access to national and international mechanisms, initiatives, opportunities and financial instruments for national and international forestry goods/ services.
- Promote the development of national and international markets for the goods and services derived from forestry ecosystems.
- Support the reactivation of reforestation and productive projects.
- Define procedures and manuals that allow for fair participation in the projects, regardless of the social, gender or ethnic status.
- Provide environmental services paid in accordance with the policy defined by the Ministry of Environment and Energy and the applicable laws, which shall be based on the prioritization and allocation of resources so that the follow-up of compensated activities is secured, guaranteeing the rendering of environmental services to the society.

- Keep the Forestry Sector informed about the conditions, availability and requirements related to financing mechanisms.
- Be informed about the socioeconomic conditions of small and medium producers and forestry sector's producers.

What is the Environmental Service?

Through the PSA program, FONAFIFO recognizes 4 major types of ecosystem services that are, "offered by the forests and forest plantations for the protection and enhancement of the environment". They include:

- mitigation of greenhouse gases
- watershed protection for urban, rural or hydro-electric purposes
- biodiversity conservation for sustainable, scientific and pharmaceutical uses; protection of ecosystems and life forms
- preservation of scenic beauty for tourism and scientific purposes

These four services create a single bundle which reflects the aggregate ecological value of a given forested area. In 2008, the program's budget was close to US\$13 million dollars for an area of 652.000 hectares.

Where does the Money for the Scheme Creation Come From?

FONAFIFO's funding includes:

- Government sourced:
 - The Ordinary National Budget (Fiscal Simplification and Efficiency Law No. 8114)
 - 40% of the fossil fuel tax revenue (article 43, Forestry Law of 1996)
 - Forestry tax revenues
- Loan agreement (\$30,000,000) and grant agreement (\$10,000,000) entered into by the Government of Costa Rica and the World Bank
- Financial cooperation with the German Government, through the KfW Bank
- Water protection agreements from private businesses
- Individually purchased Environmental Services Certificates
- Recovery of the current portfolio

Motivation: What Makes This PES Happen? (Law, Private Negotiation, Etc.)

Since forest areas were being transformed for cattle-raising, water users—particularly for hydroelectric generation—were concerned about the effects on their water sources. Thus, the idea arose of creating an economic incentive to landowners for protecting their forest

lands. The PWS program was instituted in 1997 by the newly created Ministry of the Environment and monitored by the public-private partnership Fondo Nacional de Financiamiento Forestal (FONAFIFO).

The national PES program is based on the Forestry Law of 1996, Executive Decree No. 19886-MIRENEM. Article 46 of Forest Law No. 7575 established FONAFIFO with the purpose to finance the processes of forestry, reforestation, forestry nurseries, agroforestry systems, recovery of deforested areas and the technological changes for the use and industrialization of forestry resources for the benefit of small and medium producers, through credit and other mechanisms that promote the management of forests, intervened or not.

Legal Framework:

Costa Rica's approach to forests began to change in 1969, when the government passed the first in a series of laws trying to protect forests. In 1979, the first forestry incentive, given for planting trees, was put in place. Throughout the 1980s, other loans and programs also encouraged tree planting.

During the 1990's, Costa Rica experienced a change, at the environmental level, as a result of a legislation which promoted the conservation and protection of natural resources, including the creation of institutions to strengthen the sector and a significant change in society's perceptions of management, conservation and sustainable development of natural resources.

The global environmental initiatives implemented in the early and mid-1990s, such as Rio's Summit and Declaration on the Environment and Development, Agenda 21, the international conventions on climate change, efforts against Desertification and Biological Diversity, the Kyoto Protocol, the Forestry Principles and, more recently, the Millennium Goals and Johannesburg Summit, have defined the path Costa Rica has chosen to follow.

Also, in Costa Rica, the legal provisions required to safeguard the right of all citizens to enjoy a healthy and balanced environment and various sub-regional agreements were ratified, such as the Regional Agreement for the Management and Conservation of Natural Forest Ecosystems and the Development of Forest Plantations, in addition to the promulgation of new laws, such as: Forest Law No. 7575, the Law of the Public Services Regulating Authority, the Environment Organic Law, Soil Conservation Law and Biodiversity Law, which together provide the framework for the execution of the ESPP Program.

The prevailing legal framework also establishes the context of application and recognition of environmental services, FONAFIFO's funding sources and governing mechanism, whereby the Program's institutional sus-

tainability is guaranteed. FONAFIFO is a fully decentralized body within the organizational structure of the State Forest Administration. The aforementioned Law 7575 grants it relative autonomy, instrumental legal status and the authority to engage in any type of licit non-speculative legal transaction, including the establishment of Trust Funds, to guarantee the effective administration of its patrimonial resources.

What Is The Source of Funds That Supports The PES?

Initially, the most important financing source for the Environmental Service Payment Program (ESPP) was the allocation of a third part of the resources generated by fuel consumption taxes to such purpose, pursuant to the terms provided in Article 69 of the Law 7575. Subsequently, this tax was modified by the Tax Simplification Law, whereby the sole fuel tax was created out of which 3.5% is allocated for ESPP. This determination reflects the legislator's clear vision of establishing a financing source in order to guarantee the Program's sustainability.

The same prevailing legal framework (Forestry Law) establishes, in its Article 47, other potential funding sources for the strengthening of the programs developed by the institution, such as:

Financial contributions received from the State, through the Republic's ordinary and extraordinary budgets or other mechanisms; donations or credits received from national or international organizations; credits the Fondo Nacional de Financiamiento Forestal receives, as well as the resources attracted through the emission and placement of credit facilities, among others.

In addition, FONAFIFO has invited other international institutions to take part therein, such as the World Bank and the World Environmental Fund, through Ecomarket Projects. and the German Government, through KfW, which grants resources for the Huetar Norte Forestry Project.

However, up to date, the resources available for investment are insufficient to supply the increasing demand; thus, FONAFIFO, developed mechanisms and entered into agreements with local private companies in

order to generate supplementary financing sources for the PES Program, which has derived in successful results and benefits for more producers thanks to the investment of resources made through this mechanism. The investments made by private companies amounts to US\$ 7 million approximately for the last years.

Who Pays And Who Receives? Involved Actors

Who Pays

- Buyers
 - Individuals
 - Private companies
 - Public utilities
- International organizations (multilateral and bilateral donors)
- Government budget allocations
- Tax payers (individuals and corporate forest/energy users)
- Private investors/ donors

FONAFIFO: FONAFIFO acts as an intermediary between buyers of credits and participants/ beneficiaries in the scheme. It disburses proceeds from a domestic fuel tax to landowners. It also distributes funds to farmers from private hydroelectric companies--who are particularly concerned about problems caused by sedimentation. Through various other activities, FONAFIFO mobilizes funds to pay for the environmental services provided by forests, forest plantations and other activities to strengthen the development of the natural resources sector.

Who Receives

- Small and medium private forest land owners in priority areas. Over 7,000 private land owners have signed contracts to conserve or reforest their land. They receive compensation for the bundle of ecosystem services (water, carbon, biodiversity, and scenic beauty).

Partner Organizations/ Market Intermediaries: (provide additional logistical, financial, intellectual support)

- In collaboration with the General Comptroller's Office of the Republic, The Tropical Agricultural Research and Higher Education Center (CATIE) and The Junta National Forestal Campesina (JUNAFORCA) work to verify the Environmental Services Payments related to Environmental Services Certificates (ESC)
- Banco Nacional de Costa Rica created a Trust Fund to manage finances from the ESC agreements
- The National System of Areas Conservation (SINAC) and The Central Volcanic Range De-

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velopment Fund (FUNDECOR) are responsible for finding sellers and monitoring the implementation of conservation/ reforestation efforts

- National Forest Department (ONF)
- Forest Managers
- Association of Agronomy Engineers
- Cooperatives
- Regional (cantonal) agricultural centers
- Industry Associations
- Market intermediaries play a significant role in facilitating contracts. Buyers usually pay a fee to the intermediary in addition to the \$10/ha/year that goes to the fund/ seller.

Valuation and Benefits Distribution

Costa Rica's Payments for Environmental Services Program has spent US\$126 million from 1997 through 2008. Currently the program has 500,000 hectares (1.2 million acres) under its supervision. FONAFIFO establishes five-year to fifteen-year contracts with private land owners, who receive periodic payments depending on the type of contract. The transactions between FONAFIFO and the service providers remain relatively straight-forward, as the forest landowners receive a fixed compensation.

Buyers pay \$10/ha/year, which represents a quarter of what is paid by FONAFIFO to the private landowners. The Environmental Services Payment Program finances the following options: reforestation, protection of forests, natural regeneration and agroforestry systems.

Value of activities/ ecosystem service delivery:

- Reforestation: \$816 - \$980/ha/yr for 10 yrs
- Forest protection: \$64/ha/yr for 5 years (option for extension)
- Natural regeneration: \$41/ha/year
- Agroforestry: \$1.30/ tree for 3 years

Institutional Arrangement

FONAFIFO is administered by a Governing Board of Directors, composed of five members (two representatives from the private sector and three from the public sector), appointed for a two-year period. To carry out its work, FONAFIFO has an Executing Unit, headed by an Executive Director, and five departments or Areas of Action: Environmental Services Area, Credit Area, Administrative Area, Legal Area and the Resource Management Area. FONAFIFO currently uses the modality of a Trust Fund to carry out its tasks and operations.

- Environmental Service Payment Program: Provides guidelines, decrees, and procedure manuals; processes payments to beneficiaries; delivers evaluation, monitoring, statistics and results analysis.

- Forest Credit Department: Manages FONAFIFO Credit Program; coordinates with the Banco Nacional de Costa Rica's Trust Division (acting Trust agent); promotion, evaluation, and project follow-up; maintaining relationships with forestry sector.
- Resource Management Department: Seeking and raising financial resources to match government allocations
- Legal Counsel Department: Provide compliance information to FONAFIFO and its Trusts
- Administration: Efficient and effective handling of capital resources
- Information Systems Unit: IT support
 - GIS: interpretation of data, maps, and information to facilitate decision making and planning tasks
 - Integrated Project Management System: processing contracts in implementation

Financial Mechanism - How Are The Payments Made?

The Environmental Services Payment Program (ESPP) constitutes a financial recognition by the State —through FONAFIFO — granted to forest and plantation owners for the environmental services rendered by them, which directly affect the protection and improvement of the environment.

FONAFIFO has recently launched a certification program (CSA) which is designed to encourage investments in ecosystem services. The Credit Department receives requests; these are evaluated depending on whether the interested party is a physical person or corporation, loan conditions, guarantees and other variables. The water-based ecosystem services programs are based upon voluntary contracts between private buyers and sellers, which are channeled through FONAFIFO.

FONAFIFO frequently adjusts interest rates for loans based on the following: type of project, inflation level projected by Banco Central, management costs, so that the Fund' net-worth remains consistent and accurate.

Main Challenges

- Exclusion of mixed land uses when defining eligibility criteria such as livestock-forestry or agro-forestry systems, often favored by small-holders. In the national Costa Rica PES scheme agroforestry was excluded at first, and empirical evidence has shown agroforestry benefits positively poor, small scale farmers. It can be implemented on marginal or degraded lands of poor land holders with low opportunity costs so as

not to displace or replace other productive activities so that the income generated through these activities is entirely additional. Agroforestry is now included in the ESPP program through tree planting incentives.

- Regulatory access discrimination. In Costa Rica, participation in the PES scheme meant a disqualification from accessing some other public benefits such as housing subsidies. Also, land reform beneficiaries are not eligible for PES, even if their land contains forest or is suitable for forestry activities.
- Informal and insecure land/ resource tenure. In Costa Rica, the national law forbade using public funds to pay landowners without a formal title. As a first solution, they created parallel contracts similar to the National PES contracts financed by service buyers for landowners without titles. In a particular region, Platanar, they covered only half of the payments to landowners with titles and FONAFIFO paid the rest. This freed up funds to pay landowners without titles that would otherwise not be eligible for public funds. Afterwards the law was changed to allow public funds for the participation of landowners that lacked titles.
- Transaction Costs. Negotiating with 100 small service providers entails much higher transaction costs than negotiating with one or two large landowners managing an equal area of land. Costa Rica's national PES program has developed a system of collective contracting through which groups of small farmers join the program collectively rather than individually, thus spreading transaction costs over a large group (FONAFIFO, 2000).
- Scientific Challenges. difficulties in directly associating improved water flows or decreased deforestation to particular landowners or forest management activity; risk of leakage
- Funding challenges. Difficulties in maintaining sufficient pipeline

Innovations and Obstacles Solutions

Since public funds are insufficient to ensure the continued growth of forest cover, FONAFIFO has tried to find new financing sources to compensate forest owners for their efforts and secure the benefit for all of us. This gave rise to the idea of the Environmental Services Certificate (ESC), a financial instrument that preserves the existing forests and regenerates new ecosystems and guarantees environmental services to an increasing population.

Both individuals and companies may invest in **Environmental Services Certificate** for the protection of one or more regions determined according to their interests. The amount to be invested will depend on the number of hectares he/she/it is willing to protect. The minimum area to invest for an ESC is one hectare. At this moment, the average value of ESC per hectare is \$57 per year and contracts are made for five-year terms.

FONAFIFO has developed a second new way to raise economic resources from the private sector, institutions and friendly governments to protect and reforest the land, mainly in watersheds where important water resources are generated for human consumption and hydroelectric energy production, as well as for the protection of regions wherein large variety of biodiversity is present.

Such instruments consist of entering into **agreements**; through these agreements, the private sector, institutions, or Governments contribute certain amounts of money, complemented by funds from FONAFIFO's programs, in order to execute the Environmental Services Payments under ESP in a particular region. FONAFIFO has subscribed agreements with local, national, international, public and private entities to generate funds for the fulfillment of its objectives.

Example Agreement: Global Energy Costa Rica, SA:

- **Background:** The agreement with Global Energy Costa Rica S.A. was the first one to value the environmental service of protecting the water resources. The hydroelectric company, Global Energy S.A and the Fundacion para el Desarrollo de la Cordillera Volcánica Central (FUNDECOR, acronym in Spanish), signed this agreement in 1997; the contracts have the technical advice of FUNDECOR. The Fondo Nacional de Financiamiento Forestal (FONAFIFO) and the National System of Conservation Areas (SINAC) are a part of the aforementioned agreement.
- **Objectives:** Recognize the importance of the forests through the environmental services of regulation and quality of the water in the watershed. Contribute to the projection of water resources in the area, through the protection of the greater amount of forest hectares.
- **Funding:** The agreement with the company Global Energy S.A. is for a total of \$120,000. The agreement between the hydroelectric company Global Energy Costa Rica S.A.. and the Fundacion para el Desarrollo de la Cordillera Volcánica Central (FUNDECOR), signed in 1997, stipulates that the former commits to

recognize \$10 per hectare to FONAFIFO for every ESP contract located within the watershed of the San Fernando and Rio Volcan in the canton of Sarapiquí, in the province of Heredia. In 2003, the signed agreement was renewed for another five years; the amount recognized by Global Energy is increased by \$2 more per hectare. An area of 2,144.56 hectares was submitted to the ESP Program under the Forest Protection program in the watershed of the Volcano and San Fernando rivers during the first five years of the contract's existence.

- Results: To date, under this agreement, 1,493 hectares are submitted under the ESP Program .



Other Projects Include:

- Ecomarkets: The objective of the Ecomarket Project is to increase the conservation of Costa Rica's forests, support the development of markets and private suppliers of environmental services offered by private forests, include the protection of biological diversity as well as mitigate the gases that cause the greenhouse effect and favor hydrological services.
- Reforesta: Its objective is to restart reforestation in Costa Rica along the development of three lines of work: design of a technical and financial plan favorable for the creation of forestry plantations with commercial purposes; the innovation and development of new products elaborated from wood from forestry plantations; and the design and execution of a marketing campaign for the consumption of wood from the plantations.
- KfW: The general objective of the Huetar Norte Forestry Plan is to contribute to improve the net balance of gas emissions resulting from the greenhouse effect in Costa Rica through CO2 fixation. Also, promote other positive external effects derived from the forests and forestry plantations.

Innovations in Ecotourism

Many Ecotourism companies are also donating to FONAFIFO to pay for targeted reforestation in areas of tourist attraction. Horizontes, for instance, has donated to the protection of a biological corridor for tourists to visit. In addition, through FONAFIFO, Horizontes is researching ways to offer all its travelers the option of a "Green Upgrade," in which the carbon dioxide produced from their transportation can be offset, adding value to the way people see their vacation experience. "This is not what most of our travelers are currently asking us for," says Patricia Forero, Product Development Manager for Costa Rica based Horizontes Nature Tours, "but we are hoping the offer gets their attention, and at least gets them to ask us what it means." FONAFIFO also offers a carbon credits calculator, which allows tourists to reduce the carbon footprint created by their trip by purchasing ESP certificates.

Multi-Scaling

In 1985, Gallo co-founded Rios Tropicales, an ecotourism company that takes people whitewater rafting on Costa Rica's pristine rivers. In a classic PES scheme, Rios Tropicales provides payments to providers of sustainability initiatives in local communities.

At a larger scale, Costa Rica's Fondo Nacional de Financiamiento (FONAFIFO), the branch of the Ministry of the Environment and Energy that administers PES schemes, coordinates farmers across entire watersheds. Small-scale operators like Rios Tropicales partner with large-scale organizations like FONAFIFO to have a greater impact. While Rios Tropicales has the advantages of flexibility and focus, FONAFIFO has the legitimacy and managerial economy because of its national scale.

Though differently scaled, Rafael Gallo's ecotourism company Rios Tropicales and the Costa Rican government's FONAFIFO co-exist and supplement each other. In addition to partnering with Rios Tropicales to protect the island's rivers and waterways, FONAFIFO also acts as an umbrella for breweries and water-utility companies who provide services to users in other target watersheds. What makes multi-scaling interesting is that you can have the best of both worlds: the legitimacy and managerial economies of the national-scale PES, and the flexibility and focus of small-scale schemes. Parallel implementation of large- and small-scale schemes encourages complementary experiences and cross-fertilization of knowledge.

Excerpted from: Wunder and Santiago: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=7582§ion=news_articles&eod=1

Where Are The Opportunities?

The program's first decade focused on setting up the mechanism, building capacity and educating people about environmental services. The new vision for Costa Rica's payments program recognizes environmental services from forests, tree plantations and agro-forestry, while incorporating rural development into conservation goals.

Differentiated Payments:

The World Bank and others are also working on a system of differentiated payments that could improve the efficiency of incorporating additional biologically rich and economically valuable lands while making the payments themselves more efficient. Right now, the government pays an estimated \$62 per hectare of land per year under the payments program. Many times, this is just not attractive enough. In other areas, it's possible that payment prices could be reduced: landowners would likely accept less than the current payment price to protect forests that would be difficult to cut, such as ones on steep mountain slopes.

A differentiated payment plan would offer different prices depending on the value of the land that is entering the payments program. The city of Heredia, near San Jose, Costa Rica, has already starting doing this. To preserve a forest tract that shelters the source of municipal water, Platais says, the city chipped in to nearly double the price of payments.

Conclusions

“We are one of the few countries in the world that offer local and multinational companies the opportunity to invest in the tangible and intangible services that nature provides,” said Alberto Garcia, in charge of fundraising for FONAFIFO.” This program reflects and represents the innovative spirit of Costa Rica—a country at the forefront of sustainable development initiatives.”

The Costa Rican experience has catalyzed the growth of other private and government driven programs throughout the region. Local payment programs promoted by NGOs and private companies have been established in Colombia, Ecuador, Brazil, Guatemala, El Salvador, Nicaragua, and Bolivia. Regional and national government incentive programs have developed in Brazil, Mexico, and most recently, Ecuador.

