

Carbon Sequestration in Small Farms in the Península de Nicoya, Costa Rica (Nicoya Project)

Project description and proposed activities



Figure1. Land Uses in the Península de Nicoya Region-Costa Rica

Presently, approximately 45% of cleared land in the North Pacific Zone of Costa Rica is under permanent pasture. Much of this was cleared directly from the forests. Now that much of the original forest is gone, prior land use has created enormous biological debt: a large area of degraded pastures. Cattle production in Costa Rica requires relatively few external and labor inputs when compared to other cash crops such as pineapple, oranges, coffee and bananas, and for many of these deforested lands, cattle production is currently the best land use option for many farmers. The project will look for providing new options to these farmers, using the incomes from carbon credits generated by forest restoration activities. Recent research in the area suggested that although aware

of the problems of forest degradation, the farmers were unlikely to take action unless they were immediately affected, or incentives or practical help were available.

Farmers in the “Península de Nicoya” in Costa Rica will be induced, to introduce forestry production activities in their farms through the Payment for Environmental Services Program (PESP) implemented by FONAFIFO. The project will generate a net anthropogenic absorption of near 37,655 tons of CO₂ per year and a total of 2,259 in 60 years, which would not occur in the absence of the proposed project. In a period of three years 240,000 trees will be planted in agroforestry systems, 3000 ha will be dedicated to reforestation through natural regeneration, and 1800 ha to commercial reforestation, using mainly native species of the region.

FONAFIFO will pay to the farmers the environmental services of biodiversity protection, protection of water resources and scenic beauty generated by the reforestation activities, and these payments will be complemented with the additional incomes coming from the carbon sales. The additional incomes from carbon sales will allow FONAFIFO: i) to create a new PESP modality, that is: reforestation of degraded lands through human induced promotion of natural seed sources (natural regeneration), and ii) to improve the cash flow pattern typical of reforestation activities, to make it appropriate for small and medium land owners needs.

Developer

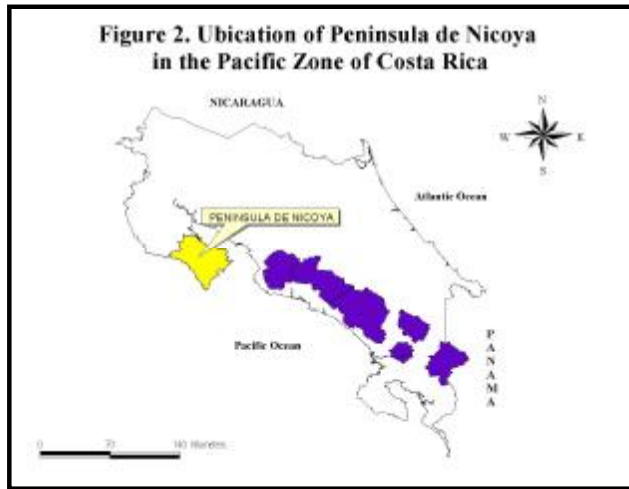
FONDO NACIONAL DE FINANCIAMIENTO FORESTAL (FONAFIFO)

Organizational category: Government agency

Type of Project

Greenhouse gases targeted CO ₂	Sequestration	Rehabilitation of degraded lands to forest Rehabilitation of lands to agroforestry Plantation for wood products/Small scale landholders
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Location of the project



The geographic location of the project is latitude North 9° 31' 13" to 10° 04' 52", and longitude West 85° 11' 23" to 85° 29' 38" (DATUM WGS84). The area is located in the north-pacific zone of Costa Rica, and it has a total area of 162 850 ha., and it covers the counties of Puntarenas and Nandayure (see Figure 2 in annex 1).

Environmental benefits and risks

The major environmental benefit from the project is the recovery of the forest cover in 4800 ha which are presently dedicated to pasture (due to reforestation and natural regeneration). These new forests will provide raw material for the forest industry, decreasing the illegal logging and damage of the remaining natural forest.

Generation of additional environmental services derived from forest ecosystems, such as, biodiversity, water resources, and scenic beauty protection, and mitigation of natural disasters. Local benefits for the community are the increase of family income by improving the rural local economy, training of landowners and generation of employment, and the protection of their water resources.

Baseline scenario.

The base line is near 88,080 metric tons of CO₂

Estimate of carbon sequestered or conserved (in metric tonnes of CO₂ equivalent – tCO₂e)

Up to a period of 14 years	Up to a period of 20 years	Up to a period of 60 years
857,355 tm CO ₂ e	1,217,281 tm CO ₂ e	2,259,276 tm CO ₂ e

Socio-economic benefits and risks

There are 211 rural communities in the project area. Their main economic activities are based on agriculture and cattle-raising.

The project incorporates activities that energize the local economy, generating incomes from PESP payments, and employment. Near 94.6 % of the carbon incomes will be invested in the project area in the form of payments to the farmers for the environmental services produced by them.

Indicative Carbon Credit Value: US\$ 3.76 /ton CO₂e

Description	Amount (US\$ millions)	Source
Equity	0	Unidentified
	320,264	FONAFIFO
	4,575,200	Carbon Sales
Debt – Long-term	0	
Debt – Short term	0	

Emission Reductions Value
(= price per tCO₂e * number of tCO₂e)

Period	Value (US\$)
For 14 years	US\$ 3,222,404
For 20 years	US\$ 4,575,200
For 60 years	US\$ 8,491,580
