# Procuencas Project

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**Short title:** Procuencas Project, Costa Rica

**Key Message:** Hydrological fee based watershed conservation, forest preservation and reforestation to compensate landowners in Costa Rica.

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## What is the problem?

The Procuencas project was implemented in Heredia province of Costa Rica. The main problems affecting watershed conservation in the region can be listed as deforestation, degradation due to unplanned urban growth, and the negative impacts of livestock in the area (Redondo-Brenes, Welsh, 2006).

## Which approach was taken?

To overcome these problems, ESPH (Public Services Enterprise of Heredia) was created in 1976 as a public institution and was later transformed into a private institution in 1998. The company also provides electricity, sewage services, and public illumination to a total of 188,000 residents located in three municipalities—Heredia, San Rafael, and San Isidro - within the province of Heredia. ESPH obtains its water from five micro-watersheds - Ciruelas, Segundo, Bermúdez, Tibás, and Pará, which are located in northern areas of the Heredia province (Redondo-Brenes & Welsh, 2006).

The Procuencas project was started in 2000 as an initiative of the ESPH. Procuencas is a private PES program for watershed conservation, independent of FONAFIFO (Fondo Nacional de Financiamiento Forestal), and it provides higher payments to the beneficiaries in its region than FONAFIFO does in the rest of the country. The landowners receive $540 per hectare for establishing new tree plantations, $210 per hectare for established plantations, $210 per hectare for forest conservation and regeneration, and $0.8 per tree for supporting the establishment of agro-forestry systems over a period of five years (FONAFIFO 2004, cited in Redondo-Brenes and Welsh, 2006). The main objective of the programme is to conserve and recover drinking water sources managed by ESPH in order to support the regions development towards a model which combines economic growth, social development and environmental conservation (FAO, 2003). The Procuencas programme receives revenues from a Hydrological Fee included on each user's water bill, private contributions, and through partnerships between ESPH and other private companies. The Hydrological Fee was approved by the government's

Public Services Authority (ARESEP) in 2000. This fee is shown in a separate column on the water bill, which draws users' attention to the additional amount they are charged. In 2004, the fee amounted to US $0.01/m$^3$ of water (Redondo-Brenes & Welsh, 2006). The current charge to citywater customers is about US $0.02/m$^3$ of water consumed. The payment level for conservation is US $ 120/hectare/ year (Gamez, per. comm. 2010).

**What ecosystem services were considered and how?**

ESPH has designed the Procuencas project to implement the environmental services component in the watersheds of Ciruelas, Segundo, Bermudez, and Tibas rivers. Mainly the services provided by the project are: forest conservation, reforestation programmes, environmental education programs and also protection of ground water sources (Rojas & Aylward, 2003; Redondo-Brenes & Welsh, 2006).

**What input was required to do so?**

The hydrological fee or environmental fee was collected to fund the project of Procuencas under ESPH. These payments are collected directly from water users through an "environmental fee" charged in the monthly water bills. Payments made by downstream water users are used for forest protection (Porras and Miranda, 2006).

The creation of Forestry Law in 1996, Forestry Act 7575, ARESEP Law, the Biodiversity Act and Law 7789 also helped in the implementation of the PES programme in Costa Rica. The Forestry Law identifies a range of environmental services derived from natural forests, tree plantations, and agro-forestry systems, such as carbon fixation, hydrological services, biodiversity protection, and provision of scenic beauty (FAO, 2003)

**What was the policy uptake, and what were the conditions for this effort to actually influence public management?**

The Procuencas project is considered to be a successful case study in Costa Rica and has been used as a model in other regions of the world, such as in Ecuador. One of the highlights of the programme was that the Hydrological Fee was created to compensate the land-owners (Redondo-Brenes & Welsh, 2006). Secondly, the programme currently covers 1191ha and involves 21 landowners (Porras and Miranda, 2006). In addition other local water companies and municipalities have approached ESPH to acquire knowledge about the program and implement similar approaches in their territories (Redondo-Brenes & Welsh, 2006).

The officialization and 10 yr. success of ESPH's PES and its water "green fee" inspired the Costa Rican Ministry of Environment to apply and upscale this financial mechanism to the national level, as an effective way to create an additional source of funding for the governmental PES program, beside central government taxes. This interest evolves into a national decree that raises the cost of water concession permits. The new amount includes the enjoyment or benefit of using environmental services, which are paid to central government. However, only a 25% of the total new fee is allocated to the government PES program. The ESPH is excluded because its green fee was officialized in 2000 (Gamez, per. comm. 2010).

There were some evident weaknesses in the programme such as ESPH personnel being unable to communicate the objectives and benefits of the programme to the users, people being unaware of the new fee or even the importance of preserving upstream watersheds. Finally, Heredia is one of the provinces with the highest rate of urban growth. Although it is illegal,

municipalities are allowing the construction of new development projects close to water sources, which may lead to future problems (Redondo-Brenes & Welsh, 2006). There needs to be more coordination and control across different Costa Rican institutions. Thus the communication of the purpose and importance of PES programmes and its role in conserving biodiversity is essential to the success of a PES programme in any given region. However, the local and national PES schemes should be supplementary and not mutually exclusive. The new legislation virtually forces centralization under the government´s program and impedes the creation of any potential local PES scheme based on large water concession and it may not be acceptable always. PES should be used as a tool that favours the decentralization and encourage the locals to participate directly on behalf of their local environment through the activation of citizen driven initiatives (Gamez, per. comm. 2010)

The case reflects the full potential of what PES can achieve at city scale and local level in tropical developing countries in terms of

a) Articulating watershed conservation and public health policy objectives through enhanced water resources management for improved safe drinking water, and

b) Linking upstream environmental services to downstream beneficiaries through a direct and earmarked monthly financial charge to all city water end-users.

The case articulates a good model of a small / local, independent, well organized and financially self sufficient PES scheme and an adequate handling of Willingness-to-Pay (WTP) in order to make beneficiaries of environmental services pay for re-investment in watershed health (Gamez, per. comm. 2010).

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