

FOUNDATION FOR MONTE ALTO FOREST RESERVE

Costa Rica



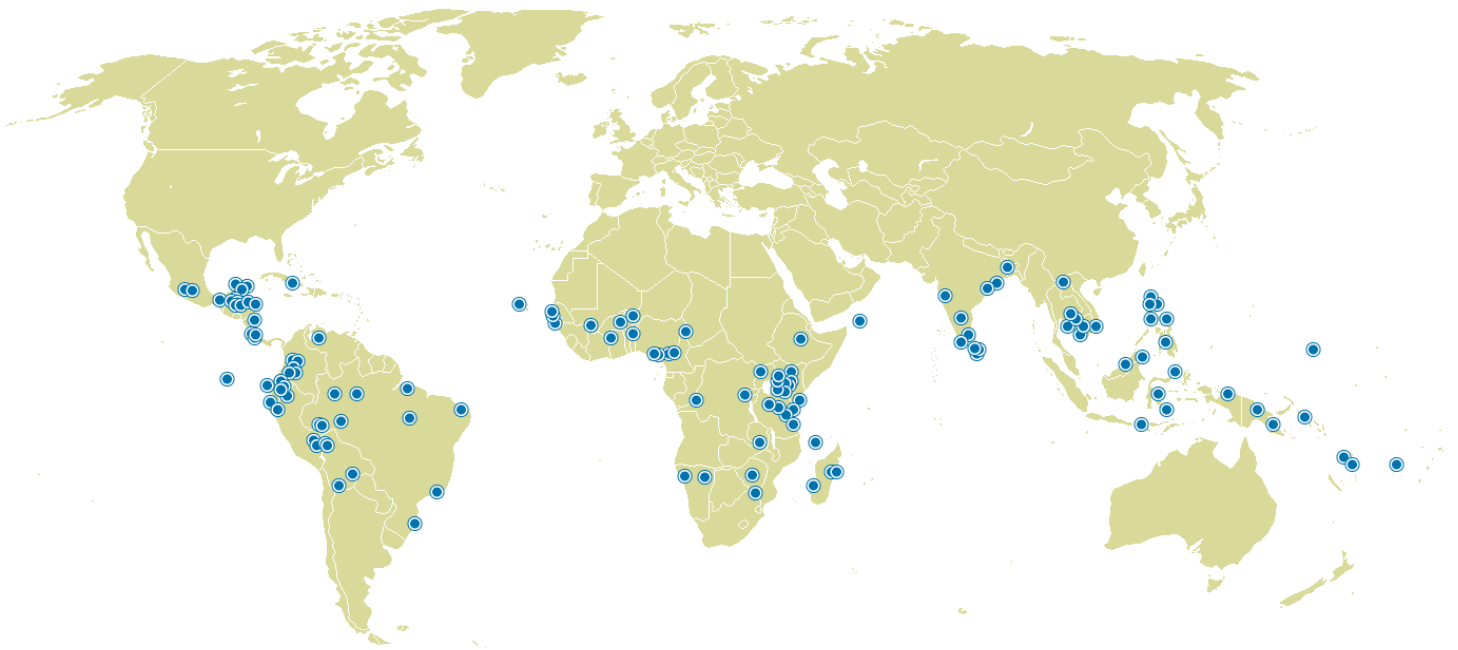
Equator Initiative Case Studies

Local sustainable development solutions for people, nature, and resilient communities

UNDP EQUATOR INITIATIVE CASE STUDY SERIES

Local and indigenous communities across the world are advancing innovative sustainable development solutions that work for people and for nature. Few publications or case studies tell the full story of how such initiatives evolve, the breadth of their impacts, or how they change over time. Fewer still have undertaken to tell these stories with community practitioners themselves guiding the narrative.

To mark its 10-year anniversary, the Equator Initiative aims to fill this gap. The following case study is one in a growing series that details the work of Equator Prize winners – vetted and peer-reviewed best practices in community-based environmental conservation and sustainable livelihoods. These cases are intended to inspire the policy dialogue needed to take local success to scale, to improve the global knowledge base on local environment and development solutions, and to serve as models for replication. Case studies are best viewed and understood with reference to *'The Power of Local Action: Lessons from 10 Years of the Equator Prize'*, a compendium of lessons learned and policy guidance that draws from the case material.



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PROJECT SUMMARY

Responding to deforestation around the headwaters of the Nosara River, a source of drinking water and of wellbeing for the inhabitants of the small town of Hojancha in the central highlands of the Nicoya peninsula, local farmers came together in 1994 to enhance local forest conservation and create the co-managed Monte Alto Protected Zone. This 924-hectare area was created by acquiring land for natural regeneration or reforestation. A co-management agreement with the Costa Rican Ministry of Environment ensures local participation in the area's management decisions.

The *Fundación Pro Reserva Forestal Monte Alto* continues to use monthly contributions from its member farmers to purchase additional land parcels, adding to the forest reserve area. Alternative income-generating activities such as ecotourism have helped to decrease reliance on clearing forest for cultivation for the community's 7,250 residents.

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KEY FACTS

EQUATOR PRIZE WINNER: 2004

FOUNDED: 1993

LOCATION: Guanacaste province, northwestern Costa Rica

BENEFICIARIES: 250 families

BIODIVERSITY: 924 hectares of tropical forest protected



Background and Context



The Central American Pacific Coast was once densely covered in tropical rainforest and home to a range of wildlife species and biodiversity. Between the 1930s and the 1960s, however, the region suffered from severe and large-scale deforestation and land degradation, stripping away much of the original vegetation. By the beginning of the 1990s, much of the coastal area had been converted for farmland or cattle ranches. One of the regions most affected by deforestation was the province of Guanacaste in northwestern Costa Rica. As in other regions, vast areas of rainforest were cut down for cattle ranching, commercial logging interests, intensive grain cultivation, and coffee and sugarcane plantations. These land use decisions had predictably devastating impacts on local ecosystems. Unseasonably long and erratic droughts in the dry season were followed by extreme flooding in the rainy season, causing both soil erosion and water scarcity.

Particularly hard hit by deforestation was the area surrounding the headwaters of the Nosara River, a source of drinking water and of wellbeing for the inhabitants of the small town of Hojancha in the central highlands of the Nicoya peninsula. It is estimated that between 1968 and 1992, the flow of the Nosara River was reduced by 90 percent, leading not only to an acute water shortage, but also to the out-migration of more than 50 percent of the resident population. This migration is perhaps indicative of how much the local population has historically relied on the Nosara River for livelihoods, health, and community wellbeing.

A local response to forest and watershed degradation

As deforestation of the headwaters was the source of the problem, a group of twelve farmers in the Hojancha community saw that restoration of the forests could also be the solution. Under the auspices of the Cantonal Agricultural Center of Hojancha (CACH), these farmers joined forces to establish the Foundation for Monte Alto Forest Reserve (Fundación Pro Reserva Forestal Monte Alto) with the aim of promoting both environmental conservation and sustainable

livelihoods. The foundation works with local farmers to acquire and reforest land around the Nosara River's headwaters, and supports in the promotion of sustainable incomes through environmentally-friendly micro-enterprises and ecotourism. Through the environmental protection and gradual reforestation of degraded lands, the organization has overseen the recovery of an important watershed, resurgence in several plant and animal species, and improvements in local livelihoods.

Acquiring land for conservation

The Monte Alto Foundation was incorporated as a non-governmental organization in 1993 under Costa Rica's Foundations Law, No. 5338. The goal of the foundation is to acquire degraded land in order to protect and restore the natural water functions of the region's ecosystems. The initiative began as a vision of a community-driven mechanism where land would be purchased from local farmers, hectare-by-hectare, in order to coordinate the restoration of degraded and deforested ecosystems and sustainable income generating opportunities for the local population. To deliver this vision, the foundation created what it called the 'Founding Donor Program', which gave interested partners and donors a channel through which the foundation could purchase land from local farmers.

The Monte Alto Protected Zone

In 1994, supported by the municipal government and the Ministry of Environment, Energy and Telecommunications (MINAET), the Monte Alto Foundation was able to use this funding mechanism to create the Monte Alto Protected Zone. The protected area – located in the Tempisque Conservation Area, Hojancha canton in the upper basin of the Nosara River – is 924 hectares in size. The foundation has established a co-management contract with MINAET that places an emphasis on local governance and leadership in the conservation and reforestation of the reserve. Farmers interested in selling the land within the reserve, and thereby setting it aside for conservation

and reforestation purposes, are compensated financially. For those owners in the protected zone that are not interested in selling their farms, the foundation supports them in the development of socio-productive alternatives that promote sustainable livelihoods as well as watershed protection. All local farmers (regardless of the status of their lands) benefit from an umbrella ecotourism program, which has become the financial engine for conservation and reforestation activities in the reserve.

Ecotourism and integrated conservation efforts

The ecotourism component of the Monte Alto Foundation arose organically. Once the reserve was created, the foundation was overrun with requests for visits from a range of different groups – classes of school children, college and university students, national and international researchers, scientists, members of government, and, importantly, tourists. This generated a need to provide lodging services, food, informational activities (such as lectures), and guided tours.

Rather than one ecotourism initiative, the foundation has created an umbrella platform under which small family businesses have been able to benefit from ecotourism by providing lodging, goods, and services within their means and respective areas of expertise.

The Monte Alto Foundation seeks to achieve sustainable local development as well as the maintenance and preservation of a functioning watershed-forest ecosystem. Coordinating the efforts of farmers, local communities, and national and international organizations, the foundation successfully carries out the purchase of land parcels, social mobilization for the restoration and conservation of natural forests, the uptake of environmentally-friendly production practices, the dissemination of environmental education, and the strengthening of an ecotourism program which provides a revenue stream to fund all of the above. Through these activities, the foundation has improved the quality, quantity and consistency of potable water for the local population; regenerated local forests and restored local ecosystems; and reduced land conversion for cattle.



*“Climate change is a reality. We must take it very seriously to reduce its impacts on ecosystems and ecosystem services, such as water. We have seen a change in rainfall patterns, as well as changes in the times when some trees and orchids blossom, notably the more delicate ones. We already have a species of the pioneer tree *Schizolobium parahyba*, which for four years has not produced any seeds in this region.”*

Miguel Mendez Garcia, Foundation for Monte Alto Forest Reserve

Key Activities and Innovations



The central component of the foundation's work is land acquisition. To raise the funds needed to purchase land from local farmers, the foundation employs a 'shared contribution model', where members of the foundation make monthly contributions of USD 4 per month into a common fund. The first purchase made through this fund was a 14-hectare parcel of land in the heart of the Hojancha watershed area. By publicly demonstrating that this approach was feasible, the foundation soon attracted local and national attention, which encouraged more farmers to contribute to the fund. Within only a few years, a total of 175 local residents were participating in the purchase of 340 hectares of land and the management of more than 800 hectares of watershed area.

With the support of the Ministry of Environment, Energy and Telecommunications (MINAET), the foundation obtained an official designation of 'protected area' for the 924-hectare area under its management. Since that time, the foundation continues to grow the protected area through the purchase of new land. Acquired land is either allowed to regenerate naturally or is reforested using endemic, native, mixed tree cultures that are ecologically adapted to the region. To ensure ongoing protection of the area, the foundation regularly conducts surveillance to monitor for forest fires as well as transgressions of protected area rules, such as illegal hunting and logging. In the case of forest fire prevention, the foundation works in close cooperation with the Hojancha community forest fire fighters' brigade. Guidance on reforestation, the restoration of degraded lands, and other conservation activities is provided by research partners.

Expansion of project activities and income streams

Land acquisition is a costly undertaking. The shared contribution model, while a powerful expression of community commitment, was not sufficient for the ongoing growth of the protected area and the foundation's work. This was the motivating factor for the foundation's expansion into ecotourism, as a response to requests for site

visits from a number of groups and stakeholders. In 1997, the foundation began construction of a basic tourism infrastructure, which has grown over the years to include lodges, an 'eco-museum', and a cultural and environmental information centre. Ecotourism has not only provided jobs and income to various segments and sectors of the local population, but has also enabled the foundation to purchase more land and to carry out its forest conservation work. The nucleus of the ecotourism project is Dorati Lodge, a small complex of four rustic cabins with a dining room, gym and soccer field. A number of family farms and cottages – Finca Ecoturística Salto del Calvo and Albergue Ecoturístico Familia Pacheco, for example – offer visitors access to nature paths, waterfalls, and a tilapia hatchery for recreational fishing.

Environmental awareness-raising

The foundation quickly realized that land acquisition, reforestation, and land restoration efforts were insufficient for long term conservation objectives. It would be necessary to engage in community outreach and environmental education if conservation was to become part of the local consciousness. As such, the foundation works with a number of elementary and high schools in the communities of Pilangosta, Monte Romo and Hojancha to provide local school children with hands-on experience in conservation and reforestation. Through a number of programs, school children are supported to learn about the foundation's work and to take part in educational activities on the importance of functioning ecosystems and healthy forests to community wellbeing. These activities culminate in an annual tree-planting drive, where local children plant native tree species in degraded areas.

Fostering microenterprises through skills-training

A further activity of the foundation has been to work with those farmers that are interested in the conservation objectives of the organization, but are not interested in selling their land for wholesale

conservation activities. The foundation works with these farmers to explore environmentally sustainable farming techniques. The foundation has focused on coffee cultivation and livestock, two practices that can be particularly damaging to local watersheds and ecosystems. To date, 27 coffee producers have been trained in improved farming techniques, where they integrate vermicomposting and organic fertilizers into coffee cultivation. A centre for environmental training has been established which serves as a platform for partners to deliver capacity building support. Trainings have been delivered by, among others, the National Institute of Learning, the Costa Rica Tourism Institute, the Ministry of Agriculture and Livestock, the Agricultural Development Project of the Peninsula of Nicoya, the Agricultural Centre of Cantonal Hojancha, the Pilangosta Coffee Growers Cooperative of Hojancha, and the Chamber of Livestock. Trainings have resulted in the creation of new local collective action and small scale entrepreneurship initiatives. For example, to name only a few of many, two women's organizations in San Isidro have been trained in apple wine and craft production; a cooperative (the Golden Grain Socorro) has been established to support families in the production

of grains, coffee, and citrus plantations; and yet another cooperative has emerged to coordinate the work of fabric, paint, furniture and wood carving artisans.

Organizational structure

The Monte Alto Foundation is governed by an 'assembly of founders' and an administrative board. The former serves as a steering committee, is composed of twelve members, and meets once a year. The administrative board is more directly involved in the foundation's operations and its five members are appointed annually. Three members are appointed by the 'assembly of founders' – and are remunerated by the foundation for their services – while the other two are selected by the municipality and paid by the Ministry of Environment, Energy and Telecommunications. All five are full-time employees charged with oversight and implementation of the ecotourism program, technical guidance and trainings, environmental research and education, and the handling of those that violate protected area rules.



Impacts



BIODIVERSITY IMPACTS

Through the combination of direct conservation through land acquisition and the promotion of sustainable farming techniques and educational activities, the foundation has managed to contribute considerably to the protection of local forest ecosystems and watersheds. This approach has enabled the foundation to align operation of the reserve with the development needs of the Canton of Hojancha, and to consolidate a nature reserve where human activities are compatible with the protection of the environment.

Monitoring through 'biodiversity inventories'

The most significant biodiversity impact has been the creation of the 924-hectare Monte Alto Protected Zone. Within this space, more than 300 hectares of land have been fully conserved, restored and reforested. In terms of monitoring and evaluation, the foundation began ten years ago to forge partnerships with students and researchers at the University of Costa Rica, the National University of

Costa Rica, and the National Institute of Biodiversity, among other research bodies, to begin tracing in a more systematic way – through 'biodiversity inventories' – the biodiversity impacts of the project, as well as the number and diversity of species living in the reserve.

The findings of these inventories have shown that a considerable recovery of the forest was achieved through reforestation measures. Reforestation, in turn, led to an increase in habitat and thereby enabled the recovery of local wildlife populations. A number of species have returned to the area from nearby forest groves, and now use the reserve as a refuge and a migration corridor. For example, while at the beginning of the project there were hardly any sightings of agoutis (*Dasyprocta punctata*), peccaries (*Tayassu tajacu*), white-faced monkeys (*Cebus capuchin*) or ocelots (*Leopardus pardalis*), these species are now often seen in the area, according to recent inventories. Biologists have also identified a new species of shrub in the reserve, *Stemmadenia hanna*, which is found nowhere else in the world, as well as a rare, blue umbrella shaped mushroom, *Entoloma macrofungi*.

Table 1: Species identified by taxonomic group within Monte Alto Protected Zone

Taxonomic Group	Species found	Taxonomic Group	Species found
Birds	186	Other epiphytes	5
Mammals	28	Orchids	70
Reptiles	18	Lichens	128
Trees	167	Butterflies	92
Shrubs	52	Moths	589
Grasses	50	Wasps	55
Palms	9	Flies	57
Bromelias	12	Aquatic insects	35
Cactus	6	Aquatic fauna	11
Climbers	36	Macro-fungi	59

Source: Fundación Pro Reserva Forestal Monte Alto, 2011.

SOCIO-ECONOMIC IMPACTS

The target population of the project is the canton of Hojancha, which has over 7,250 inhabitants. This is a predominantly rural population, the majority of whom (84 percent) own and operate small-hold farms of less than 50 hectares. More than 80 percent of the local population works in agriculture and livestock, 10 percent in the service and trade industries, 5 percent in commercial industries (e.g. sawmills), and the remaining 4 percent in professional fields such as lawyers and teachers. Importantly, and especially in the dry season, migration to other provinces and cantons is common among farmers looking for additional income and employment.

Direct and spillover economic benefits

Through its activities, the Monte Alto Foundation directly and indirectly contributes to poverty reduction in the area by providing jobs to local professionals and by obtaining all necessary supplies and services for the operation of the eco-lodges from the local economy. In addition to the salaries of the foundation's five full-time staff members, there is also a regular need for casual labor (guides, maids, cooks, etc.) to support the operation of the ecotourism program, which in 2010 led to an additional direct payment of 792,000 CRC (or roughly US \$ 1,500) to residents of the Pilangosta community. Also in 2010, food and hospitality services obtained from the local community amounted to 4,400,000 CRC (or roughly US \$ 8,700), as well as an additional 912,000 CRC (or US \$ 1,800) for infrastructure materials.

foundation has welcomed more than 20,000 visitors, accounting for an average of 1,700 visitors per year. Similarly, family initiatives and professional cooperatives have developed around the tourism sector. As one example, Asociación de Mujeres de San Rafael y Maravilla is a women's cooperative that produces vegetables using hydroponic techniques. As another, Grupo de Mujeres Artesanas Hoja Arte is a women's self-help group which makes jewelry with the seeds of native tree species. Several traditional dance and theatre groups have also evolved.

In 2008, an environmental information center was built, at a total cost of 11,400,000 CRC (or US \$ 22,600), again sourcing entirely from local labor and building materials. The centre has led to higher levels of agricultural production, with fewer inputs and less contamination from chemical fertilizers. For example, 27 coffee producers are applying new techniques using organic fertilizers, which has in turn created over 50 additional jobs in maintenance and harvesting. The centre has also been a vehicle for environmental and conservation education for local children, working with schools in and around the reserve and using the forest and watershed ecosystems as a classroom.

The Monte Alto Foundation is an institutional innovation that combines local development, conservation and social inclusion. Its success has been based on the strengthening and accumulation of social and political capital with a range of stakeholders, but drawing at its base from local community members and small-scale farmers.

POLICY IMPACTS

The standing of the reserve as an official protected area, born of community will, but with the formal recognition by the state government of a co-management arrangement, is a noteworthy policy impact. In this arrangement, power and responsibility for decision-making is shared between the government and the local farmers that work the land and undertake all reforestation activities. It is worth noting that co-management arrangements have no formal legal standing in Costa Rica currently. As such, the foundation actively lobbies various levels of government for a change in this policy. Nonetheless, the foundation has established a strong working relationship with the government and various ministries, coordinating their actions with similar-minded institutions. And despite the unofficial co-management designation, the Costa Rican government recognized Fundación Pro Reserva Forestal Monte Alto as the best local project in improving its municipal environment in 1998, and the best local initiative in environmental conservation in 1996.

The foundation has also been active in advocating for changes to the outdated Water Law of Costa Rica, which dates back to 1942 and which has little bearing on the current realities of watershed management and fresh water provision in the region. Forest legislation in Costa Rica, on the other hand, offers a more fruitful window for advocacy and progressive action, as the Forestry Act of 1990s created a number of incentives for forest conservation, and the Forestry Law 7575 of 1996 acknowledged the importance of ecosystem services to human wellbeing and the threats that land conversion poses to Costa Rica's forests.

Table 2: Visitor numbers, 1999-2010

Year	Costa Rican Visitors	Foreign Visitors	Total Visitors
1999	1,014	157	1,171
2000	1,226	171	1,397
2001	1,448	232	1,680
2002	1,948	232	2,180
2003	1,365	123	1,488
2004	1,332	196	1,528
2005	1,276	384	1,660
2006	1,206	331	1,537
2007	1,263	344	1,607
2008	1,466	518	1,984
2009	1,681	417	2,098
2010	1,492	424	1,916
Total:	16,717	3,529	20,246

Source: Fundación Pro Reserva Forestal Monte Alto, 2011.

Community-based tourism generates economic alternatives for a population that was largely dependent on livestock and coffee cultivation. Since the inception of the ecotourism project in 1999, the

Sustainability and Replication



SUSTAINABILITY

In its twenty years of operation, the Monte Alto Foundation has achieved a wide range of environmental, socioeconomic, and policy successes. Its programs and operations are supported at the community level – as indicated by the high level of ownership and (literal) buy-in by local farmers – as well as the regional government and cantonal levels. Critical to the foundation's success and resonance with the local population has been the simple yet essential fact that land acquisitions and purchases have never been forced or coercive. Community participation then has been based entirely on perceived benefits and incentives, making for a strong foundation of trust and solidarity on which sustainable collective action becomes possible.

The ecotourism program is the economic engine for the foundation. Based on ecotourism revenues, the foundation is able to fund land purchases, ecotourism operating costs and salaries, reforestation activities, and its educational work. While the ecotourism program has a relatively high visitor rate of 1,700 visitors per year, the foundation aims to improve this by 25 percent.

REPLICATION

The Foundation for the Monte Alto Forest Reserve receives consistent requests from neighboring communities and other stakeholders across Costa Rica to share their experience and best practice. The foundation has been visited by six communities from different corners of Costa Rica, all with an interest in replicating their conservation and ecotourism model. Visiting groups are

provided with detailed information sessions on the functioning of the foundation, often conducted by leaders of the organization. The average site visit lasts two days and focuses on taking the experience of the foundation – successes and challenges – and adapting these such that they can usefully be tailored and applied to the visiting community's needs and context. During the visit, workshops are held which have often focused on the necessity of fostering the active participation and ownership of community members and local farmers, while also building lasting relationships with different levels of government.

PARTNERS

- Tropica Verde: provides support in land acquisition, infrastructure improvements, reforestation, research, and fundraising for educational activities.
- The Costa Rican Ministry of Agriculture and Livestock: promotes sustainable agriculture, especially livestock, creating model farms.
- The Cantonal Agricultural Center of Hojanca: CACH was the first local farmers association to be established in the canton of Hojanca and have collaborated on commercial forestry plantations
- The high school of Hojanca participates every year in planting native trees to accelerate the recovery of the forest cover and is also a project donor.
- The Costa Rican Ministry of Environment, Energy and Telecommunications: provides two full-time staff members and a vehicle for the operation.

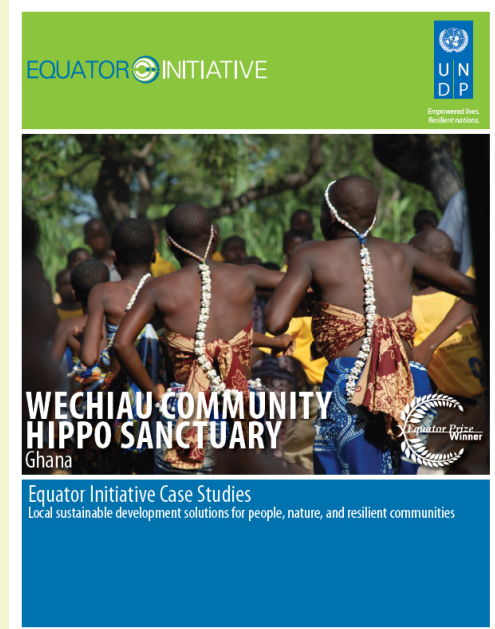
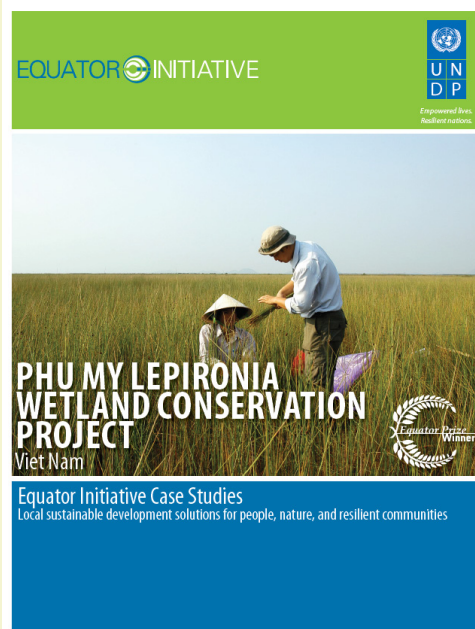
“Ecosystems and ecosystem services are essential for our lives and our health. These are real issues that should not be used as political instruments that only serve as election propaganda.”

Miguel Mendez Garcia, Foundation for Monte Alto Forest Reserve

FURTHER REFERENCE

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- Foundation for Monte Alto Forest Reserve website <http://www.montealtohojanca.com/>

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