

## Addressing Land Encroachment and Over Exploitation Through Reforestation and Sustainable Livelihoods, Panama

### PROJECT DESCRIPTION

The project was initiated by the Arimae indigenous community in the Darien, Panama to find a better way towards sustainable development. Arimae is an indigenous community who live on communal lands that until recently were not legally recognized by the Panamanian Government and were open to squatter's rights. It has been a struggle for Arimae to avoid land invasions and deforestation by campesino farmers. In 2010, a law was passed recognizing the communal lands that belong to the Embera Wounaan Indians living outside the Indigenous Reserve of Cemaco – Sambu.



In 2009, ASOADICO, the Indigenous Community Group Organization in ARIMAE, presented a proposal to the Small Grants Programme in Panama to reforest their collective lands through 1) harvesting seeds of native tree species; 2) conducting a baseline study of carbon sequestration in a section of 500 hectares of a Reserve of Arimae, and 3) reforestation of plantation lands using a mix of native timber and fruit species allowing for increased income and reclamation of degraded lands.

Through the project, Arimae is also taking advantage of a business relationship with Planting Empowerment, a company founded by former Peace Corps volunteers dedicated to reducing deforestation by tackling its root cause of short-term economic need. Former volunteers had noticed progressive local landowners renting portions of their land for agriculture, rather than selling it. After seeing the benefit of increased income and better land stewardship, Planting Empowerment suggested that a land lease practice through a sustainable leasing model. Instead of forestry businesses purchasing land from poor communities and developing it with exotic species, the land was leased.

Through lease payments, Planting Empowerment offers an economic incentive to keep the community on their land, reduces deforestation and degradation through sustainable forestry, and shares 20% or more of profits with partnering farmers and communities via community projects and scholarships. It also splits 50/50 any additional income from Payment for Ecosystem Services (PES).

Through the project, this relationship has helped develop the skills of the community and their knowledge of forestry. Expansion of reforestation activities in communal areas has also helped to sustainably manage forests and commercialize timber from plantation areas.

**Project Name:** Conservacion y Produccion Sostenible en la Reserva de Arimae, Panama

**Database title:**  
PAN/SGP/OP4/Y2/RAF/09/16

**Executing NGO:**  
Asociacion Agroforestal Para el Desarrollo Integral Comunitario (ASODICO)

**Project dates:**  
9/2009- 9/2010

**SGP grant amount:** US\$20,000

**In-Kind cofinancing:** US\$20,000

**In-Cash cofinancing:** US\$1,150

## BACKGROUND

Land tenure in the Darien region of Panama was transformed due to policies that promote land titling as legalized ownership, allowing access to credit for small landholders. The result had the inadvertent effect of increasing the land value resulting in the sale of large tracts of land by poor locals to wealthy land owners and reforesting companies who were planting exotic species such as teak. This also resulted in the displacement of Indigenous Peoples to urban areas or marginal lands, sometimes resulting in their return to slash-and-burn practices.

## IMPLEMENTATION

The project has main three activities designed to reforest and generate income in the short, medium and long- term; while increasing environmental education and awareness in the community. The activities include:

- Harvesting tree species for raising seedlings in the nursery. Seedlings

would be used for reforestation projects in the area, and also for communitarian use.

- Setting up a baseline study of carbon sequestration potential in the Arimae communal lands through participatory methods and GPS registration of data to measure potential economic opportunities through the UN-REDD program.
- Reforestation of plantation lands using native timber species mixed with native species of fruit such as borojó, banana, coffee, or cacao, allowing for income and reclamation of degraded lands.

The business proposal founded by Planting Empowerment created a scheme of renting, not buying land from Indigenous Peoples and sharing the profit with the owners at the end of the production cycle, splitting 50/50 any additional income from Payment for Ecosystem Services (PES).

ASOADICO, the Indigenous Community Group Organization in ARIMAE, has been working with Planting Empowerment on the first reforestation project of its kind with

Indigenous Communities.

The Small Grants Programme has also contributed significantly to the project by:

- Reinforcing the agroforestry potential of this indigenous community and financing the expansion of the timber plantation and agroforestry activities on eroded lands.
- Helping to create additional sources of income with the establishment of a tree nursery that has created local jobs for young men and women.
- Empowering the project through full local participation and management of funds.

## ENVIRONMENTAL IMPACT

The reforestation of 5 hectares of native trees is providing CO2 sequestration, erosion control, biodiversity enhancement, and hydrological stability. The project also planted 1.5 hectares with cacao, plattains and native species like borajo.



The reforestation of native non-exotic trees alongside other types of crops like cacao are increasing revenues from NTFPs.

SGP created a baseline study of carbon sequestration capacity and inventory to calculate future Payment for Ecosystem Services (PES) Schemes.

### **SOCIO-ECONOMIC IMPACT**

22 families have directly benefited from the project. In particular, the community received training on forestry, operations and how to measure tree growth.

Incorporating agroforestry to the reforestation project increased revenue from NTFP, consolidated the local expertise around agroforestry, improved forest quality, and the livelihoods of Indigenous Peoples.

The business relationship with Planting Empowerment demonstrates an alternative business approach to promoting sustainable community reforestation. By renting land the partnership creates jobs and promotes profit-sharing at the end of production cycles.

Planting Empowerment's 50/50 sharing of income from potential Payment for Ecosystem Services (PES), if materialized, will be another benefit.



### **POLICY IMPACT**

This project has the potential to impact policy in the area of land leasing -a common practice in other countries but relatively new in Panama-; community agroforestry; land rights; and potential Payments for Ecosystem Services (PES).

### **SUSTAINABILITY**

The sustainability of the project is ensured through the strong involvement and participation from project design to implementation of the indigenous community, along with the tangible economic and livelihood benefits that the community is receiving from it.

In particular, its partnership with Planting Empowerment where the community leases the land and receives a percent of the profits creates incentives for the community to reforest and protect their lands.

The project has created local expertise on sustainable forest management that will remain in the community while generating jobs so young men and women do not

have to migrate elsewhere in search of jobs. Two important considerations for the long term sustainability of the project.

### **REPLICATION AND UP-SCALING**

The project has not been replicated or up-scaled yet. However, the relationship with Planting Empowerment is a strong indicator of the replication potential.

Also, the model of splitting 50/50 any additional income from Payment for Ecosystem Services (PES) is an innovative approach worth replicating.



## LESSONS LEARNED



The project demonstrates that reforestation can be done at a lower cost, in a different manner, with lower densities and tree enrichment strategies. In addition, other plants such as corn, beans, plantain, cacao can be grown, making more effective use of land that is a scarce resource and generating cash flow.

It also proves that small groups with communal land can develop reforestation strategies that incorporate seedlings, nursery production, and mapping as an alternate focus to monoculture, presenting reforestation as a viable alternative to income generation earned in a sustainable manner.

Community Forestry Projects are viable but require closer ties to other links in the commercial chain to make the projects more feasible.

There are many skills required that are not easily transferrable to make a project successful, especially at its inception. Relationships with Forestry Companies can be favorable depending on a company's business philosophy. They give structure to the startup of operations, which also opens the possibility of investment and co-sharing of skills as opposed to when community forestry groups engage in projects independently.

Promoting alternative reforestation strategies that better fit the needs of community forestry projects is better than trying to emulate large company strategies based on extensive monoculture of exotic timber species not well adapted to the local conditions.

Exploring new techniques such as intercropping with food crops (corn, beans, rice, plantain, etc.) and fruit trees (cacao, avocados, etc.) generate short and medium term income for the community. Exploring enrichment strategies that take into account existing vegetation cover of plantations to protect against erosion from rain, wind erosion and excessive evapotranspiration create new knowledge of forestry alternatives which are more adequate for local conditions of size, investment capacity and culture.

Planting Empowerment, in the case of indigenous communities, have established a working relationship with community members since they hire local members to work in the plantation area, which generates local capacities, skills and forestry knowledge that offers new alternative income for the community members of Arimae.

# Community Action... Global Impact