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IMPLEMENTATION COMPLETION AND RESULTS REPORT ON A
PROPOSED PURCHASE OF EMISSION REDUCTIONS FROM THE BIOCARBON FUND
TO THE NATIONAL FUND FOR FOREST FINANCING

FOR
CARBON FINANCE OPERATIONS

Carbon sequestration in small farms in the Brunca region - COOPEAGRI Project
(P094155) Costa Rica

June 15, 2020

Environment, Natural Resources and Blue Economy Global Practice
Central America Country Management Unit

ACRONYMS AND ABBREVIATIONS

AFE	<i>Administración Forestal del Estado</i> (State Forest Administration)
AR	Afforestation and Reforestation
BioCF	BioCarbon Fund
CATIE	<i>Centro Agronómico Tropical de Investigación y Enseñanza</i> (Center for Tropical Agricultural Research and Higher Education)
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
COOPEAGRI	General Cooperative for Agricultural, Industrial and Multiple Services
DOE	Designated Operating Entity
CPF	Country Partnership Framework
EB	Executive Board
ER	Emission Reductions
ERPA	Emission Reductions Purchase Agreement
FONAFIFO	National Fund for Forest Financing
FCPF	Forest Carbon Partnership Facility
FSC	Forest Stewardship Council
GCCFM	Climate Change Global Practice Fund Management Unit
GEO	Global Environmental Objective
GTZ	German Technical Cooperation Agency
ha	Hectare
IBRD/GEF	International Bank for Reconstruction and Development/Global Environment Facility
ICR	Implementation Completion Report
IP	Implementation Progress
IRR	Internal Rate of Return
ISR	Implementation Status and Results Report
LULUCF	Land Use, Land-Use Change, and Forestry
LOI	Letter of Intent
MINAE	<i>Ministerio de Ambiente y Energía</i> (Ministry of Environment and Energy)
MRV	Monitoring, Reporting and Verification
NPV	Net Present Value
PAD	Project Appraisal Document
PDD	Project Design Document
PDO	Project Development Objectives
PE	Project Entity
PIU	Project Implementation Unit
PMR	Partnership for Market Readiness
PSA	<i>Pagos por Servicios Ambientales</i> (Payment for Environmental Services)
REDD+	Reducing Emissions from Deforestation and Forest Degradation (and the role of conservation, sustainable management of forests and enhancement of carbon stocks in developing countries)
SAF	Successional Agroforestry System
tCER	Temporary Certified Emission Reduction
tCO ₂ e	Tons of Carbon Dioxide Equivalent
UCC	<i>Unidades Costarricenses de Compensación</i> (Costa Rican Offsetting Units)
UNFCCC	United Nations Framework Convention on Climate Change
WB	World Bank

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II. DATA SHEET

A. Basic Information

Country	Costa Rica
Project Name	Carbon Sequestration in Small Farms in the Brunca Region (COOPEAGRI Project)
Project ID	P094155 – TF056604
ICR Date	June 10, 2020
Project Design Document - PDD volume, <i>original</i>	588,565 tCO ₂ e
Project Design Document - PDD volume, <i>final</i>	176,050 tCO ₂ e
Monitoring Period	01/08/2006 – 31/12/2012
Environmental Category	B
Project Entity	National Forest Financing Fund (FONAFIFO)
Co-financiers and Other External Partners	na

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Regional Director Approval: Anna Wellenstein, SLCDR

B. Key Dates

ERPA signing date	April 2006
ERPA effectiveness date	April 2006
ERPA amendment dates	#1: September 23, 2009 #2: October 8, 2013
ERPA termination date	December 31, 2018
Project commissioning date	August 1, 2006

C. Ratings Summary

Outcomes (project performance)	Moderately Satisfactory
Bank performance	Moderately Satisfactory
Project entity performance	Moderately Satisfactory

D. Sector and Theme Codes

Sector Codes (in %)

Forestry	100%
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Theme Codes (Primary/Secondary)

Climate Change	Primary (67%)
Other Environment and Natural Resources Management	Secondary (33%)

E. ADM Staff

Vice President	J. Humberto Lopez, LCRVP (Acting)
Country Director	Yaye Seynabou Sakho, LCC2C
Regional Director	Anna Wellenstein, SLCDR
Global Director	Karin Kemper, SENDR
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F. Emission Reductions Delivery to Date

1. A monitoring report for the Clean Development Mechanism (CDM) project was completed on November 2, 2012, and verified by the Designated Operating Entity, "DNV Climate Change Services AS", on March 3, 2013. The report concluded that the verified Emission Reductions (ER) from August 01, 2006 to December 31, 2012 amount to 23,084 tons of carbon dioxide equivalent (tCO₂e).

III. PROJECT CONTEXT, DEVELOPMENT OBJECTIVES AND DESIGN

A. Project Context

2. At the appraisal of the Carbon Sequestration in Small Farms in the Brunca Region (COOPEAGRI Project) in 2006, Costa Rica had been a leader in the development of projects and programs that protect and recover forest cover. The country had dramatically reversed its deforestation crisis from the 1970s to become the only country in the tropics with a negative deforestation rate. The Payment for Environmental Services (PSA due to its acronym in Spanish) Program was an important part of the package of policies that had led to this achievement. The PSA was groundbreaking when it was established in 1997 and supported from 2000 to 2006 by the International Bank for Reconstruction and Development/Global Environment Facility (IBRD/GEF) Mainstreaming Market-Based Instruments for Environmental Management I (Ecomarkets I, P052009) Project. The Program was widely successful and recognized for advancing natural resource management and strengthening the country's leadership in the field.
3. The COOPEAGRI Project was developed at the same time as Mainstreaming Market-Based Instruments for Environmental Management II (Ecomarkets II, P093384), as complementary programs designed to build upon and enhance the PSA established in Ecomarkets I. Despite the Program's success, Ecomarkets I had not been effective for recovering marginal pasturelands unsuitable for commercial reforestation or remaining forest patches too small to qualify for the PSA. The PSA had the potential to induce farmers to recover these areas but needed to be modified to include other options for local farmers, such as reforestation through natural generation or the use of agroforestry systems. The ratification of the Kyoto Protocol with guidelines in place for eligible land use activities opened the door for Costa Rica to use the Clean Development Mechanism (CDM) to finance forest regeneration in degraded areas that the PSA was otherwise unable to address because of their high costs.
4. The COOPEAGRI Project was introduced to (i) serve as a pilot for carbon sequestration, natural resource management and biodiversity conservation on private lands; (ii) expand the scope of the PSA Program in Costa Rica's southern region, in the specific area of Pérez Zeledón, a canton¹ (county) in the province of San José; and (iii) improve the typical cash flow pattern of forestry activities to suit small and medium landowners' needs. Additional income from the sale of Certified Emission Reductions (CERs) under the CDM to the BioCF would be able to sustain natural regeneration as a PSA modality to increase the participation of small and medium-sized producers in the project zone who had previously been unable to join the PSA scheme.

¹ Costa Rica's seven provinces are divided into 81 cantons, an administrative division which may be equivalent to counties in the United States.

5. Farmers would benefit from the CER sale to the BioCF by having access to the PSA Program, which would otherwise not have reached them in the absence of the COOPEAGRI Project. The nature of performance-based-payments in the existing PSA and CDM COOPEAGRI Project are vastly different. The incentives under the existing PSA are based on the participation/recruitment of landowners into the Program with few eligibility requirements and on the ground measured performance by the Government. Payments under the CDM COOPEAGRI Project, however, are based on meeting CDM regulatory requirements and the performance of the Project on the ground as measured by a third-party audit besides the normal government measurements applied to the national PSA Program. Additionality of the CDM COOPEAGRI Project was about new farmers having access to PSA payments, but no additional money was to be paid to them compared to the PSA national program, even though farmers in CDM COOPEAGRI Project had to follow two sets of rules, CDM's and PSA's.
6. The Project Entity (PE) and Project Implementation Unit (PIU) were the same, Costa Rica's National Fund for Forest Financing (FONAFIFO). FONAFIFO was created by Forest Act 7575 of February 13, 1996 as an autonomous entity within the structure of the State Forest Administration (AFE due to its acronym in Spanish), which is led by the Ministry of Environment and Energy (MINAЕ due to its acronym in Spanish). FONAFIFO came into the COOPEAGRI Project with more than a decade of experience administering the existing PSA Program. In addition, FONAFIFO brought extensive experience financing a variety of forestry activities and environmental services provided by forests and forest plantations through credit and other mechanisms directed to small and medium-sized producers.
7. COOPEAGRI is a Cooperative dedicated to agricultural activities such as coffee, sugarcane, and cattle ranching. At the time of the Emission Reductions Purchase Agreement (ERPA) signature, the Cooperative had 10,162 farmers; this number has grown to 13,000 at the time of this Implementation Completion and Results report (ICR). Farmers associated with COOPEAGRI voluntarily introduced forestry activities on their privately-owned farms through the support of the PSA Program.

B. Original Project Objectives

8. Table 1 lists the COOPEAGRI Project's original Project Development Objective (PDO), Global Environmental Objective (GEO), and Performance Indicators as described in the Project Appraisal Document (PAD). Because the PAD has the PDO written as bullet indicators and also mentions the GEO as a PDO in a more generic format but relevant to the CDM goal, it should be noted that the PDO is described differently between the PAD and other project documents, including the Implementation Status and Results (ISR) Reports. The ISRs throughout the project cycle refer to the description of the GEO in the PAD as the PDO. The Task Team referred to the ERPA and its amendments for clarification, but neither the PDO nor GEO is mentioned in the legal agreement. Since the PDO in the PAD was signed by the Country Director and no formal authorization of a change took place, the Task Team determined the GEO could not be recognized as the revised PDO. However, in recognition of the shifting focus of the Project's objectives from the PDO and its components to the GEO, this ICR spans both, providing

supporting evidence for the assessment of the 1) PDO as written in the 2006 PAD and the 2) PDO as GEO. The ICR also covers an assessment of the Performance Indicators, which remained consistent across project documentation although the targets were eventually revised. The extent in which each objective/indicator was achieved is described in depth in *Section IV. Assessment of the Achievement of Each Objective/Outcome*.

Table 1. Original PDO, GEO, and Performance Indicators as described in the 2006 PAD and their revision after the ERPA was amended in 2009. The amendment is detailed in *Section III.C. Summary of key Changes since the ERPA Signature*.

Original PDO and GEO	Performance Indicators	Revised Indicators after the 2009 ERPA Amendment
<p>Project Development Objective (PDO): Generate 588,565 tCO₂e emission reductions by 2017 through the reforestation of 4,140 hectares of privately-owned lands in southeastern Costa Rica. This will be accomplished by reforesting in a period of three years:</p> <ul style="list-style-type: none"> - 1,200 ha of pasture lands using natural regeneration, - 2,490 ha of pasture lands using forest plantations, and - 180,000 trees planted using agroforestry systems in 450 ha of crop and pasture lands. <p>The Project will also generate additional ecological, wildlife, and landscape diversity benefits in the project area.</p> <p>Global Environmental Objective (GEO): The Project will contribute to stimulate the market for CERs from LULUCF CDM projects as part of the global effort to reduce global warming by removing carbon from the atmosphere and to cope with climate change in general. The Project will also raise awareness of the economic, social, and environmental potential of Kyoto Protocol CDM reforestation activities at the national and regional levels.</p>	<p>Indicator 1: Timely delivery of 393,953 tCO₂e emission reductions (or anthropogenic GHG removals) by 2012 and a cumulative total of 588,565 tCO₂e by 2017.</p> <p>Indicator 2: At least 150 small and medium farmers participating in the Project reforestation activities.</p>	<p>Indicator 1: Timely delivery of 37,819 tCO₂e emission reductions (or anthropogenic GHG removals) by 2012 and a cumulative total of 68,228 tCO₂e by 2017.</p> <p>Indicator 2: not changed from previous.</p>

9. The PAD further specifies that the PDO be accomplished through two components:

Component A: Contracting landholders to provide environmental services

Under this component, environmental service contracts were issued with participating landholders, mainly for the provision of anthropogenic GHG removals, through three different reforestation activities (i) natural regeneration, (ii) forest plantations, and (iii) successional agroforestry systems (SAF).

Component B: Monitoring and evaluation of (i) anthropogenic GHG removal, and (ii) social and economic impacts

Under this component, the Project was to (i) support the implementation of a new monitoring system for afforestation/reforestation projects that include the participation of small and medium farmers in tropical regions and (ii) monitor and report any socioeconomic changes during project implementation.

C. Summary of Key Changes since the ERPA Signature

10. Table 2 shows that the revised project area is listed as 4,140 ha in the PAD and 1,337 ha in the Project Design Document (PDD). The distribution of activities was adjusted to aim for 593 ha of natural regeneration, 161 ha of forest plantations, and 583 ha of crop and pasture lands using agroforestry systems. The reason behind the change is explained in *Section V*.

Table 2. Changes in project area after the first ERPA amendment, comparing the distribution of activities in the PAD and their reallocation by FONAFIFO.

Activity	Original Area (PAD)	Revised Area (FONAFIFO Project Design Document, 2009)
Forest Plantations	2,490 ha	161 ha
Natural Regeneration	1,200 ha	593 ha
Agroforestry Systems	450 ha	583 ha
TOTAL	4,140 ha	1,337 ha

11. The most dramatic difference in Table 2 is the revision downwards of forest plantations as the activity expected to cover the largest area (2,490 ha) to the least area (161 ha). PSA demand for natural regeneration and forest plantations was clearly overestimated, while agroforestry registered the highest participation rates. This is primarily because of lower opportunity costs to incorporate agroforestry system in existing land use activities; in addition to improved soil quality, the PSA payments from establishing an SAF could offset initial costs entirely. The comparative opportunity costs to farmers for each activity is elaborated upon in *Section V.D*.

IV. ASSESSMENT OF THE ACHIEVEMENT OF EACH OBJECTIVE/OUTCOME

12. The Overall Outcome Rating of the Project is considered Moderately Satisfactory based on an assessment of the achievements under the PDO indicators and targets after the ERPA amendment. An average of 79 percent of the five indicators/targets set were achieved in the first commitment period (2012), calculated by averaging the performance of the following in relation to their targets: actual verified credits (61 percent); respective project implementation areas for natural regeneration (65 percent), forest plantations (67 percent) and agroforestry systems (68 percent); and farmers registered (136 percent). Although the Project yielded successful outputs during the first five years, after the PSA contracts ended after their five-year duration, FONAFIFO and COOPEAGRI struggled with renewing PSA contracts with farmers for the second commitment period for various reasons discussed in depth in *Section V.A*. The Moderately Satisfactory rating recognizes the issues that led to the decision to not move forward into a second phase while acknowledging the success of the first commitment period and considering the pioneering and pilot nature of the Clean Development Mechanism (CDM) Project (see *Section V.B. Novel Methodology and Processes*).

As a project under the CDM, much of the Project's performance hung on the production of Certified Emission Reductions (CER) to be sold to the BioCarbon Fund (BioCF) to generate income. However, the Project Development Objective (PDO), in bold in Table 3, describes much more than that. This and the fact that project documentation referred to the Global Environmental Objective (GEO) as the PDO throughout the project cycle (see *Paragraph 8*) led to the decision to also provide an assessment of the Project based on the Performance Indicators as well as the objectives referenced in the original PDO and GEO in this Implementation Completion Report (ICR), covering: A) Delivery of CERs, B) Project Implementation Area, C) Generating Additional Ecological, Wildlife and Landscape Diversity Benefits in the Project Area, D) Contracted Landholders/Beneficiaries, E) Monitoring and Evaluation of (i) Anthropogenic GHG Removal and (ii) Social and Economic Impacts, and F) Achieving the Global Environmental Objective. Each is detailed in this section below, and Table 3 provides a summary.

Table 3. Original PDO as written in the 2006 PAD, original and revised Performance Indicators, the GEO and an assessment of each.

PDO	Performance Indicators and Targets	Revised Indicators (First ERPA Amendment, 2009)	Assessment
<p>Generate 588,565 tCO₂e emission reductions by 2017 through the reforestation of 4,140 hectares of privately-owned lands in southeastern Costa Rica. This will be accomplished by reforesting in a period of three years:</p>	<p><u>INDICATOR 1</u> Timely delivery of 393,953 tCO₂e emission reductions (or anthropogenic GHG removals) by 2012 and a cumulative total of 588,565 tCO₂e by 2017.</p>	<p><u>INDICATOR 1</u> Timely delivery of 37,819 tCO₂e emission reductions (or anthropogenic GHG removals) by 2012 and a cumulative total of 68,228 tCO₂e by 2017.</p>	<p><i>Partially Achieved</i> This indicator is largely met by the first commitment period and it is not met by the second commitment period. The actual verified credits were 23,084 tCO₂e, 61% of the first commitment period by 2012. <i>See Section IV.A. Delivery of CERs and Section V for reference.</i></p>
<p>Activities per Original PDO</p>	<p>Original Area (PAD)</p>	<p>Revised Area (FONAFIFO, 2009)</p>	<p>Verified and Implemented Area (Monitoring Report, 2012)</p>
<p>- 1,200 ha of pasture lands using <u>natural regeneration</u>,</p>	<p>1,200 ha</p>	<p>593 ha</p>	<p><i>Partially Achieved</i> 387 ha. At the end of the first commitment period, 65% (387 ha/593 ha revised target) of natural regeneration was achieved.</p>
<p>- 2,490 ha of pasture lands using <u>forest plantations</u>, and</p>	<p>2,490 ha</p>	<p>161 ha</p>	<p><i>Partially Achieved</i> 108 ha. At the end of the first commitment period, 67% (108 ha/161 ha revised target) of forest plantations was achieved.</p>

<p>- 180,000 trees planted using <u>agroforestry systems</u> in 450 ha of crop and pasture lands.</p>	<p>450 ha</p>	<p>583 ha</p>	<p><i>Partially Achieved</i></p> <p>397 ha. At the end of the first commitment period, 68% (397 ha/583 ha revised target) of agroforestry systems was achieved.</p>
<p>TOTAL</p>	<p>4,140 ha</p>	<p>1,337 ha</p>	<p>892 ha. 67% of the revised total project area in 2009 was achieved by 2012.</p> <p>See <i>Section IV.B</i> for reference.</p>
<p>The Project will also generate additional ecological, wildlife, and landscape diversity benefits in the project area.</p>	<p>No target specified.</p>	<p>Not applicable.</p>	<p><i>Achieved, but not Measured</i></p> <p>The COOPEAGRI Project contributed to conservation of biodiversity and increased the participation of small forest owners and public recognition that intact forests and their environmental services are valuable. However, this assessment is based of qualitative data from WB supervision missions, and the Project’s diversity benefits were never directly measured.</p> <p>See <i>Section IV.C</i> for reference and <i>Paragraphs 67-69</i> for additional supporting evidence.</p>

<p><u>PDO Component A:</u></p> <p>Contracting landholders to provide environmental services</p>	<p><u>INDICATOR 2</u></p> <p>At least 150 small and medium farmers participating in the project reforestation activities.</p>	<p>Not applicable.</p>	<p><i>Fully Achieved</i></p> <p>Actual achievement: 204 farmers.</p> <p>This indicator on project participants is 136% met.</p> <p>See <i>Section IV.D</i> for reference and additional supporting evidence in <i>Annexes 1, 2 and 3</i>.</p>
<p><u>PDO Component B:</u></p> <p>Monitoring and evaluation of (i) anthropogenic GHG removal and (ii) social and economic impacts.</p>	<p>(i) Implement a new monitoring system for afforestation/reforestation projects.</p> <p>(ii) Monitor and report socioeconomic changes during project implementation.</p>	<p>Not applicable.</p>	<p><i>Partially Achieved</i></p> <p>(i) Implemented monitoring system using a new methodology developed by Honduras. Fully achieved sub-indicator as evidence shown in <i>Annex 4</i> using GHG monitoring methodology AR-AM0004.</p> <p>(ii) Although no systematic collection and monitoring of socioeconomic data, the indicator is partially met, per evidence from World Bank supervision missions.</p> <p>See <i>Section IV.E</i> for reference. Additional supporting evidence in <i>Paragraphs 46-47, Section VII. Safeguards Compliance</i> and <i>Annexes 5 and 8</i>.</p>
<p>GEO</p>	<p>Assessment</p>		

<p>The Project will contribute to stimulate the market for CERs from LULUCF CDM projects as part of the global effort to reduce global warming by removing carbon from the atmosphere and to cope with climate change in general. The Project will also raise awareness of the economic, social, and environmental potential of Kyoto Protocol CDM reforestation activities at the national and regional levels.</p>	<p><i>Fully Achieved</i></p> <p>The GEO was met. The Verification Report Summary in <i>Annex 4</i> is a key document achieved by the COOPEAGRI Project, which contributed to stimulating the market for CERs from LULUCF CDM projects.</p> <p>The Designated Operating Entity (DOE) verified and certified the correct use of the CDM monitoring methodology AR-AM0004 and the removal of GHG emissions amount to 23,084 CO₂e through establishment 67% of committed area with natural regeneration, forest plantations and agroforestry systems.</p> <p>The objectives/outcomes in this table illustrate how the Project raised awareness of the economic, social and environmental potential of reforestation activities at the local level, but it also created a foundation for national benefit-sharing mechanisms <i>i.e.</i> REDD+.</p> <p><i>See Section IV.F for reference. Additional evidence for influence on national carbon initiatives in Section VIII. Lessons Learned.</i></p>
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A. Delivery of CERs

13. *Partially achieved.* A total of 23,084 tCO₂e Temporary Certified Emission Reductions (tCERs) were verified for the period of August 1, 2006 to December 31, 2012, equivalent to 61 percent of the goal for the first commitment period, supporting the expansion of the PSA Program to small and medium landowners.
14. This was done following the submission of the Project Design Document (PDD) to the United Nations Framework Convention on Climate Change (UNFCCC) CDM Secretariat for registration, verification site visits and the finalization of a verification report (summary in *Annex 4*). Table 4 shows the original, revised and actual CERs for the first compliance period (2006-2012). Forest plantations, natural regeneration and Successional Agroforestry System (SAF) areas complied with GHG removal as envisaged in the PDD and verified by the Designated Operating Entity (DOE). The CERs were delivered and transferred to BioCF and resulted in a payment to the Project Entity (PE). Annual payments to participating landholders were made through the existing FONAFIFO PSA scheme (*Annex 5. Benefit Sharing Plan*).

Table 4. Original, revised and actual CERs for the COOPEAGRI Project.

Original Commitment (PAD)	Revised Commitment by 2012	Actual CERs Achieved (Monitoring Report, 2012)
557,940 tCO ₂ e	37,819 tCO ₂ e	23,084 tCO ₂ e

15. The second and final payment for CERs was planned to take place at the end of the CDM second commitment period, 2017, but no further CERs were delivered. Due to PSA contracts not being

renewed after the first CDM commitment period, the Project faced several complications in acquiring the rights to transfer the title of verified tCO₂e removals for the full implementation of the Project. This probably would not have happened if the initial PSA contract was consistent with the duration of the two CDM periods (2006-2012 and 2012-2017) and it resulted in a shortfall in the transfer of the amount of Contract ERs provided for under the ERPA. Additionally, the Melina plantations suffered a *Nectria sp* fungus infestation, causing the loss of the entire planted area of the species. Although the biomass volume of the Melina plantations was less than 10 percent of available volume, it impacted the decision not to continue to a second commitment period. Details of the decision not to move over to a second phase are in *Section V.A*. In summary, the lack of capacity to transfer titles to CO₂e removals because of expired PES contracts was key in the decision not to extend to a second commitment period.

B. Project Implementation Area

16. *Partially achieved.* Table 5 summarizes the agreed changes in project area along with the actual number of hectares that underwent implementation. At the end of the first commitment period in 2012, 65 percent (387 ha/593 ha) of the natural regeneration target was achieved, 67 percent (108 ha/161 ha) of the forest plantation target was achieved and 68 percent (397 ha/583 ha) of the agroforestry system target was achieved. Because there was no second commitment period and the Project came to a close, the planted area totaled only 67 percent of the revised total project area, with only 892 ha of the 1,337 ha committed undergoing implementation. Of the 892 ha, agroforestry systems made up most of the project area with 397 ha (45 percent), while natural regeneration trailed behind with 387 ha (43 percent). The third project activity type, forest plantations, spanned 108 ha (12 percent).

Table 5. Original, revised, and implemented project area for each forestry activity.

Activity	Original Area (PAD)	Revised Area (FONAFIFO, 2009)	Implemented Area (Monitoring Report, 2012)
Forest Plantations	2,490 ha	161 ha	108 ha
Natural Regeneration	1,200 ha	593 ha	387 ha
Agroforestry Systems	450 ha	583 ha	397 ha
TOTAL	4,140 ha	1,337 ha	892 ha

17. Although most of the project area was originally targeted for forest plantations (60 percent), they ultimately covered only a small portion. Assisted natural regeneration with seeds from existing forest patches and the seed-soil-bank were promoted in the North Hillside. Agroforestry systems were primarily promoted in the Valley and South Hillside. The proposed forestry activities were established with native and non-native species. Native species included the Spanish cedar (*Cedrela odorata*), Amarillo (*Terminalia amazonica*) and Pilon (*Hieronyma*

alchorneoides). Non-native species consisted of Melina (*Melina arborea*), Teak (*Tectona grandis*) and Eucalyptus (*Eucalyptus deglupta*).

18. All the species had been planted for many years in different regions across the country, were well known, and had respective silvicultural manuals. Applied best practices included different thinning, management and harvest cycles depending on site quality and demand. Thinning of native species and Teak was recommended at ages 6, 10 and 15, and harvesting was suggested for age 20. For Melina, thinning was planned for ages 5 and 8, and harvesting at age 12. The farmers planned to harvest native species and Teak around age 15 and Melina at 12, but the final decision depends on the quality of the growth. No thinning was planned for agroforestry, while natural regeneration results in land that is typically designed to be converted for PSA conservation.

C. Generating Additional Ecological, Wildlife and Landscape Diversity Benefits in the Project Area

19. *Achieved, but not measured.* Although the PDO commits that “The Project will also generate additional ecological, wildlife and landscape diversity benefits in the project area,” the payment for environmental services focused on results in the form of hectares. The nature of the COOPEAGRI Project as a payment-for-results program is based on the number of hectares in which natural regeneration, forest plantations and agroforestry systems were implemented, not biodiversity outcomes. Thus, the impact on the generation of ecological, wildlife and landscape diversity benefits in the project area was never directly assessed. However, there is qualitative documentation to support the achievement of this objective.
20. A 2013 World Bank supervision mission with environmental specialists for safeguards compliance confirmed that the Project promoted the increase of forested areas with timber species and associated vegetation by its three means—natural regeneration, forest plantations and agroforestry systems. It should be noted that the natural regeneration modality (387 hectares of the project area) stimulated the growth of secondary forests, which are key for plant biodiversity protection and conservation. For example, measurements using the Shannon Index indicate that young secondary forests in Costa Rica’s Northern region have rates of 63 to 68 percent of primary forest diversity, while secondary forests that have aged to 17 or 18 years exhibit up to 72 to 87 percent of primary forest diversity. Secondary forests play a very important role in water infiltration and conservation of soils, which are very important elements for diverse flora and fauna requiring specific niches.
21. Interviews with farmers from the last WB mission in April 2018 reported their general impression that there had been an increase in the ecological integrity of the project area, including wildlife diversity. Farmers described an increase in the number of different species during recent years in Perez Zeledón county, especially in the forest recovery area. An example frequently mentioned by farmers is an increased sighting of jaguars (*Panthera onca*) in the project area, which is a key indicator of a healthy forest environment.

D. Contracted Land Holders/Beneficiaries

22. *Fully achieved.* FONAFIFO made significant advancements in Component A: Contracting Landholders to Provide Environmental Services and exceeded the Performance Indicator of 150 small and medium sized farmers by 36 percent. FONAFIFO ultimately formalized a total of **204 PSA sub-contracts** spanning 10 districts, 194 towns, and 1 local government in the CDM project area (*Annexes 1, 2 and 3*). These contracts were the basis for the implementation of activities contributing to the PDO: 1) forest plantations, 2) assisted natural regeneration, and 3) successional agroforestry systems. The areas delineated for each type of activity were established by farm owners, supported by COOPEAGRI's Forest Department staff and assisted by FONAFIFO's PSA Program, following the CDM and national guidelines defined in FONAFIFO's PSA manuals.
23. As a result of the COOPEAGRI Project, farmers living in rural areas where more than 65 percent of the country's poverty is located received actual financial income. Farmers were compensated differently based on the specific PSA activity and number of hectares implemented; forest plantations warranted \$816/ha, natural regeneration \$241/ha, and agroforestry systems \$520/ha. Specifics regarding the disbursement and timeframe of benefits are in *Annex 5. Benefit Sharing Plan*.

E. Monitoring and Evaluation of (i) Anthropogenic GHG Removal, and (ii) Social and Economic Impacts

24. *Partially achieved.* The COOPEAGRI Project's progress on Component B: Monitoring and Evaluation was moderately satisfactory. On its own, the monitoring and evaluation of anthropogenic GHG removal, was fully achieved. The verification successfully found that the Project had been implemented in accordance with the registered PDD, and the subsequent registration of tCERs confirmed by the DOE. During the monitoring period (08/01/2006 – 12/31/2012) the total verified net anthropogenic GHG removals by sinks were 23,084 tCO₂e using the CDM-approved methodology AR-AM0004. Although FONAFIFO was unable to get its own methodology approved, the country was successfully able to adapt and implement a new monitoring system developed by Honduras for the CDM.
25. However, the second part of Component B, the monitoring and evaluation of social and economic impacts, was incomplete. The socioeconomic impacts of the Project have not been properly assessed. The Project Entity did not collect and monitor socioeconomic data specifically related to the Project in a systematic fashion. The lack of monitoring of social indicators (employment and income) makes it difficult to measure the impact of the Project in terms of farmers' income and the generation of seasonal, temporary and permanent jobs. However, COOPEAGRI has an extensive socioeconomic database of all farmers in the Cooperative, including social and economic information on all participants.
26. Although no specific analysis has been done with the Cooperative's data on the socioeconomic impacts of the COOPEAGRI Project, by the end of the first commitment period the verification

entity AENOR confirmed in its CDM Validation Report (dated September 24, 2012) that the Project's socioeconomic impacts are considered positive for the region. While the conclusion of the Validation Report was largely based on studies prior to the start of the Project, this context is confirmed by later interviews conducted by the Task Team. A World Bank (WB) mission in April 2018 concluded that the Project generated positive results highly valued by producers, with farmers reporting a better quality of life in the greener forest environment and improved ecosystem services. *Section VII. Safeguards Compliance* elaborates further upon the findings of the Task Team and its social safeguards specialist from the April 2018 mission. Farmers also confirmed their satisfaction when asked about the economic benefits from the PSA payment. *Annex 5* outlines the payments farmers received in the Benefits Sharing Plan, and the observed impacts of these payments by the World Bank are described in *Annex 8* and referenced in *Paragraphs 46-47*.

F. Achieving the Global Environmental Objective

27. *Fully achieved.* The Project was successful in meeting the GEO objectives and succeed in contributing to the stimulation of the market for CERs from Land Use, Land Use Change and Forestry (LULUCF) CDM projects as part of the global effort to reduce global warming by removing carbon from the atmosphere and to cope with climate change in general. The Project also helped raise awareness of the economic, social and environmental potential of Kyoto Protocol CDM reforestation activities at the national and regional levels.
28. The COOPEAGRI Project was one of the first emission reductions projects in the LULUCF sector to be registered with the UNFCCC's CDM Executive Board and issue CERs. The issuance of CERs was an important milestone for the BioCF and FONAFIFO, after working hard to demonstrate that activities can be additional under CDM "despite" the fact that Costa Rica had progressive policies in place for several years. Beyond national benefits, the COOPEAGRI Project provided crucial lessons for future carbon initiatives and the economics of the carbon transaction for countries looking to follow in Costa Rica's footsteps, detailed in *Section VIII. Lessons Learned*.
29. Although the project size was reduced significantly, it is important to highlight the pilot nature of the Project and the contribution of CDM reforestation activities to sustainable development, poverty eradication and capacity building. The Government of Costa Rica, as a global leader on environmental policy issues pioneering the PSA Program and the Declaration on Carbon Neutrality, was committed to the Project in the long-term in order to support the CDM mechanism under UNFCCC, but also as a foundation for further elaborating on other benefit-sharing schemes like REDD+ (Reducing Emissions from Deforestation and Forest Degradation) meant to offset opportunity costs for deforestation and land degradation. Setting the stage for the design of the REDD+ National Strategy, the CDM Project's objectives went beyond mere carbon sequestration to provide benefits for poverty alleviation in addition to climate mitigation and conservation. Even though the country was unable to achieve its own methodology for monitoring GHG emissions, its successful verification of CERs attested to the country's institutional capacity for successful Monitoring, Reporting, and Verification (MRV). These well-established systems in place tie-in with the Letter of Intent (LOI) that FONAFIFO

signed with the Forest Carbon Partnership Facility (FCPF) Carbon Fund to become one of the first countries to access performance-based payments through the FCPF, which now spans 21 developing countries.

V. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOMES

A. Decision to not move Forward into a Second Phase

30. The generation of carbon credits is related to the fulfillment of farmer obligations under the PSA contracts. Once the term of the contracts expires, the Project Entity (PE) no longer has legal instruments to follow up with activities and guarantee the permanence of the trees for the future delivery of Certified Emission Reductions (CERs). Although the Project yielded successful outputs during the first five years, after the PSA contracts ended after their five-year duration, farmers appeared to have lost the momentum to continue a second Clean Development Mechanism (CDM) commitment period for 2012-2017. This probably would not have happened if the initial PSA contract was consistent with the duration of the two CDM periods (2006-2012 and 2012-2017).
31. Forest plantation and natural regeneration activities, as medium-to-long-term activities, tend to be risky. The Melina plantations suffered a *Nectria* fungus infestation, causing the loss of the entire planted area of the species. A mission in April 2018 inspected several plantations and verified the loss of trees. In most of the visited areas, the wood could not be used by farmers since the plague affected the wood's quality, and so the plantations were sacrificed to avoid fungal disease spread. The infestation occurred after the first project commitment period closed in 2012, so the volume of GHG emissions and removals transferred to the BioCarbon Fund (BioCF) was not impacted. However, the loss of biomass from these large trees did impact the decision not to proceed with a second CDM commitment.
32. Beyond natural risks and the loss of the Melina's significant biomass, market forces risked the continuation of the program. A WB mission to the project area in 2018 observed excellent tree growth in native species, especially of Spanish Cedar and Amarillo, with potential to yield the committed CERs. However, FONAFIFO and COOPEAGRI struggled with renewing PSA contracts due to changes in the local context after the first CDM commitment period. The opportunity costs of competing land use farmers faced was an important change:
 - i) *Changing Land Ownership.* With the reported rise of tourism and expatriate retiree settlers purchasing parcels of land in the project area, the new landowners lacked interest in the PSA Program. New landowners were not farmers and did not need the supplemental income from investing in the Program's activities.
 - ii) *Changing Land Values.* As a result of the increased demand for land in the project area, land prices increased and even made low quality pasture more valuable. Because of the opportunity cost for a different land use, farmers with forest plantations and/or natural regeneration activities did not renew the PSA contract

despite the call for projects launched by COOPEAGRI and FONAFIFO. Landowners with agroforestry systems were the only remaining farmers accepting a PSA contract extension in the project area. Unfortunately, the biomass volume and the number of farmers under agroforestry area alone were not enough to deliver the required CER volume for a second CDM commitment.

- iii) *Competition from the existing PSA scheme.* Farmers who were not included in the CDM Project could still be a part of the existing PSA Program and receive the exact same payment. However, the transaction costs for farmers in the CDM Project were higher than those in the local PSA Program because of its strict requirements (described in *Section V.C. CDM Complexity*). As explained in *Paragraph 5*, additionality of the CDM COOPEAGRI Project was about new farmers having access to PSA payments, but no additional money was paid to them compared to the PSA national program.

Furthermore, the lack of clarity regarding the scope and obligations to beneficiaries and stakeholders imposed by CDM guidelines on one side, and by PSA rules on the other side, created a level of confusion because of a double set of guidelines, which led to misunderstandings on the farmers' side, and probably added to the list of reasons for the disinterest in contract extension.

- 33. Due to PSA contracts not being renewed after the first CDM commitment period, the Project faced several complications in acquiring the right to transfer the title of verified CO₂e removals for the full implementation of the Project.

B. Novel Methodology and Processes

- 34. The overall Implementation Progress (IP) has been ranked Moderately Satisfactory. Although the beginning of the Project was marked by a strong commitment and high expectations from the WB and FONAFIFO, IP was rated Moderately Unsatisfactory for some time because of significant delays validating and verifying the Project's activities and deliverables. In recognition that this was dependent on the development of new methodologies at the time (2006-2012), *Annex 7* contains the historical Implementation Status and Results (ISRs).
- 35. The establishment of a new CDM methodology is a very difficult and complex process, described in the next section in detail. Since the Project was one of the first carbon sequestration operations in Central America and in the world, there were some delays in the CDM registration because the Bank, and not only FONAFIFO was unfamiliar with the process. Furthermore, the process was also new to CDM because Afforestation and Reforestation (A/R) rules had only been implemented shortly before.

C. CDM Complexity

36. The risk assessment at the design stage of the Project overlooked the risks associated with piloting a new regulatory modality and market instrument in the CDM regulatory framework. Apart from novel methodologies and pioneering processes, all parties involved had to deal with the underestimated complex bureaucratic processes of CDM AR projects. Because of the drawn-out methodology design process, combined with long approval periods, the Project experienced high transaction costs.
37. The bureaucratic design and approval processes required by CDM rules and Bank operations guidelines delayed the achievement of milestones such as the (i) identification of eligible land and (ii) CER registration and approval, which substantially discouraged farmers and the PE, and ultimately (iii) PSA contract renewal after the first commitment period.

i) Land Eligibility

The strict land eligibility criteria of the CDM have been one of the factors that influenced the area of CDM A/R projects in several countries. Considerable delays in the commissioning of the Project occurred since available CDM land could not initially be identified in the designated project area as it focused on small and medium landholders only, which led to the significant change in the Project Development Objective (PDO) indicator as part of the first ERPA amendment in 2009.

The lack of a match between the lands identified in the public registry and the cadastral plan meant that many lands identified as CDM/Project eligible in the 2005 and 2006 survey could not enter the PSA Program to become a part of the Project. This might have been due to insufficient research on the selection criteria applicable to selected region or uncertainty about the farmers' willingness to participate among the small and medium landholders, which was not identified beforehand.

ii) CER Registration and Approval

The validation of the project activity is a condition to sell and purchase GHG removals and emission reductions under the ERPA. The approval of the methodology in the Project Design Document (PDD) by the Executive Board (EB) of the UNFCCC, is a prerequisite for the validation of the project activity.

FONAFIFO presented a new methodology proposal in 2006, and a revised proposal in 2007 before the EB of the UNFCCC. The EB did not approve the methodology due to project leakage concerns and because the additionality of the Project had not been proved. Therefore, the project activity could not be submitted for validation to the Designated Operating Entity (DOE), the ERPA could not be implemented, and no disbursements made by the BioCF. The Project subsequently decided to use an

existing, approved methodology, but the delay had done its damage to farmers' interest in joining a second commitment period.

iii) PSA Contract Renewal

Part of the reason why FONAFIFO was unable to get all the farmers it expected to sign the contracts was because it was under the impression that the carbon revenue would enable it to pay them. Because of the delay in validation, it had no money to pay the farmers and some dropped out. After the WB Ecomarkets Project had been approved, a loan was taken from it to pay the COOPEAGRI Project farmers, which was paid back with carbon revenues later.

38. Although FONAFIFO had a comprehensive understanding, COOPEAGRI never perceived the difference between the existing PSA and CDM, and thus treated them the same. The only difference according to COOPEAGRI was that farmers in the COOPEAGRI Project could only plant certain tree species. Adding to the misunderstanding was the exclusion of COOPEAGRI from the discussion on tree species selection and carbon sequestration levels. As a result of its lack of knowledge, COOPEAGRI acknowledges that they did not actively promote the Project.

D. Opportunity Costs

39. *COOPEAGRI*. One of the main issues was that people who were not included in the CDM Project could still be a part of the existing PSA Program and receive the same exact payment. COOPEAGRI received its funding from PSA disbursements to farmers, and the Cooperative would receive the same amount of money per hectare or per tree, no matter the size of the Project. Members of FONAFIFO mentioned that they had not thought of increasing the payment when the Project was not going as well as they had expected.
40. *FONAFIFO*. FONAFIFO was facing monetary and staff constraints amidst the COOPEAGRI Project and allocated its human resources to REDD+ given the large grant it received from the German Technical Cooperation Agency (GTZ) and the lucrative potential of the FCPF process.
41. *Farmers*. Although the objective of the government was to use the CDM project to create a new PSA modality for natural regeneration, it was agroforestry that farmers preferred to continue with under the PSA scheme. Agroforestry, the largest group under the CDM Project, allowed small and marginal farmers to improve their revenue stream without the need for large upfront investments. During project implementation, the cost of wood for posts was extremely high. Thus, farmers with livestock had to pay these high costs to engage in forest plantations and natural regeneration and fence off the area in accordance with CDM Project requirements. In addition, any of the Project activities that had boundaries with crops needed to have a fire break in case another farmer was to burn that area. However, a Successional Agroforestry System (SAF) with coffee required no firebreak or clearing of land, making the farmers' costs lower than if another crop was planted in that area.

E. Monitoring and Reporting

42. The Project has profited from the existing monitoring infrastructure of both FONAFIFO and COOPEAGRI, which allowed for an annual monitoring cycle. COOPEAGRI and FONAFIFO carried out professional field visits and attended each participating farm at least once while the contract was effective. Two COOPEAGRI engineers were responsible for the annual monitoring visits, which included environmental, legal and technical assurance of compliance as well as recommendations and guidance on planting procedures.
43. However, a monitoring deficiency was detected by the WB Task Team during an April 2018 mission, mainly linked to the fact that institutions involved in implementation ran out of budget because no payments had been registered since 2013 (the Project was not extended into a second commitment period). According to randomized interviews, farmers reported not receiving adequate technical assistance from COOPEAGRI nor FONAFIFO at the end of the project cycle. Furthermore, farmers and the Project Implementation Unit (PIU) failed to identify the fungal attack on Melina plantations; an early detection of *Nectria* would have avoided the loss. The fungal attack was not present at the end of the first commitment period but started four years later when no supervision budget was available for the Project. This was therefore, another reason not to continue to a second commitment period.
44. Overall performance and quality of WB supervision was not optimal. Although effective for the moderately satisfactory achievement of the PDO, the overall quality of WB supervision was not ideal. It is important to note that despite the supervision budget available in the post-implementation phase of the Project, it was not enough to continue monitoring after 2012. Since there was no certainty about implementation of the second commitment period, the supervision budget was limited to three visits in six years which covered travel expenses, but salary was not included and so safeguards, legal and financial management specialists traveled two times in the 2012-2018 period. Overall supervision was still the responsibility of the WB and the PE, including both FONAFIFO and COOPEAGRI. WB supervision missions and COOPEAGRI's work barely survived after the CERs were transferred to the BioCF in 2012, when discussions on closing/extending dates (2012 or 2017) were taking place.
45. Although the Bank initially undertook a robust Monitoring, Reporting and Verification (MRV) system, the country had only two training sessions in the project area, which did not generate expertise in the government and created a dependency on consultants. Section IV. E describes the monitoring of anthropogenic GHG removals using a methodology from Honduras since the one Costa Rica developed and revised for this Project never received approval (see *CER Registration and Approval in Section V.C.ii*).
46. As previously mentioned in Section IV.E, social impacts were neither systematically identified nor recorded. FONAFIFO required strengthening the identification, documentation and incorporation of participants' socioeconomic data into their information management system. Component 3C of the Ecomarkets II Project was supposed to support this effort and strengthen FONAFIFO's monitoring system related to measuring the socioeconomic impacts of its PSA, with a emphasis on the poor as well as small and medium-sized landowners. No socioeconomic monitoring system was created, but by the end of the Ecomarkets II Project in 2013, FONAFIFO

was able to document impacts of the PSA and the Center for Tropical Agricultural Research and Higher Education (CATIE) completed a study on the socioeconomic impacts of PSA in the country overall. The result of the former's beneficiary survey is in Annex 8, but it should be noted that it is predominantly based on anecdotal evidence and not specific to the impacts of the COOPEAGRI Project. Nevertheless, the Ecomarkets II impact results coincided with the results of another impact survey documented by the COOPEAGRI Task Team during its last mission in 2018.

47. The main expected benefits from the interaction of Ecomarkets II and the COOPEAGRI Project were that the two projects contributed to conservation of biodiversity, increase in the participation of small forest owners, and public recognition that intact forests and their environmental services are valuable. Anecdotal evidence found during the preparation of the Implementation Completion Report (ICR) for both Ecomarkets II and COOPEAGRI Projects shows that participants used the Programs' resources for various activities with significant development results in environmental, social and economic aspects, especially in the context of strengthening administrative, organizational and financial management capabilities. The direct insertion of capital into the local family economy represented for both the Ecomarkets II and COOPEAGRI Projects an opportunity for farmers (Finqueros) to acquire food, clothing, and the improvement of the standard of living with access to basic services. Members of the communities had direct access to increased income at national scale with Ecomarkets II and at the municipal scale in the canton of Perez Zeledón with the COOPEAGRI Project. In summary, the COOPEAGRI CDM project benefited from the Ecomarkets project because throughout the PSA, Finqueros had the potential to promote conservation and reduce vulnerability of the rural poor through the provision of additional income and financial stability. The PSA has promoted the diversification of land use and the adoption of improved farming practices, such as agroforestry systems, generating environmental services and contributing to local food security (*Annex 8*).
48. The Project obtained certification in accordance with the criteria laid out by the Forest Stewardship Council (FSC) on June 16, 2005. Even though COOPEAGRI did not continue to pursue the certification due to little demand for FSC certified timber and associated certification costs in the region, the 2016 certification was considered good enough evidence to acknowledge absence of negative environmental and social impacts after the end of the commitment period in 2012.

VI. BANK AND PROJECT ENTITY PERFORMANCE

A. Relevance, Efficacy and Efficiency

The relevance of the objectives, the Project's efficacy in achieving stated objectives, and efficiency are detailed below. The Project's High Relevance, Substantial Efficacy and Substantial Efficiency contribute to the Moderately Satisfactory Overall Outcome Rating.

49. **Relevance.** At closing, the Project remained relevant with the FY16-FY20 Country Partnership Framework (CPF) for the Republic of Costa Rica, approved by the Board on May 26, 2015, committed to expanding the country's capacity to promote climate-smart and environmentally sustainable development in the context of Pillar 2: Bolstering Fiscal, Social, and Environmental Sustainability. The COOPEAGRI Project is highly relevant to Paragraph 88 of the CPF: "*The Government seeks to build off the successful Payments for Environmental Services program and promote a broader, resilient, productive landscape vision that will contribute to sustainable livelihoods of the rural population. At the same time, there is the need to diversify funding sources for the payment system, put in place sustainable incentive structures, and be less reliant on a fuel tax in the long-term.*" As reported in *Section VIII.A. Lessons for the Country*, the COOPEAGRI Project's contribution to technical discussions for implementing projects at small-scale, the importance of scaling up projects and approaching new/evolving methodologies left the country well-prepared to meet the guidelines of national scale programs. The COOPEAGRI Project, along with the Ecomarkets Payment for Environmental Services Program, PSA, helped provide an important foundation for other initiatives. Costa Rica is one of the first countries to enter the pipeline to access performance-based payments through the FCPF; it is one of the first countries in Latin America and the Caribbean to prepare an ERPA and has taken the first steps in the Partnership for Market Readiness (PMR) towards decarbonization.
50. **Efficacy.** *Paragraph 53* explains how Bank support contributed to high efficacy of the Project despite the novelty of CDM mechanism. The successful issuance of Certified Emission Reductions (CERs) was an important milestone for the BioCarbon Fund (BioCF) and FONAFIFO, which along with the Ecomarkets PSA, helped provide an important foundation for other initiatives. PES payments to farmers fully achieved are attributable to the actions supported by the Project. Efficacy of payments was Satisfactory, and payments were very efficient at promoting natural regeneration, establishing forest plantations and implementing and sustaining agroforestry systems.
51. **Efficiency.** Only 67 percent of the project area was achieved and the Project Entity (PE) failed to extend PSA contracts into a second commitment period. Despite the Project's relevance and efficacy, its overall efficiency is rated Moderately Satisfactory as per the assessment in *Paragraphs 52 to 56*. Nevertheless, the successful registering CERs to the CDM and capacity of the country to work under a specific CDM methodology benefited other initiatives, such as the preparation of the FCPF ERPA and continuation of the PSA, which are partially attributed to the relevance, efficacy and lessons learned from this pilot experience.

B. Assessment and Rating of Overall Bank Performance

52. Overall, the World Bank's implementation performance has been Moderately Satisfactory. Despite inconsistencies with regards to supervision and delays in pioneering new methodologies, the Project delivered the main goal of the PDO, GHG Certified Emission Reductions.
53. FONAFIFO emphasized that the Bank's support, and more specifically the BioCF technical specialists, was particularly helpful and worked intensively with FONAFIFO to prepare the Project Design Document (PDD) and shape the additionality argument. This was crucial for getting the first round of (temporary Certified Emissions Reductions) tCERs registered with the CDM. Throughout the Project, the Bank provided support on navigating through the evolving CDM process that was highly novel not only to Costa Rica and the PE, but also CDM itself.
54. However, in areas where institutional learning could be shared, there was a lack of effective communication and interaction between participating Bank units. This may have lost opportunities to more efficiently solve some of the Project's challenges. For example, the Regional Unit of the Bank had gathered expertise from the FONAFIFO's PSA Program in the framework of the WB Ecomarkets I and II Projects, which could have prevented the overestimation of biomass growth from forest plantations in the COOPEAGRI Project. Reforestation had received little attention and interest in Costa Rica within the PSA Program. If this knowledge, especially on transaction costs, had been considered when formulating the objectives of the COOPEAGRI Project and shaped accordingly, the revision may not have needed to be as substantial, especially regarding the forest plantation area correction downwards.
55. Furthermore, frequent changes in Task Team leaders and members may have manifested a lack of consistency in supervision. FONAFIFO experienced significant difficulties receiving responses from assigned Bank staff in some phases of the Project, especially related to important administrative issues. Long delays were experienced for approving Terms of References for local consultants hired to assist with critical challenges. This was viewed as a major factor behind why the period between Project appraisal and actual implementation was much longer than anticipated, which finally may have caused some farmers to drop out. Moreover, the lack of Bank responsiveness left the PE with the impression that due to the small scale of this Project and based on experiences with previous projects, the Bank did not provide the amount of attention it deserves. This of course refers to the second commitment period, which was cancelled and not income was registered for the PE and so supervision budget for the Bank was mostly spent in the first commitment period.
56. Missing a clear strategy on behalf of the Bank, along with frequent project management changes and consequent modifications in the approach and interpretation of CDM activities caused frustration at FONAFIFO.

C. Assessment and Rating of Overall Project Entity Performance

57. The performance of the PE, FONAFIFO, has been Moderately Satisfactory. The PE has been highly committed, especially at the beginning of the Project. However, it seemed to experience some process fatigue with the Project up until the issuance of the first CERs. This is partially due to the arising complexities and challenges in the CDM program, as well as competing demands to advance Costa Rica's REDD+ agenda with limited human and monetary resources.
58. Project implementation and outcomes ultimately profited from the close collaboration between FONAFIFO and COOPEAGRI, as well as existing knowledge and experiences with the PSA Program. Because of the continued efforts and strong commitment by the PE, the PDD was approved by the UNFCCC and the Project was registered with the CDM by December 31, 2012 (the end of the first Kyoto Protocol commitment period), allowing for the verification and first issuance of CERs in September 2013.
59. Without the PSA Program in Costa Rica, it would have been impossible to reach the Project's goals. The Project highly profited from the benefit distribution system already established by FONAFIFO. By virtue of the PSA structure, payments for CERs transferred to the BioCF were able to be allocated in advance through PSA contracts with beneficiaries even though no payment had been received from the Bank.

VII. SAFEGUARDS COMPLIANCE

60. The Project was rated as Category B due to the potential negative environmental, natural habitats, and forestry impacts. During implementation and supervision, environmental performance has been satisfactory.
61. The Project Entity (PE) has demonstrated its capacity to carry out key functions related to safeguard requirements. Although monitoring and supervising actions must be improved, the FONAFIFO, as well as COOPEAGRI, satisfactorily responded to issues arising throughout the project cycle.
62. The Project's screening category was S2, as "one or more safeguard policies were triggered, but impacts were limited technically and institutionally manageable". The WB Safeguard Policies triggered by the Project were the Environmental Assessment (OP 4.01) focused on Forests (OP 4.36) and Pest Management (OP 4.09). Environmental assessment and management had been a part of FONAFIFO's PSA monitoring scheme and played a central role in COOPEAGRI's business strategy, already prior to Project implementation. Moreover, due to the high environmental awareness in Costa Rican society, there is a culture of denunciation that helps identify and penalize misconduct related to illegal logging, burning, etc.

63. According to COOPEAGRI, in cases of misconduct or spread of a pest for example, the assigned technical staff usually handled and resolved issues on site. Therefore, if misconduct was not officially denounced, COOPEAGRI did not systematically document specific cases since they were usually resolved directly and rather informally. Issues that occurred during the project period differed case by case, and so no standardized procedure was applied to resolve them. Issues included: (i) farmers entering the contract and then physically disappearing, forcing COOPEAGRI to track them down; (ii) others only appeared for the annual COOPEAGRI monitoring visits because they lived on a different site; (iii) some were simply seeking frequent detailed guidance on planting issues. COOPEAGRI's engineers, as technical personnel responsible for PSA contracts, reported any anomaly or suspicion of noncompliance to FONAFIFO, which proceeded with the corresponding actions. In some cases, PSA payments stopped and/or the Program initiated administrative processes for the recovery of resources.
64. Overall, the Bank carried out several supervision missions, two of which inspected compliance with environmental and social safeguards. The first Bank supervision mission that included environmental specialists took place in September 2013 as part of the verification process; environmental safeguards compliance of the Project was deemed satisfactory, with no documented concerns. According to OP 4.36, the project did not promote the conversion or degradation of critical forested areas nor related critical natural habitats.
65. In terms of OP/BP 4.09 on Pest Management, during visits carried out on selected farms and conversations with their respective owners, the use of pesticides was found to be very low. In forest plantation projects, a mixture of nitrogen, potassium and phosphorus is applied as fertilizer and weeds are removed manually. Pesticides (glyphosates) are usually used in SAF projects that include coffee. Although the pesticides used (glyphosate) are within the permitted categories according to the environmental study carried out by the project in 2005, interviews with farmers revealed that COOPEAGRI had not developed workshops aimed at improving the awareness and understanding of Project participants on the application of pesticides. One interviewed beneficiary informed the mission about pesticide spraying without the use of protective masks.
66. Social safeguards policies were not triggered by the Project, as it was expected to only have positive impacts on the local communities in terms of employment generation, technology transfer, and training. It is important to mention that there are no indigenous areas within Pérez Zeledón, i.e. project activities were not at risk for causing any resettlement or limiting access to lands previously used by Indigenous people.
67. During the last mission of the Project in April 2018, the WB Task Team and its social specialist carried out interviews with farmers (10 percent of project area participants). As previously mentioned, the Team documented the farmers' general impression that there had been an increase in the ecological integrity of the project area, including wildlife biodiversity, maintenance of waterways and water levels, and reduction in forest wildfires. Farmers in the project area strongly agree that the environmental improvement translated into an improvement of living conditions within the family group. However, although the mission reported the advancement of natural capital in the project area, social capital was still

perceived as low.

68. The Task Team did not find evidence to confirm that the Project had generated more employment. The need for the head of the family to work outside of the project area did not diminish. Despite increased recognition with respect to trees as a means of savings for farmers to resort to in the future, ignorance regarding the availability of the wood available and its economic value remains. Farmers lack information and advising on wood pricing and marketing.
69. The Task Team's interviews verified farmers' deep commitment to forest maintenance and environmental conservation. There was a significant appreciation of the results obtained with the Project in terms of environmental improvement, and a sense of pride from the farmers for the conservation activities they carried out. The inclination of owners to reforest again with a change in species and planting method was noted; however, farmers would need assistance regarding the issue of opportunity costs to establish new plantations.

VIII. LESSONS LEARNED

A. Lessons for the Country

70. *The Clean Development Mechanism (CDM) Project leveraged Costa Rica's creativity and participation in climate change mitigation and adaptation projects a national scale. It demonstrated that the activities can be considered additional under the CDM or similar schemes, even with Costa Rica's early actions on conservation and forest management. Farmers that were not involved in a PSA Program prior to the Project have now been engaged. Important lessons include the general understanding of the CDM methodology and processes, technical discussions on requirements and limitations to implement projects at small-scale and the importance of scaling up projects and approaching new/evolving methodologies. The latter left the country well-prepared to meet the guidelines of the Forest Carbon Partnership Facility (FCPF). The knowledge gained in the process also provided insights for the generation of a national scale Emissions Reductions Purchase Agreement (ERPA) for REDD+ and the design of Costa Rican Offsetting Units (UCC), explained below.*
71. *The successful issuance of Certified Emissions Reductions (CERs) was an important milestone for the BioCarbon Fund (BioCF) and FONAFIFO, which along with the Ecomarkets PSA, helped provide an important foundation for other initiatives. Costa Rica was one of the first countries to enter the pipeline to access performance-based payments through the FCPF and has taken the first steps in the Partnership for Market Readiness (PMR) towards decarbonization. PMR support expands the scope of the CDM Project, with plans to design a domestic carbon market, UCC, build capacity for GHG reporting, and consolidate the supply of emission units across a range of sectors beyond forestry, including energy, mining, transportation, and others.*

72. *Key aspects of the CDM Project experience and learning contributed to the design of the UCC.* Although the CDM had been shifting away from the project-level approach in favor of a more programmatic system, the UCC promotes the development of sectoral GHG mitigation programs to simplify project development, lower transaction costs and scale up GHG mitigation. The approval and issuance of UCCs has been designed to be flexible and less complex than the CDM. The Government of Costa Rica sought to reduce costs and barriers to entry, especially for small-scale projects. CDM revenue is only generated once the project is registered and credits issued, but transaction costs are incurred up-front. The voluntary UCC will impose fewer transaction costs than CDM through the participation of national experts in the validation and verification process, protocols to standardize Monitoring, Reporting and Verification (MRV) methodologies and procedures, and reducing administrative costs and delays from the international level of the CDM to a national level. The methodologies for small-scale projects have also been simplified in comparison to large-scale projects in order to lower the high startup costs that would burden small-scale developers under the CDM.
73. *Implications for policies on land use incentives.* The farmers' decision to not continue the CDM Project provides insights for land use incentives such as PSA and farmer extension systems in situations with competing land uses. Although the objective of the government was to use the CDM Project to promote natural regeneration as a new PSA modality, farmers preferred agroforestry because it increased their revenue without a large investment on their part. Costa Rica's PSA scheme did not account for differences in land use opportunity costs—degraded land receives the same payment as biodiversity-rich primary forest per hectare. Bringing to light such considerations as ex ante payments for capital investments or a sliding scale for the PSA, this information informs the appropriate prioritization and targeting of land use incentives desired through public policy in the PSA, CDM, and the UCC as the future Costa Rican carbon offset mechanism.

B. Lessons in the Economics of the Carbon Transaction

74. *Overestimation of CER Potential.* It is important to have a better analysis of the current and future environment regarding a project's scope, including baselines and project implementation activities' actual capacity to reduce/remove GHGs. Projects should forecast realistic goals and buffers instead of being too ambitious, which could lead to frustration when the volume of CERs is not met like in this Project.
75. *Project beneficiaries should stick to a single regulation or should be compensated for additional efforts to comply with additional international regulations.* International and national guidelines required additional coordination efforts from the Project Entity (PE) and local stakeholders. Additionally, overlapping CDM guidelines to already existent PSA guidelines forced project participants to develop stronger quality controls at the same cost, further discouraging farmers from continuing into a second commitment period. The PSA and CDM methodology were not enough to attract small farmers in the long run. Clearly, a longer PSA contracted period was needed which at least matched the two original CDM commitment periods. This is a lesson to consider when signing future emission reduction payment agreements.

76. *PSA can have an impact to the extent that the net payment for environmental services is higher than the income from an alternate activity.* The Project found that natural regeneration may not be a profitable activity when the land is subject to PSA payments only, resulting in an approximate net loss of US\$ 70/ha. Agroforestry systems and forest plantations can, however, be (marginally) profitable even without project support. However, PSA payments are still needed as initial costs are high and there are long periods without income, and final returns are uncertain due to the nature of forests (e.g., pest, fire). Further attention, beyond current payments from PSA, may need to be directed towards strategies to make reforestation/forest plantation activities attractive to small and medium landholders. Agroforestry systems met all CDM and PSA guidelines and have met farmer demands, equaling or exceeding opportunity costs.
77. *Work with partners to harmonize projects across the same area and consider the compatibility of local and national results-based programs with ongoing performance programs with different metrics, expectations and operational arrangements.* As discussed in Section V, the COOPEAGRI-CDM Project faced competition from the existing PSA scheme. The similarities and differences in the pay-for-performance approach of the PSA Program and the CDM caused confusion and mismatched expectations.
78. *Learning from this competition between national and local scale projects, it was evident that the PE decided to focus on the former and that the country is more readily able to follow national scale projects than local ones.* Considering the lessons learned, we are now seeing that the more contemporary FCPF ERPA Project and the Green Climate Fund proposals actively seek to complement one another and mitigate competition. For example, the Green Climate Fund will report emission reductions for the years 2014 to 2017, and the FCPF proposal will cover emission reductions between 2018-2024.
79. *Future work to generate CERs needs to not only monitor the proper execution of the Project, but also monitor the economic environment, including the demand for forest products and changes in opportunity costs for competing activities.* There are warning signs that need consideration. The high cost of wood impacted the entry costs for farmers to engage in the forest plantation activity, leading to the overestimation of the expected volume of potential GHG removals and emission reductions.
80. *A ten-year PSA contract instead of five would have given farmers more motivation to complete two CDM commitment periods.* In the future, WB and PSA GHG emission reductions/removals projects should sign contracts for periods of at least ten years to guarantee extended ER title transfer. The lessons learned from the PSA have an opportunity to be implemented in the new ERPA that has been discussed between Costa Rica and the Bank for a national scale emission reductions program. The PSA contracts to be signed should be long enough to allow farmers to complete the ERPA project cycle and beyond.

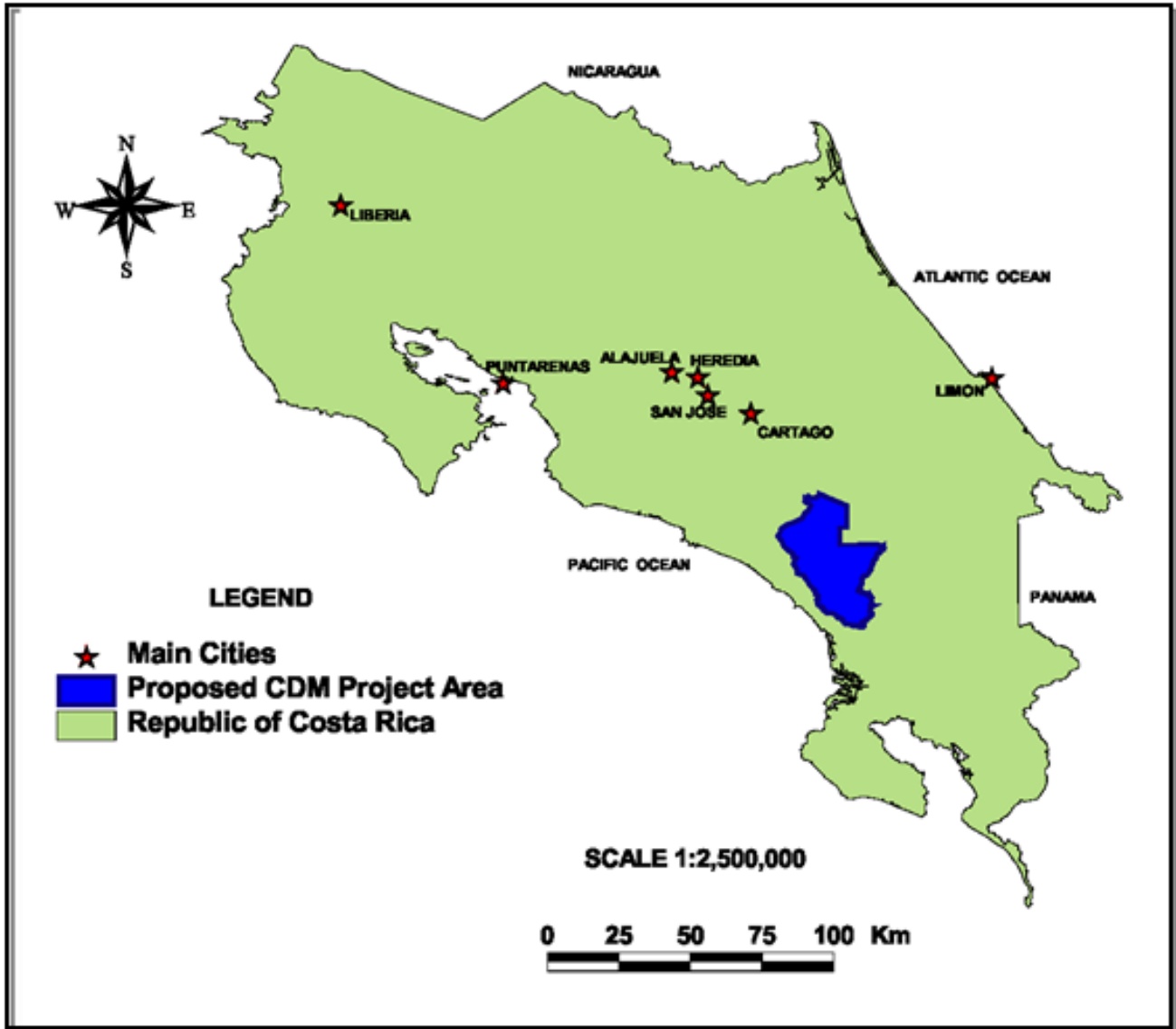
C. Lessons for Future Carbon Initiatives

81. *Underestimated costs left no financial value-added for the PE.* The participation of farmers in Pérez Zeledón was encouraged through annual PSA payments, as small and medium landholders depend on regular income. Hence, revenues generated from the sale of carbon credits were meant to be a further source of funding for FONAFIFO's PSA Program. However, the Project fell significantly behind the initial financial expectations of both FONAFIFO and COOPEAGRI. Additionally, the novelty of this project led to frequent changes of methodology and involved a long registration process with CDM, which led to a substantial underestimation of the transaction costs involved. As previously mentioned, the risk assessment at the design stage of the Project appears to have overlooked the risks associated with piloting a new regulatory modality and market instrument involving the CDM.
82. *Projects dealing with new climate change methodologies should factor in delays and additional costs in the implementation plan to avoid client demotivation.* Supervision costs including staff time and travel should be carefully planned and the task team should factor in unexpected delays in the implementation plan. As evidenced by this Project, excessive time delays can be a demotivating factor for government project entities and/or farmers/project stakeholders. These delays increased staff time and operations costs for both the Bank and the PE.
83. *Programs that rely on payments for emission reductions must therefore strike a balance between efficiency and quality assurance.* The CER registration process needs to be simplified and streamlined to ensure that transaction costs are minimized, particularly for smaller scale land use projects. At the same time, carbon credits need to be technically robust so that market participants will have confidence in their quality and validity.
84. *Promoting country and partner ownership of the MRV.* A greater support from the World Bank is required in terms of promoting country ownership on the monitoring systems. Without country ownership in data collection and management, the sustainability of project advancement and independence is undermined. This may also put the country at risk, as was the case with the fungal infestation of Melina plantations that reduced the available biomass to generate CERs. Furthermore, additional engagement with COOPEAGRI at the design stage could have prevented the lack of differentiation between the existing PSA and CDM schemes. Consultative platforms and inclusive communication strategies are now critical components for national REDD+ strategies.
85. *Future projects on climate change need to monitor co-benefits.* Apart from knowledge gained on the importance of scaling up project activities and the design of programs at national scale, the Project has likely generated co-benefits related to hydrological regimen and biodiversity. However, these benefits were not quantified, so no quantitative conclusion can be made on the ultimate effects, except for the positive comments provided by farmers during interviews at Project closing. Co-benefits should be measured in future projects as data can be converted into a negotiation CER prize-tool.

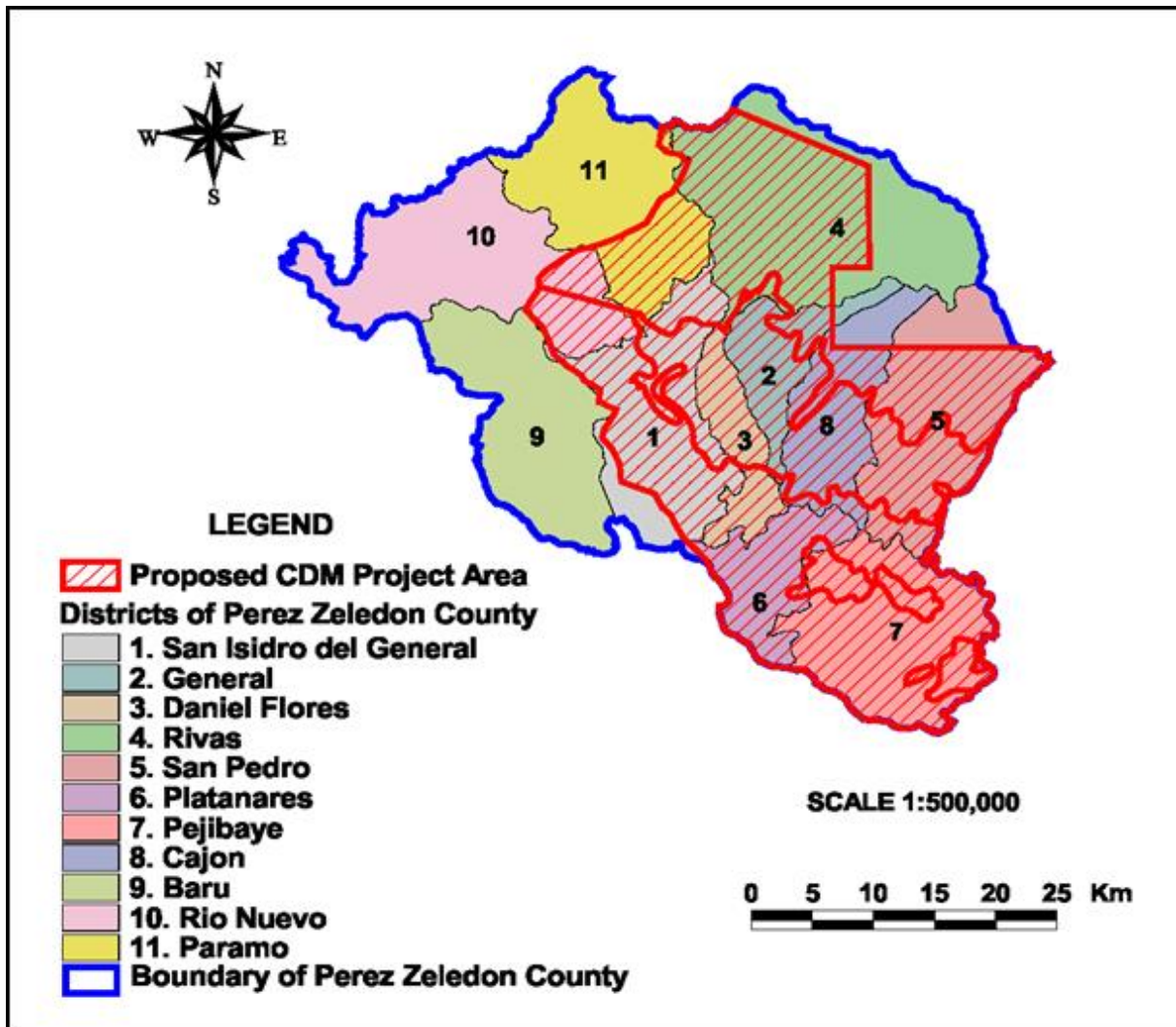
86. *Replicability.* The experience generated with the CDM-COOPEAGRI Project can be capitalized by the Bank for future projects in other latitudes, to maximize the positive outputs in climate change projects. In this sense, it is considered that the project was a valuable learning laboratory for all the parties involved. In fact, lessons learned from the PSA and the COOPEAGRI CDM Project have benefited other programs beyond Costa Rica.

IX. ANNEXES

Annex 1. Location of the CDM project area in Costa Rica



Annex 2. Districts of Pérez Zeledón Canton (County) and proposed CDM project area



Annex 3. List of Discrete Parcels of Land (Farm Scale) Under the Control of the Project

Participants and location of parcel centroids (WGS84) Latitude and Longitude in Degrees.

Farmers' Name	Contract Number	Longitude	Latitude
ABEL ALBERTO VARGAS PICADO	SJ-02-23-0096-2008	-83,71915	9,39962
AGROINVERSIONES MONTE VERDE DEL SUR S.A.	SJ-02-20-0148-2009	-83,47938	9,28893
		-83,47861	9,29063
ALBERTO ELIZONDO VALVERDE	SJ-02-23-0168-2008	-83,54105	9,13638
		-83,54104	9,13591
		-83,54074	9,13525
ALEJANDRO MORALES DIAZ	SJ-02-20-0169-2008	-83,67180	9,23634
ALVAREZ AZOFEIFA ISIDRO	SJ-02-20-0341-2007	-83,56565	9,21211
AMADOR HIDALGO ISIDRO	SJ-02-20-0067-2007	-83,57750	9,24049
		-83,57614	9,24086
ANAPIAN DEL SUSR S.A	SJ-02-231-0021-2009	-83,75398	9,39335
		-83,75351	9,39428
		-83,75330	9,39304
ANGULO ARIAS JORGE ARTURO	SJ-02-28-0003-2007	-83,63286	9,51764
ANGULO SERRANO SANTIAGO	SJ-02-28-0033-2006	-83,63592	9,51273
ARCE ESPINOZA SALVADOR	SJ-02-23-0052-2007	-83,53206	9,09198
	SJ-02-23-0058-2006	-83,53135	9,09169
ARGUEDAS CORDERO JOSE LUIS	SJ-02-23-0040-2007	-83,65443	9,36612
ARIAS GAMBOA EDITH DEYANIRA	SJ-02-20-0049-2006	-83,70613	9,49680
ARIAS JIMENEZ MARIO ULISES	SJ-02-23-0044-2007	-83,52586	9,29327
		-83,52399	9,29222
ARIAS SEGURA WILSON	SJ-02-23-0069-2008	-83,54165	9,26375
		-83,54137	9,26438
ARIAS VARGAS EFREN	SJ-02-23-0041-2008	-83,60556	9,15858
BARBOZA MESEN JOSE	SJ-02-23-0081-2006	-83,57733	9,14336
BARRANTES CALDERON OVIDIO	SJ-02-23-0051-2006	-83,73527	9,45523
BENIGNO FLORES MONTERO	SJ-02-23-0201-2008	-83,74563	9,37686
		-83,74554	9,37787
		-83,74533	9,37717
BENJAMIN FALLAS MORA	SJ-02-23-0053-2009	-83,68648	9,25145
		-83,68596	9,25086
BLANCO CHINCHILLA FERNANDO	SJ-02-23-0092-2008	-83,65257	9,17429
BORBON BORBON ADRIAN	SJ-02-23-0164-2007	-83,65370	9,49371
		-83,65243	9,49696
BRENES BARRANTES CEMAGGO S.A.	SJ-02-28-0138-2007	-83,65014	9,46842
BUENAVENTURA VALVERDE CAMAHO	SJ-02-23-0312-2009	-83,70738	9,50012
CALDERON FONSECA MIGUEL ANGEL	SJ-02-23-0228-2008	-83,66019	9,44022
		-83,65967	9,43956
		-83,65953	9,44056
CALDERON SANDI GABRIEL	SJ-02-23-0229-2007	-83,51414	9,29438
CAMPOS MENA BENIGNO	SJ-02-23-0174-2007	-83,58644	9,20947
		-83,58543	9,21125

CAMPOS ROJAS EULOGIO	SJ-02-23-0139-2008	-83,63022	9,23168
CARLOS NAVARRO SANCHEZ Y JOBO FAUSTINO NAVARRO A.	SJ-02-23-0260-2009	-83,61090	9,22896
		-83,61088	9,22959
CARRANZA VARELA ELI ANGEL	SJ-02-23-0075-2006	-83,63527	9,16652
CARVAJAL ARIAS ALEXIS	SJ-02-20-0355-2007	-83,59429	9,16254
CARVAJAL ARIAS MIRTA LILLIAM	SJ-02-23-0046-2007	-83,62094	9,16688
	SJ-02-23-0047-2007	-83,62168	9,16634
CERVANTES MOLINA HUGO	SJ-02-23-0092-2006	-83,70548	9,31734
CERVANTES VARGAS MARITZA	SJ-02-20-0069-2007	-83,70521	9,31680
CESPEDES ARIAS JOSE	SJ-02-23-0070-2008	-83,54550	9,30047
CHAVARRIA MONTERO ALICIA	SJ-02-23-0035-2007	-83,58329	9,25716
		-83,58244	9,25675
CHINCHILLA NARANJO YAMILETH	SJ-02-23-0170-2007	-83,54331	9,19019
CORDERO SALAZAR GIOVANNY	SJ-02-20-0064-2007	-83,64699	9,30818
	SJ-02-20-0065-2007	-83,53072	9,30491
		-83,53052	9,30329
		-83,53023	9,30410
		-83,52999	9,30636
	SJ-02-20-0066-2007	-83,64610	9,30807
CORDERO SALAZAR ISLAND	SJ-02-20-0072-2007	-83,53552	9,31412
CORDERO SANCHEZ ROSITA	SJ-02-20-0169-2006	-83,74179	9,38362
CORPORACION EFESTOS S.A.	SJ-02-23-0034-2009	-83,66992	9,42888
CRISTOBAL MARTINEZ MARIN	SJ-02-23-0146-2009	-83,62611	9,43900
DAMARIS VALVERDE ZAMORA	SJ-02-28-0095-2009	-83,69088	9,44501
DANILO NAVARRO BARRANTES	SJ-02-23-0277-2009	-83,74518	9,30632
DELGADO MORA NERY MANUEL	SJ-02-23-0059-2007	-83,58814	9,33016
		-83,58750	9,32966
DELGADO NARANJO MINOR	SJ-02-23-0053-2006	-83,60498	9,24180
DIAZ DE AURA S.A.	SJ-02-20-0059-2008	-83,77289	9,35550
DIMAS ELIZONDO ARIAS	SJ-02-231-0042-2009	-83,61613	9,16119
DIRIAN CORDERO CASTRO	SJ-02-23-0321-2009	-83,65353	9,41929
		-83,65242	9,41834
DORA EMILIA NAVARRO VARGAS	SJ-02-23-0068-2008	-83,59022	9,30263
		-83,58981	9,30234
DULCE MARIA ASTUA CAMPOS Y CARLOS LUIS PORTUGUEZ	SJ-02-23-0035-2009	-83,53857	9,14317
DULCE MARIA BORBON URENA	SJ-02-23-0268-2009	-83,48153	9,28472
		-83,48133	9,28494
ELADIO LEIVA MARTINEZ	SJ-02-23-0092-2009	-83,66134	9,22077
		-83,66102	9,22108
ELIA FALLAS BARRANTES	SJ-02-23-0309-2009	-83,70671	9,44194
ELIZONDO CHAVEZ GREDIN	SJ-02-23-0175-2007	-83,54364	9,09732
		-83,54336	9,09668
		-83,54266	9,09796
	SJ-02-23-0229-2008	-83,54337	9,09767
		-83,54194	9,09665

ESTRADA CAMPOS ALBERTO	SJ-02-20-0004-2007	-83,54591	9,28090
	SJ-02-20-0007-2007	-83,54533	9,28058
	SJ-02-20-0082-2006	-83,55141	9,29987
	SJ-02-20-0085-2006	-83,54925	9,29847
	SJ-02-20-0086-2006	-83,54841	9,30133
EVELIA CARVAJAL ARIAS	SJ-02-23-0033-2009	-83,60907	9,17184
FALLAS QUESADA ROBERTO	SJ-02-23-0055-2007	-83,62027	9,17189
FALLAS VARGAS RODOLFO	SJ-02-23-0058-2007	-83,60306	9,15511
FAUSTINO VILLAREVIA URENA	SJ-02-23-0038-2009	-83,60783	9,47375
	SJ-02-23-0052-2009	-83,63062	9,48547
FERNANDEZ FALLAS PEDRO	SJ-02-23-0245-2008	-83,61375	9,24939
		-83,61293	9,24884
	SJ-02-23-0249-2008	-83,61047	9,24999
FERNANDEZ Y ASOCIADOS S.A.	SJ-02-23-0310-2009	-83,53547	9,12365
		-83,53516	9,12213
		-83,53507	9,12304
		-83,53484	9,12178
FINCA VISTA DEL VALLE VERDE S.A.	SJ-02-23-0194-2008	-83,73251	9,31588
FONSECA NAVARRO ALFREDO	SJ-02-23-0182-2008	-83,66071	9,44844
		-83,66066	9,44704
FONSECA SEGURA MIREYA	SJ-02-23-0136-2007	-83,50908	9,34741
FONSECA VALVERDE FABIO	SJ-02-28-0168-2006	-83,64671	9,48646
GARCIA CISNEROS LUIS ALBERTO	SJ-02-23-0020-2007	-83,60255	9,16162
		-83,60192	9,16207
GERARDO ISAIAS RETANA SIBAJA	SJ-02-23-0323-2009	-83,73715	9,39016
		-83,73621	9,39105
		-83,73573	9,39101
		-83,73550	9,39122
		-83,73546	9,39147
		-83,73532	9,39130
GONZALEZ GARCIA JOSEFA	SJ-02-23-0042-2007	-83,60243	9,31926
GRANADOS DUARTE MIREYA	SJ-02-23-0074-2007	-83,49153	9,29737
		-83,49106	9,29764
GRUPO GEMAZA GMZ S.A.	SJ-02-23-0268-2008	-83,61979	9,27192
		-83,61916	9,27246
HERNANDEZ CORDERO HENRY	SJ-02-23-0112-2006	-83,60290	9,24247
HERNANDEZ UMANA JUAN ANTONIO	SJ-02-23-0064-2006	-83,54546	9,09954
HIDALGO NAVARRO EVANGELISTA	SJ-02-20-0358-2007	-83,74527	9,35270
		-83,74517	9,35424
HILDA ZAMORA PEREZ	SJ-02-23-0183-2009	-83,63710	9,20641
INGENIERIA GONZALEZ S.A	SJ-02-23-0251-2009	-83,55769	9,25242
INVERSIONES AGROPECUARIAS ARAYA NARANJO REM DEL SUR S.A.	SJ-02-20-0195-2008	-83,53325	9,18019
INVERSIONES LEANZU DE PEREZ ZELEDON S.A.	SJ-02-23-0072-2008	-83,55089	9,31671
		-83,55061	9,31740
		-83,55041	9,31557
	SJ-02-23-0307-2008	-83,54907	9,31431

INVERSIONES Y BIENES RAICES YURIDIA DE SAN PEDRO S.A.	SJ-02-23-0267-2009	-83,51615	9,32132
		-83,51477	9,32315
		-83,51353	9,32112
		-83,49754	9,31632
ISIDRO RAMIREZ ACUNA	SJ-02-23-0039-2009	-83,60790	9,24975
JIMENEZ FERNANDEZ DULCELINA	SJ-02-23-0036-2007	-83,72230	9,42524
		-83,72207	9,42473
JIMENEZ FERNANDEZ JOSE LUIS	SJ-02-20-0354-2007	-83,51642	9,24264
JIMENEZ HERNANDEZ JULIO	SJ-02-23-0138-2008	-83,63634	9,17736
	SJ-02-23-0228-2007	-83,63937	9,18066
JIMENEZ LEIVA BERNAN	SJ-02-23-0250-2008	-83,53615	9,32122
		-83,53576	9,32148
JIMENEZ VILLALOBOS OMAR	SJ-02-28-0032-2006	-83,62140	9,52825
JIREH SALOM S.A.	SJ-02-28-0087-2006	-83,78688	9,37121
	SJ-02-28-0088-2006	-83,77906	9,37410
JOSE ALBINO BEJARANO ELIZONDO	SJ-02-231-0043-2009	-83,61063	9,16100
JOSE MANUEL RODRIGUEZ HIDALGO	SJ-02-23-0311-2009	-83,59506	9,32967
		-83,59454	9,33017
		-83,59413	9,32920
		-83,59371	9,32958
		-83,59321	9,32857
KATTIA CARRANZA RAMIREZ		-83,59282	9,32892
	SJ-02-23-0181-2009	-83,65262	9,17224
		-83,65200	9,17351
		-83,65199	9,17272
		-83,65173	9,17404
LAMBERTI ROBERTO	SJ-02-28-0005-2007	-83,57789	9,46340
LAMBO GENERAL S.A	SJ-02-23-0249-2009	-83,63870	9,34581
LAS BRISAS DE LA MONTANA DE SAN AGUSTIN S.A.	SJ-02-23-0203-2008	-83,68579	9,26322
		-83,68517	9,26184
LEDA ANGULO ALVARADO	SJ-02-28-0094-2009	-83,65143	9,52499
LIZETH ZUNIGA SANCHEZ	SJ-02-23-0037-2009	-83,76037	9,42687
		-83,75967	9,42719
LUIS HUMBERTO GUZMAN PORTUGUEZ	SJ-02-23-0028-2009	-83,61174	9,36155
MACYNRI A CH S.A	SJ-02-23-0047-2009	-83,62829	9,32074
MANUEL VARGAS GARITA	SJ-02-23-0098-2009	-83,60266	9,47731
MARIN RAMIREZ MARIA ELENA	SJ-02-23-0314-2007	-83,53559	9,13577
MARITZA CASTRO CHINCHILLA	SJ-02-28-0307-2009	-83,51920	9,12684
		-83,51863	9,12719
		-83,51817	9,12570
		-83,51592	9,12795
MARTA ROMERO VALVERDE	SJ-02-23-0229-2009	-83,64033	9,39726
		-83,64021	9,39635
		-83,64006	9,39761
MARTIN MONGE QUIROS	SJ-02-23-0040-2009	-83,70801	9,28112
MENA GODINEZ JUAN CARLOS	SJ-02-23-0169-2007	-83,57653	9,34704
		-83,57607	9,34743

MENA VARGAS MINOR	SJ-02-23-0171-2008	-83,80470	9,40352
MENDEZ CASTRO WELDEL	SJ-02-23-0266-2008	-83,63613	9,42721
		-83,63571	9,42636
MICHAEL SIBAJA DUARTE	SJ-02-23-0057-2007	-83,58855	9,20419
	SJ-02-23-0226-2007	-83,58849	9,20580
MILTON BADILLA FALLAS	SJ-02-23-0179-2009	-83,56192	9,25833
MINOR AMADOR NARANJO	SJ-02-23-0044-2009	-83,59322	9,22767
MINOR CUBILLO DIAZ	SJ-02-20-0151-2009	-83,71199	9,47645
		-83,71172	9,47415
MORA BLANCO OLGER	SJ-02-23-0114-2008	-83,63503	9,44510
		-83,63458	9,44555
MORA CAMACHO DORIS	SJ-02-23-0328-2007	-83,62383	9,23906
		-83,62348	9,23896
MORA MORA JORGE	SJ-02-23-0222-2007	-83,66902	9,20683
		-83,66880	9,20678
MORA QUESADA CARLOS LUIS	SJ-02-23-0260-2007	-83,65907	9,17757
MORALES HIDALGO JOSE ROBERTINO	SJ-02-23-0041-2007	-83,53961	9,13586
		-83,53758	9,13471
NARANJO LOPEZ CARLOS	SJ-02-23-0046-2009	-83,60266	9,23879
		-83,60031	9,23749
	SJ-02-23-0351-2007	-83,60342	9,23916
		-83,60261	9,23960
		-83,60168	9,23966
		-83,59969	9,23787
NARANJO MORALES WILBER AURELIO	SJ-02-23-0071-2007	-83,53580	9,20611
NARANJO URENA ORLANDO	SJ-02-23-0052-2006	-83,52461	9,18575
	SJ-02-23-0105-2006	-83,52342	9,18593
	SJ-02-23-0205-2007	-83,51888	9,18510
NAVARRO CASTRO REPARADO	SJ-02-23-0049-2007	-83,70427	9,32618
	SJ-02-23-0062-2008	-83,70479	9,32494
		-83,70477	9,32547
NELSON CORDERO QUIROS	SJ-02-23-0038-2008	-83,76886	9,38999
		-83,76844	9,39007
	SJ-02-23-0065-2008	-83,76860	9,38817
		-83,76816	9,38813
OLDEMAR CESPEDES GAMBOA	SJ-02-23-0045-2009	-83,51070	9,30182
OLGER RAMIREZ MORALES	SJ-02-23-0247-2007	-83,61791	9,48319
ORTEGA CAMACHO ARNOLDO	SJ-02-23-0263-2007	-83,61134	9,21727
OSCAR MORA FONSECA	SJ-02-231-0051-2009	-83,48130	9,30084
		-83,48129	9,30020
		-83,48056	9,30087
		-83,48024	9,30225
		-83,47978	9,30093
		-83,47905	9,29990
OSCAR VARGAS MORA	SJ-02-23-0022-2007	-83,62216	9,15985
	SJ-02-23-0036-2009	-83,62486	9,16487
PABLO ESTRADA CAMPOS	SJ-02-23-0048-2009	-83,56187	9,23828

PADILLA GAMBOA RODRIGO	SJ-02-20-0050-2006	-83,70364	9,33345
PADILLA SABORIO WILBERTH	SJ-02-23-0047-2008	-83,63451	9,42520
		-83,63372	9,42417
PAGUA S.A.	SJ-02-23-0174-2006	-83,58398	9,13979
PENA MORALES LORELLY	SJ-02-23-0309-2007	-83,61043	9,14690
		-83,60960	9,14611
PESETA DEL SUR SA.	SJ-02-20-0263-2009	-83,68509	9,27394
		-83,68411	9,27131
		-83,68294	9,27283
PIEDES GAMBOA JIMENEZ	SJ-02-23-0041-2009	-83,51772	9,29928
		-83,51764	9,29985
		-83,51722	9,30079
PIEDRA ORTIZ ROY	SJ-02-23-0051-2007	-83,80065	9,43223
PIEDRA UMANA MARIO ALBERTO	SJ-02-23-0106-2006	-83,50894	9,28037
PORTUGUEZ ARIAS FRANCO	SJ-02-23-0149-2007	-83,63267	9,49604
	SJ-02-28-0029-2007	-83,62950	9,49944
QUESADA DUARTE SIDNEY	SJ-02-23-0053-2007	-83,66998	9,23216
QUESADA VARGAS ARMANDO HUMBERTO	SJ-02-23-0258-2007	-83,60905	9,15998
		-83,60897	9,16057
QUIROS GARBANZO OVIDIO	SJ-02-20-0048-2006	-83,60329	9,16449
QUOCUNQUE NOMINE S.A.	SJ-02-23-0313-2007	-83,67633	9,41046
RAMIREZ ACUNA ISIDRO	SJ-02-23-0073-2007	-83,60924	9,24862
		-83,60743	9,24914
	SJ-02-23-0140-2008	-83,60587	9,24397
RAMIREZ QUIROS MARIO	SJ-02-23-0060-2007	-83,54967	9,14898
		-83,54710	9,14771
RAMIREZ RETANA REGINALDO	SJ-02-23-0101-2006	-83,50135	9,28690
RAMQ M Y Q S.A.	SJ-02-20-0149-2009	-83,57064	9,20338
		-83,56997	9,20468
		-83,56936	9,20375
		-83,56847	9,20410
RETANA ELIZONDO LAURA EMILIA	SJ-02-23-0064-2008	-83,69246	9,48994
		-83,69186	9,49045
RIGOBERTO ZUNIGA VARGAS	SJ-02-23-0156-2008	-83,56063	9,13067
ROBLES SANTAMARIA ELIAN	SJ-02-28-0038-2006	-83,60140	9,51045
RODOLFO QUESADA NAVARRO	SJ-02-23-0322-2009	-83,63952	9,15861
RODRIGUEZ BADILLA ANGEL	SJ-02-23-0073-2006	-83,60646	9,16654
ROJAS ARGUEDAS ELVIA	SJ-02-23-0070-2006	-83,50628	9,14791
ROJAS GONZALEZ MARIBELL	SJ-02-23-0043-2007	-83,61359	9,20707
ROJAS MENA LUIS EMILIO	SJ-02-23-0224-2007	-83,78782	9,39838
		-83,78774	9,39884
		-83,78670	9,39855
RONALD CORRALES CAMPOS	SJ-02-231-0308-2009	-83,52025	9,30356
RONALD Y OLDEMAR RODRIGUEZ BLANCO	SJ-02-23-0278-2009	-83,49074	9,14655
SALAZAR ANCHIA JHONNY	SJ-02-23-0311-2007	-83,60996	9,17526
SALAZAR FALLAS ALEXIS	SJ-02-28-0095-2008	-83,69337	9,52315

SANCHEZ FONSECA VICTOR HUGO	SJ-02-23-0350-2007	-83,68472	9,23081
SANCHEZ MORA LUIS ABILIO	SJ-02-23-0108-2008	-83,68712	9,23480
SANCHEZ ROJAS EFRAIN	SJ-02-23-0037-2007	-83,63932	9,37041
SEGURA MENA GILBERTO	SJ-02-23-0155-2008	-83,50427	9,30835
SEGURA ROBLES GLORIA ELENA	SJ-02-23-0039-2007	-83,52631	9,23418
		-83,52468	9,23411
		-83,52409	9,23604
SIBAJA DUARTE MICHAEL	SJ-02-23-0272-2008	-83,62201	9,21172
SOLANO CASCANTE NELLY	SJ-02-23-0097-2008	-83,47825	9,12292
SOLIS PADILLA GERARDO	SJ-02-23-0167-2007	-83,64564	9,43557
	SJ-02-23-0168-2007	-83,64564	9,43557
TABASH MORA NEFTALI	SJ-02-23-0140-2007	-83,53929	9,18581
		-83,53872	9,18626
TORRES MONGE DARIO	SJ-02-23-0137-2007	-83,59304	9,26615
		-83,59156	9,26603
TORRES ZUNIGA YORLENY	SJ-02-28-0170-2006	-83,63458	9,50233
UNIPELOP S.A	SJ-02-23-0342-2007	-83,58328	9,23204
		-83,58239	9,23335
		-83,58177	9,23250
URENA BARRANTES HILARIO	SJ-02-23-0074-2006	-83,68022	9,49423
VALVERDE QUESADA GILBERT	SJ-02-23-0265-2007	-83,64372	9,43616
VALVERDE ROMERO MARIA ISABEL	SJ-02-23-0181-2008	-83,70672	9,43255
		-83,70633	9,43267
VARGAS Y GARCIA S.A.	SJ-02-20-0046-2006	-83,54908	9,09457
		-83,54899	9,09571
	SJ-02-23-0116-2008	-83,54734	9,09132
VASQUEZ ARBUSTINI ELIECER	SJ-02-23-0252-2007	-83,62196	9,34541
VASQUEZ ARBUSTINI JOSE LUIS	SJ-02-23-0057-2006	-83,61308	9,33651
VEGA CASTRO VICTOR MANUEL	SJ-02-23-0221-2008	-83,65318	9,43610
		-83,65248	9,43596
		-83,65204	9,43661
		-83,65163	9,43600
VENEGAS DIAZ JOSE ANGEL	SJ-02-23-0077-2006	-83,54224	9,36406
VENEGAS ZUNIGA FERNANDO	SJ-02-23-0256-2008	-83,55428	9,35370
		-83,55404	9,35410
		-83,55370	9,35379
	SJ-02-23-0257-2008	-83,55654	9,35330
		-83,55570	9,35305
VILLAREVIA ELIZONDO JOSE JOAQUIN	SJ-02-28-0035-2006	-83,60554	9,49443
XINIA FALLAS BLANCO	SJ-02-23-0325-2009	-83,63802	9,18182
YADIRA QUESADA MORA	SJ-02-23-0253-2009	-83,62746	9,16259
ZUNIGA VARGAS RIGOBERTO	SJ-02-23-0157-2008	-83,56156	9,13084
ZUNIGA VARGAS WILLIAN	SJ-02-23-0170-2008	-83,56465	9,12836
		-83,56404	9,12832

Annex 4. Verification Report Summary

UNFCCC Registration Ref. No. 7572

Monitoring Period: 1 August 2006 to 31 December 2012 REPORT NO. 2012-9786 REVISION NO. 01

DET NORSKE VERITAS



VERIFICATION / CERTIFICATION REPORT

Date of first issue: 26 June 2013	Project No.: PRJC-439238-2013-CCS-NOR	DNV CLIMATE CHANGE SERVICES AS Veritasveien 1, 1322 HØVIK, Norway Tel: +47 67 57 99 00 Fax: +47 67 57 99 11 http://www.dnv.com Org. No: NO 994 774 352 MVA
Approved by: Edwin Aalders	Organisational unit: DNV KEMA Energy & Sustainability Accredited Climate Change Services	
Client: THE WORLD BANK	Client ref.: Javier Freire	

Summary:
 DNV Climate Change Services AS (DNV) has performed the verification of the net anthropogenic GHG removals reported for the "Carbon Sequestration in Small and Medium Farms in the Brunca Region, Costa Rica (COOPEAGRI Project)" in Costa Rica (UNFCCC Registration Ref. No. 7572) for the period 1 August 2006 to 31 December 2012.
 In our opinion, the net anthropogenic GHG removals reported for the project in the monitoring report (version 05) of 17 June 2013 are fairly stated.
 The net anthropogenic GHG removals were calculated correctly on the basis of the approved monitoring methodology AR-AM0004 (version 04) and the monitoring plan contained in the Project Design Document Version 02 of 16 March 2012.
 DNV Climate Change Services AS is able to certify that the net anthropogenic GHG removals by sinks from the "Carbon Sequestration in Small and Medium Farms in the Brunca Region, Costa Rica (COOPEAGRI Project)" in Costa Rica during the period 1 August 2006 to 31 December 2012 amount to 23 084 tonnes of CO₂ equivalent.

Report No.: 2012-9786	Indexing terms	
Report title: "Carbon Sequestration in Small and Medium Farms in the Brunca Region, Costa Rica (COOPEAGRI Project)"	Key words Climate Change Kyoto Protocol Validation Clean Development Mechanism	Service Area Verification Market Sector Process Industry
Work carried out by: Andres Espejo	<input checked="" type="checkbox"/> No distribution without permission from the client or responsible organisational unit <input type="checkbox"/> free distribution within DNV after 3 years <input type="checkbox"/> Strictly confidential <input type="checkbox"/> Unrestricted distribution	
Work verified by: Edwin Aalders.	Date of this revision: 26 June 2013	Rev. No.: 01
	Number of pages: 18	

Annex 5. Benefit Sharing Plan

The forestry CDM project registered by Costa Rica before the Clean Development Mechanism, was supported by the Payment for Environmental Services Program, a financial mechanism that has operated FONAFIFO in the country since 1997, with which the State recognizes, through a payment to the owners of forests and forest plantations, the environmental services that they generate for the benefit of society.

In 2006 when the ERPA was formalized with the BioCarbon Fund, it was proposed that it be the contracts under the PSA that would support the Certified Emission Reductions, once all the paperwork required to register the project with the CDM Executive Secretary was achieved. FONAFIFO managed the formalization of the contracts with the farms landowners for the period 2006-2010 in the CDM project area, in the activities of Agroforestry Systems, Natural Regeneration and Forest Plantations (204 contracts), investing in the contracting of 892.4 ha around US \$ 371,060, distributed over 5 years. This amount does not include the transaction cost incurred by the institution, both to pay staff for project care and monitoring and for field monitoring, which is estimated at US \$ 100,000.

FONAFIFO supplemented the resources of the PSA Program to make annual payments to the owners of farms whose PSA contracts were linked to the MDL project. Once the resources were received from the BioCarbon Fund, they were destined to complement the income for the PSA Program, and no additional payment was recognized to the contractors. For the 2006-2010 period, FONAFIFO recognized payments for land that promoted Agroforestry, Forest Plantations and Natural Regeneration as indicated in Table 1:

Table 1. PES for the first commitment period, in the three activities associated with the CDM project

PSA Activities	Amount per Hectare	Distribution of Payments
Forest plantations*	\$816/ha for 15-years contracts	50% year 1; 20% year 2; 15% year 3; 10% year 4, and 5% in year 5. Payment is made in the first five years of establishment of the plantation. The rest of the period is the responsibility of the owner and had to apply silvicultural treatments, care and maintenance until the contract period expires.
Natural regeneration	\$241 / ha for 5-yr contracts	20% each year (from 1 to 5)
Agroforestry systems	\$520 / ha for 5-yr contracts	65% year one 1; 20% year two, and 15% year three

In 2018, to recover the properties whose PSA contract had expired, efforts were made to reincorporate those Agroforestry Systems projects, which had the purpose of incorporating them into a second commitment MDL period 2012-2017. This attempt was carried out through a new PSA recognition scheme, where US\$ 58,127 was invested, without considering FONAFIFO's transaction costs, but only direct payment to the beneficiaries. Two-year contracts were signed, where the farmer received US\$ 3.5 per tree, distributed in 80 percent in year 1 and the remaining

20 percent in year 2. Unfortunately, this measure did not pull enough number of contracts in the Project area as to guarantee the required volume of emissions and removals for a second commitment 2012- 2017, reason why this Project was limited to complying with only the first CDM commitment period 2006-2012.

Annex 6. BioCarbon Fund definitions

"Afforestation" means the direct human-induced conversion of land that has not been forested for a period of at least 50 (fifty) years from the Start Date to forested land through planting, seeding and or the human-induced promotion of natural seed sources, or as otherwise defined by the International Rules.

"Additionality" for an A/R CDM project activity is the effect of the A/R CDM project activity or A/R CPA to increase actual net GHG removals by sinks above the sum of the changes in carbon stocks in the carbon pools within the project boundary that would have occurred in the absence of the A/R CDM project activity or A/R CPA.

"Baseline" means the scenario that reasonably represents the net sum of the changes in Carbon Stocks in the Carbon Pools within the Project Boundary that would have occurred in the absence of the proposed Project determined in accordance with the International Rules.

"Call Options" are some or all the ERs generated by the Project Activity each Reporting Year during the Term once the Contract ERs have been transferred to the Trustee and in respect of which the Trustee may exercise its Call Option.

"Carbon Dioxide Equivalent" or **"CO₂e"** means the base reference for the measurement of Global Warming Potential of Greenhouse Gases whereby the radioactive forcing of one unit is equivalent to the radioactive forcing of one metric ton of carbon dioxide emissions.

"Carbon Pool" means any one or more of above-ground biomass, below-ground biomass, litter, dead wood and soil organic carbon, as well as any other points of carbon sequestration recognized as carbon pools under the International Rules.

"Carbon Stock" means the content of carbon in Carbon Pools within the Project Boundary.

"Compliance Period" is a commitment period to deliver CO₂ removals or emission reductions in an ERPA.

"Certified Emission Reduction" or **"CER"** is a unit issued for GHG emission reductions from CDM project activities or PoAs (non-A/R) in accordance with the CDM rules and requirements, which is equal to one metric ton of carbon dioxide equivalent, calculated using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol. See also the definitions for "ICER" or "tCER".

"Designated Operational Entity" or **"DOE"** is an entity designated by the CMP, based on a recommendation by the Board, as qualified to validate proposed CDM project activities and Program of Activities, as well as verify and certify reported GHG emission reductions and net anthropogenic GHG removals by sinks.

"ERPA" means the Emission Reductions Payment Agreement between the Trustee and the Program Entity providing for the sale and transfer of and payment for ERs which includes these General Conditions, and all schedules and agreements supplemental to the ERPA.

"Eligibility of Land" is the determination of which land meets the conditions required to be included in an A/R CDM project activity or A/R PoA, in accordance with the CDM rules and requirements.

"Kyoto Protocol" is the protocol to the Convention adopted in Kyoto, Japan on 11 December 1997, which entered into force on 16 February 2005. The Kyoto Protocol, among other things, sets binding targets for the reduction of GHG emissions by Annex I Parties.

"Long-term CER" or "ICER" means a CER issued for an Afforestation or Reforestation Project Activity under the CDM which, subject to the International Rules, expires at the end of the Crediting Period of the Project Activity.

"Leakage" for an A/R CDM Project Activity is the increase in GHG emissions by sources or decrease in carbon stock in carbon pools which occurs outside the boundary of the A/R CDM project activity or A/R Program of Activities, as applicable, which is measurable and attributable to the A/R CDM project activity or A/R Program of Activities, as applicable.

"Parties to the ERPA" refer to the Program Entity and the Trustee, and each of them shall be individually referred to as a "Party".

"Permanence Failure" means a reduction in Carbon Stock within the Project Boundary, such that the number of GHG Reductions sequestered by Carbon Pools within the Project Boundary is less than the Previously Sold ERs.

"Permanence Review" means, with respect to an Afforestation or Reforestation Project Activity, a Verifier's investigation and report on the number of GHG Reductions sequestered in Carbon Pools within the Project Boundary, to ensure that there has not been a Permanence Failure since the last Verification or Permanence Review.

"Permanence Strategy" means the strategy adopted by the Project Entity and approved by the Trustee to minimize the risk of Permanence Failure, as further described in Schedule 4.

"Previously Sold ERs" means, as at the date of a Verification Report or Permanence Review, the total number of ERs from the Project Activity already transferred to the Trustee and other purchasers, or used by the Project Entity under any mandatory or voluntary compliance scheme, specifically including those ERs used as the basis to create tCERs or 1CERs.

"Program Area" is the area of the ER Program for which an Emissions Baseline is established and over which GHG emissions and removals are being generated, measured, reported and verified.

“Program Entity” refers to the Party or Parties specified as such in the ERPA and who has or have been authorized by the Host Country, if applicable, to implement the ER Program and enter into an ERPA with the Trustee.

"Project Boundary" means the geographic area (which may contain more than one discrete area of land) delineating the Project Activity, as described in the ERPA.

“Project Design Document” is a document prepared by the project participant of a CDM project activity which sets out in detail, in accordance with the CDM rules and requirements, the CDM project activity which is to be undertaken. The form of PDD is publicly available on the UNFCCC CDM website.

“REDD+” is Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

"Reforestation" means the direct human-induced conversion of non-forested land to forested land through planting, seeding and or the human-induced promotion of natural seed sources, on land that was forested but that had been converted to non-forested land prior to December 31, 1989, as further defined by the International Rules.

“Registration” is the formal acceptance by the Board of a proposed CDM project activity or PoA validated by a DOE as a CDM project activity or PoA, as applicable. Registration is the prerequisite for the verification, certification and issuance of CERs, ICERs or tCERs, as applicable, related to that CDM project activity or PoA.

"Remainder ERs" means ERs relating to the proportion of the GHG Reductions from the Project Activity (as evidenced by a Verification Report) which are not sold to the Trustee under the ERPA and which the Project Entity must retain during the Term in accordance with Schedule 2.

"Start Date" means the date that the Project Activity begins, in accordance with the International Rules, and shall replace the term "Project Commissioning Date" wherever it is used in the General Conditions.

"Temporary Certified Emission Reduction" or "tCER" means a CER issued for an Afforestation or Reforestation Project Activity under the CDM which, subject to the International Rules, expires at the end of the Commitment Period following the one during which it was issued. It is equal to one metric ton of carbon dioxide equivalent.

“Validation” is the process of independent evaluation of a CDM project activity or PoA by a DOE against the requirements of the CDM rules and requirements, on the basis of the PDD or PoA-DD and CPA-DDs.

“Verification” for an A/R CDM project activity or A/R PoA, the periodic independent evaluation and ex post determination by a DOE of monitored net anthropogenic GHG removals by sinks achieved by the A/R CDM project activity or A/R PoA.

Annex 7. Ratings of Project Performance in ISRs

Key Project Ratings	23-Feb-11	5-Nov-12	29-Dec-13	Latest ICR
Progress towards achievement of PDO	MS	MU	MS	MS
Overall Implementation Progress	MU	MU	MS	S
Other Project Ratings				
Financial Management	S			S
Project Management	MS	MS	MS	MS
Counterpart Funding	S	S	S	S
Procurement	S			MS
Monitoring and Evaluation	MU	MU		MS
Safeguards				
Overall Safeguards Rating	S	S	S	S
Environmental Assessment (OP) (BP 4.01)	S	S	S	S
Forests (OP) (BP 4.36)	S	S	S	S
Pest Management (OP 4.09)	S	S	S	S

Annex 8. Ecomarkets II Project Beneficiary Survey Results

The main expected benefits of Ecomarkets II were: conservation of biodiversity, increase in the participation of indigenous women in the program, participation of small forest owners, and public recognition that intact forests and their environmental services are valuable.

Ecomarkets II applied the following modalities to implement the PSA Program: a) protection of forest; b) reforestation; c) natural regeneration; d) management of forest; e) agroforestry systems (SAF) for participating forest owners in priority areas established by the National System of Conservation Areas (SINAC).

One of the main participants in the PSA Program were indigenous territories, representing about 2 percent of the national population with approximately 350,000 hectares (7 percent of the country, according to the National Institute of Statistics and Census, 2000). In Costa Rica there are 24 indigenous territories with eight different ethnicities; under Ecomarkets II all but two of these did not enter the PSA Program. This is important as indigenous territories are particularly relevant, given the high concentrations of forest located in their territories. The highest participation in the program has been concentrated in the Bribri-Cabécar territories belonging to the La Amistad Biosphere Reserve and in Guaymi of Coto Brus, Conte Burica and Osa, which are the indigenous territories with more forests and agroforestry systems in the country.

The project's design was consistent with the country's long-term development goals; its strategies and components had the same purpose, although with different modes of action, but always aimed at improving forest conservation.

However, Ecomarkets II had a limited monitoring and evaluation system to measure the environmental, economic and social impact it had. A limited number of indicators was available that only allowed monitoring of some variables. Still, anecdotal evidence found during the preparation of the ICR shows that all PSA participants in indigenous territories used the program's resources for various activities with significant development results in environmental, social and economic aspects, especially in the context of strengthening the administrative, organizational and financial management capabilities of the Associations for the Integral Indigenous Development (ADII).

The benefits generated by the PSA in indigenous territories contributed to the human development of these communities, located in areas where coverage by many public institutions is limited. The direct insertion of capital into the local family economy represents (i) an opportunity for many indigenous families (especially for women and children) for acquiring food and clothing, (ii) the recovery of the territory through the purchase of land, (iii) the improvement of the standard of living with access to basic services, and (iv) the strengthening of indigenous governance and capacity building for government and self-management.

Regarding environmental indicators, the project used FONAFIFO's monitoring system, which has been useful to monitor the conservation of forest cover. However, it has not been able to demonstrate the impact on conservation of globally significant biodiversity by creating connectivity between protected areas that are geographically isolated or have high levels of biodiversity, because a biodiversity baseline was not available at the start of the project.

Ecomarkets II generated a series of unanticipated impacts, which have helped to increase its level

of performance. Men and women of participating indigenous territories experienced significant improvements in their livelihoods: they saw improved access to basic public services such as education and health; improvements of infrastructure like roads and electricity; and the implementation of social development programs, such as construction of houses. Other members of the communities had direct access to increased income. Similarly, the ADII benefitted from improved management capabilities and self-government. In general, there was a high level of local satisfaction.

The Project has learned important lessons that can be taken up in the field of forest conservation:

- PSA has the potential to promote conservation, and at the same time, reduce the vulnerability of the rural poor through the provision of additional income and financial stability.
- The concept of conservation used by the PSA implies the exclusion of communities in areas that generate the environmental services. For the indigenous communities this means restrictions of access to and use of the natural resources, and a loss of use value in non-timber species.
- Environmental conservation funded by the PSA did not promote the development of indigenous territories through the production of non-traditional goods and services such as ecotourism. Additional sources of funding could be used by the ADII.
- The PSA has promoted the diversification of land use and the adoption of improved farming practices, such as agroforestry systems, generating environmental services and contributing to local food security.
- The ADII consider that the indigenous character of the territories requires an indigenous-specific PSA.
- While Ecomarkets II did not aim for an explicit targeting of the poorest indigenous communities, the distribution *per se* of forests in Costa Rica resulted in such. No evidence of any barriers to the participation of the poorest indigenous communities has been identified in PSA.

Annex 9. Comments from Project Entity and Other Partners

Project Entity

FONAFIFO, as the Project Entity, assumed the risk of developing the Project's implementation plan, including registering the required number of farmers signing a PSA contract. FONAFIFO confronted and successfully managed several obstacles as they arose, along with COOPEAGRI as its implementation partner. The two organizations greatly helped each other reach CDM Project cycle phases and thus achieve registered carbon credits. FONAFIFO also recognized the technical assistance provided by the BioCF Secretariat in the Bank. One important insight from FONAFIFO is that this project had perhaps been too expensive for the country, but its contribution to generate knowledge² and lessons learned have been useful to prepare for REDD+ and sustaining forest cover in the country.

Other Partners and Stakeholders

COOPEAGRI, as the entity responsible of providing technical assistance to the small and medium farmers who participated in the Project, promoted the PSA Program, registered new farmers interested in signing a PSA contract, and followed up with the implementation plan and activities on the ground. The work team was composed by two forest engineers, one office assistant and one field assistant. COOPEAGRI reported directly to the PE, FONAFIFO, and successfully registered 204 beneficiaries within the CDM Project. COOPEAGRI was ready to continue to a second CDM commitment period but unfortunately, farmer interest in a PSA contract extension declined due to different land use interests in the project area.

Annex 10. List of Team Members

Role	At ERPA Signing	At ICR
Task Team Leader	Armando E. Guzman	Leonel Iglesias
Outgoing Task Team Leader	na	Christian Albert Peter
Incoming BioCF Deal Manager	Stephanie H. Tam	na
Outgoing BioCF Deal Manager	Alexandre Kossoy (PAD)	na
Finance Specialist(s)	Ronald Mejías (PAD)	na
Environmental Safeguards Specialist	na	Raul Tolmos
Procurement Specialist	Alvaro Larrea	na
Legal Counsel	Julius Thaler	Julius Thaler
Social Safeguards Specialist	Flavia Rosembuj (PAD)	Mario Nanclares
Consultant, SLCEN	na	Shaadee Jasmine Ahmadnia

² <https://worldbankgroup.sharepoint.com/sites/Climate/SCCFundsManagementUnit/Pages/GREEN-10242019-103133.aspx>