PES as a strategy to minimize risk: The Case of La Esperanza Hydroelectric Power Company, Costa Rica

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Short title: PES as a strategy to minimize risk: The Case of La Esperanza Hydroelectric Power Company, Costa Rica

Key Message: In the event of a dispute over property rights, PES can be used as a source of revenue as well as strategy to minimize risk

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Experience from Costa Rica

The two parties involved in the La Esperanza Hydroelectric Power Company (LEHP) PES scheme in Costa Rica are the La Esperanza Hydroelectric Power Company and the Monteverde Conservation League. The La Esperanza Hydroelectric Power Company is a privately owned 6 MW power project located in northern Costa Rica. The company was formed in 1990 when the government of Costa Rica partially opened the market of electricity generation to the private sector. LEHP is a peaking-plant, designed to accumulate water throughout the day in order to produce electricity during the hours of highest energy consumption in the country. All power is sold to the Costa Rican Electric Power Institute (ICE) and delivered through the national grid (Rojas 2001 & Rojas 2002).

The Monteverde Conservation League (MCL) a not-for-profit non-governmental organization created in 1986 that currently owns over 22,000 hectares of forestland in the Tilarán Cordillera. It was created by a group of scientists, activists, and community members with the goal of purchasing sections of the remaining forestland in the surroundings of Monteverde for conservation purposes. Their most successful campaign, which began in 1987 as a result of children's group in Europe starting a fundraising campaign, resulted in the purchase of the Children's Eternal Rain Forest, the largest private preserve in Costa Rica.

The La Esperanza River watershed lies on the Atlantic slopes of Costa Rica's Northern Mountains. 88 per cent of this watershed is within the Children's Eternal Rain Forest, which is owned by MCL (Rojas 2001 & Rojas 2002).

Upstream & Downstream cooperation:

A land ownership dispute arose between these two parties over an area of half a hectare, which was vital for the construction of the dam, and water intake of the hydropower project. The conflict arose due to both parties possessing two different official land entitlements for the same piece of land (Rojas 2003). In order to avoid legal action, bypass several years of legalities and resolve the dispute, LEHP entered a 99-year contract with MCL, which established payments from the downstream water user (LEHP) to the forest owner (MCL) for the hydrological services of the forest for a period of 99 years. The contract resolved the land dispute by granting surface rights of the land to LEHP and allowing MCL to retain full ownership of the land but allowing for LEHP to build and utilize the land autonomously 99 years. LEHP is presently making payments for environmental services only in the area of 3,000 ha of the watershed (Rojas 2002). At the end of the 99-year period of the contract, the surface right will expire and the infrastructure will once again become the exclusive property of the MCL.

The MCL-LEHP contract opted for differential payment as opposed to a fixed payment scheme for the different stages of the project. LEHP starts out with a payment of $3/ha/yr during the construction phase of the hydro project, and is gradually raised to $10/ha/yr in the third and fourth years of operations. All payments up to the fifth year are to be made in advance, at the beginning of every year. After that, payment is made retroactively every six months. It is however, important to highlight that the contract specifically states that MCL will recover the surface right to the land and the entire infrastructure on it if LEHP delays payment of a PES by more than one month after its due date (Rojas 2003). In exchange for the payment for hydrological services made by LEHP, the MCL commits to Conserving and protecting the existing forests in the watershed of LEHP, Watching for and rejecting land invasions that might take place in the watershed, Managing the forest area and the forest rangers who protect it, Attaining the economic means to fulfill its conservation commitment (Rojas 2002).

Other regulations:

A series of institutions and regulations deal with the management of land and water resources in the watershed of LEHP. The key institution that manages land resources in the watershed is the MCL, which owns most of the land and patrols its forests to ensure its conservation and prevent any possible change in land use. To a lesser extent, the Ministry of Environment plays a role to ensure the 8 conservation of forest cover, and is in charge of imposing fines or taking legal action for violations to the Forestry Law of 1996. Other laws impose restrictions on land use in areas close to springs and river courses, to preserve forest cover and avoid pollution. The Ministry of Environment is responsible for the water concession of the hydropower project. In addition, local entities (Water Associations and/or the Municipality) are in charge of local aqueducts. According to the Water Law of 1942, water for human consumption has priority over any other water use, and supersedes any other right, or concession (IIED 2006).

Wider implications of the LEHP-MCL PES scheme:

To date, payments for environmental services represent about 50 per cent of the Monteverde Conservation League's budget, originating from different sources. Besides the initial agreement with LEHP, payments also come from the Costa Rican National scheme of Payments for Environmental Services (PSA), and a deal for another hydroelectric plan (El Encanto Hydroelectric Project, CNFL). In 2009 the MCL signed another cooperation agreement with the company CONELECTRICAS to solve disputes over water flows. The deal includes a direct payment of approximately U.S. $ 400,000.00 over 18 years, and would indirectly facilitate access to approximately U.S. $ 1,179,840.29 over the next 38 years (Monteverde Conservation League, 2010).

In addition, the LEHP-MCL PES scheme has resulted in a 21 per cent increase in the operational and management costs of the LEHP, which has resulted in a significant contribution to the annual budget of the MCL in an amount that accounts approximately 10-25 percent of the annual budget. However being perceived as financially contributing to conserve tropical rain forest has boosted LEHP's public image, as negotiations between LEHP and MCL took place during a period where communities in Costa Rica were very vocal about their opposition to private hydropower projects.

An innovative aspect of this PES scheme is it links the payment to power production and inflation. The production of more or less power by LEHP will proportionately affect the total amount paid to the MCL. Also, because the power tariff changes through time, the contract also allows for adjustments to be made accordingly. Therefore, if the power plant produces more power, the MCL receives more than $10/ha/yr. Similarly, if the electricity tariff increases, so does the payment to MCL (Rojas 2003). The LEHP-MCL PES scheme has resulted in a 'win-win' situation where both the consumers of the environmental services (LEHP) and the providers of the environmental services (MCL) have benefited[1].

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[1] It is important to note that due to new ministerial decree, no more local or voluntary PES deals involving large water use can be implemented independently from central government control. Instead, water concession fees have a new PES component. In this way, any individual or firm who has a water concession permit will have to pay to the central government of Costa Rica for the watershed environmental services enjoyed. This fee was increased by 50%, half of which goes to a National Park Fund and the other half goes towards the government's forestry fund.

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