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**Rainforest
Alliance**

Validation
Assessment
Report for:

**Programmatic Project for the Payment for
Environmental Services Mitigation of
Greenhouse Gas Emissions through Avoided
Deforestation of Tropical Rainforests on
Privately-owned Lands in High Conservation
Value Areas of Costa Rica Central Volcanic
Range Conservation Area, Costa Rica.
(PAX NATURA Project)**
in
Cartago y Limón, Costa Rica

Report Finalized: October 28, 2009
Audit Dates: July 1st, 2009
Audit Team: Adam Gibbon, Mario Chacón,
William Arreag, Bryan Foster,
Hugo Álvarez
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*Report based on Standard(s):
CCB Standards 1st Edition, May 2005*

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1 INTRODUCTION

The purpose of this report is to document conformance with the requirements of CCBA project design validation standards by **Pax Natura Foundation**, who are the project proponents, hereafter referred to as “Company”. The report presents the findings of SmartWood auditors who have evaluated company systems and performance against the applicable standard(s). Section 2 below provides the audit conclusions and any necessary follow-up actions by the company through corrective action requests.

This evaluation follows Climate, Community and Biodiversity Project Design Standards, First Edition, May 2005. These were not developed by Rainforest Alliance, but by the Climate, Community and Biodiversity Alliance, CCBA. SmartWood CCBA evaluation reports are kept confidential in the draft stage. When finalized and successfully approved, the report is posted on SmartWood’s website and that of the CCBA.

The Rainforest Alliance’s certification program, SmartWood, was founded in 1989 to certify responsible forestry practices and now focuses on providing a variety of certification and auditing services. In 2005, Rainforest Alliance extended our role as a forest assessor/auditor to standards and services that included verification of forest carbon projects. Rainforest Alliance has the following status with the listed climate related standards and systems:

- Chicago Climate Exchange - we are an *associate member* and an approved *verifier*
- Climate, Community & Biodiversity Alliance – we are a *member* and an approved *verifier*
- Plan Vivo – we are a *verifier*

The CCB Standards are primarily project design standards and demonstrated conformance to the standard in this audit related to the planning, development, and design of the project in the inception or start-up phase. Conformance related to systems, design, and proposed activities in the process of development by the project. The standards were not used to measure project implementation, thus conformance to the standard was not meant to evaluate any delivery of emissions reductions, community or biodiversity benefits, or other results hoped to be achieved through future performance of the project. The CCB Standards were designed to be a tool to demonstrate high-quality project design that should lead to multiple-benefits in addition to carbon sequestration and emissions reductions. Use of the standards may increase confidence in forestry carbon projects.

Dispute resolution: If SmartWood clients encounter organizations or individuals having concerns or comments about Rainforest Alliance / SmartWood and our services, these parties are strongly encouraged to contact SmartWood Headquarters directly. Formal complaints or concerns should be sent in writing.

2 AUDIT CONCLUSIONS

2.1 Summary of Conformance to CCB Standards

The review of the project description, supporting documentation and interviews has provided Rainforest Alliance with the evidence to reach the validation conclusion that the project is designed to achieve expected benefits to climate, community and biodiversity.

The CCBA first edition standards provide for three levels or tiers by which a project may be validated to the standards. These are:

- Approved: projects satisfying all fifteen mandatory criteria;
- Silver: projects that satisfy all fifteen mandatory criteria and receive at least 4 points with at least one point from optional criteria in each of the four sections (General, Climate, Community, and Biodiversity);
- Gold: projects that satisfy all fifteen mandatory criteria and receive at least 6 points, with at least one point from optional criteria in each of the four sections.

The Pax Natura Project and the institutions involved present a methodology and design for a carbon project that earned validation at the gold level and the following scorecard shows the level of compliance achieved by the project.

General Section

	Conformance:		
G1. Original Conditions at Project Site	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
G2. Baseline Projections	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
G3. Project Design & Goals	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
G4. Management Capacity	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
G5. Land Tenure	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
G6. Legal Status	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
G7. Adaptive Management for Sustainability	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Optional
G8. Knowledge Dissemination	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Optional

Climate Section

	Conformance:		
CL1. Net Positive Climate Impacts	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
CL2. Offsite Climate Impacts ("Leakage")	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
CL3. Climate Impact Monitoring	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
CL4. Adapting to Climate Change & Climate Variability	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Optional
CL5. Carbon Benefits Withheld from Regulatory Markets	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Optional

Community Section

	Conformance:		
CM1. Net Positive Community Impacts	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
CM2. Offsite Community Impacts	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
CM3. Community Impact Monitoring	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
CM4. Capacity Building	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Optional
CM5. Best Practices in Community Involvement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Optional

Biodiversity Section

	Conformance:		
B1. Net Positive Biodiversity Impacts	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
B2. Offsite Biodiversity Impacts	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
B3. Biodiversity Impact Monitoring	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
B4. Native Species Use	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Optional
B5. Water & Soil Resource Enhancement	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Optional

CCBA Validation Level Attained:

Approved	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Silver	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Gold	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

2.2 Auditor Recommendation

Based on Company's conformance with CCBA requirements, the auditor makes the following recommendation:

- Validation approved:
CAR(s) closed
- Validation not approved:

Additional comments:

As a previous requirement for the validation of the Pax Natura Project, it was requested to Pax Natura to comply with four CARs, which are listed in the following section. Within the timeline for compliance, Pax Natura sent a document as an appendix to the PDD with enough detail to solve the weaknesses and so, to close the corrective actions.

2.3 Corrective Action Requests

2.3.1 Corrective Action Requests (CARs)

Note: CARs describe required actions or improvements that address COMPANY non-conformances identified during audits. CARs include defined timelines for completion. CARs issued during assessments /reassessments shall be closed prior to issuance of Validation. CARs issued during audits shall be closed within timeline or result in suspension.

CAR 01/09	Reference Standard & Requirement: CL1.1
Non-conformance	The PDD uses plot data from relatively undisturbed sites in the 1960's to estimate carbon stocks in the project area. There is no justification presented of the similarities between the forest used in these plots and the forest in the project area today.
Corrective Action Request: The project proponent shall justify the representativeness of carbon stock plot data used with reference to conditions and landuses within the project area at the present time.	
Timeline for conformance:	Prior to validation.
Evidence to close CAR:	<p>After getting the draft report, Pax Natura sent to SW a document that describes the elements used to support its decision to use the data from a permanent sampling plot network presented in Helmer and Brown (2000). In sum, it presents the following:</p> <p>A correction was implemented to account for the successional status of the carbon stock in the project area, beginning with the results obtained by Helmer and Brown (2000). The correction was made through the use of GIS, and using only the forest areas older than 30 years, to guarantee that were being considered only the areas with a real forest coverage. The previous criterion is supported with the results presented by Sesnie (2006), who determined that there is no difference in biomass and carbon between a disrupted and a non-disrupted forest.</p> <p>Besides, as example of a conservative measure of the carbon stock estimation, the correction implied the reduction of about 40% of the natural forest area (only 60% of the forest exceeds the 30 years of age), which means a stock reduction from 161 Mg/hectare to 97 Mg/hectare, in a specific lifezone.</p> <p>Finally, there is a comparison between the results presented in Pax Natura PDD and the results obtained using the database of the 339 PSP established by FUNDECOR and monitored in the ACCVC. The data presented in the PDD is 115 Mg/ha, whereas the data from the analysis is 108 to 115 Mg/ha.</p>

	In conclusion, SmartWood considers valid the justification presented by Pax Natura; nevertheless, during the verification it will be assessed any significative change in carbon stock.
CAR Status:	CLOSED
Follow-up Actions (if any):	

CAR 02/09	Reference Standard & Requirement: CL2.1, 2, 3
Non-conformance	The assumption of zero negative leakage is not based on a description of the drivers of deforestation that lead a farmer to clear his land.
Corrective Action Request: The project proponent shall describe the drivers of deforestation and the end land use for deforested land to allow an assessment of the likelihood of leakage to occur.	
Timeline for conformance:	Prior to validation.
Evidence to close CAR:	<p>Pax Natura presented a document as an appendix to the PDD, which indicates that, from a series of possible drivers evaluated by Tatemback <i>et al</i> (2006) (such as family income, availability of labour, academic level, and even espiritual values associated with the forest), the most representative is the value of the land, conditioned by the access to the commerce channels (proximity to roads). This criterion is also supported by the results published by Walker, 2000, quoted in the PDD annex.</p> <p>However, it is expected to replicate the practice in the future in order to verify if the already identified drivers keep on behaving in the same way, or if some of them cause risk of deforestation in the project area or its surroundings. It is foreseen to survey the fields at years 1, 4, 7 and 10 of the project's life, focusing in the review of the harvesting permits of the project in natural forests, in coordination with the institutions in charge (MINAE and FONAFIFO).</p> <p>On the other hand, the document presents the main reasons for establishing that the project implementation will generate positive impacts to the environment (practically zero leakage):</p> <p>a) The implementation of the Pax Natura Project is voluntary, and so this will guarantee that the natural forest owner will be managing the forest under the technical advice of technical staff from the project, instead of migrating to other areas. Besides, it will be mandatory that the owners of individual fincas offer appropriate wages to their workers in order to avoid that they seek other income options based on the harvesting of natural resources within or outside the project area.</p> <p>b) It is established that before a finca may enter the Pax Natura project, the bussines needs to be profitable for the owner, for the same reason of avoiding that they seek economic income through non sustainable activities.</p> <p>The SmartWood team considers valid the justifications presented for determining that during the project life the leakages would be minimal and controlled.</p>
CAR Status:	CLOSED
Follow-up Actions (if any):	

CAR 03/09	Reference Standard & Requirement: CL3.1
Non-conformance	It was not clear from the PDD how frequently remote sensing data will be monitored because frequencies of 3 and 4 years were both mentioned. It was also not explicit how often data will be gathered from the permanent plots. The monitoring frequency was not put in persepective on the 10 year project plan.
Corrective Action Request: The project proponent shall present the intended monitoring frequency	

clearly and consistently in the PDD.	
Timeline for conformance:	Prior to validation.
Evidence to close CAR:	<p>The Pax Natura PDD establishes the following:</p> <p><i>“Monitoring the change in land use, which will be made starting with the images taken with remote sensing, comparing the condition of the soil use every three years according to the project plan.</i></p> <p><i>The images will be classified in a supervised manner through taking of spectral signatures from field data. Through this classification the forest usage will be separated: primary, secondary, reforestation and other uses of the project area of interest. Finally, the gross project deforestation rate will be obtained by comparing cloudless forests of each pair of images. The gross deforestation is the loss in primary and secondary forest coverage regardless the regeneration or reforestation established during the period.”</i></p> <p>According to the programmed activities detailed in the PDD, Pax Natura will execute field monitorings, not only of biomass, but also of the deforestation degree in the project area at year 1, 4, 7 and 10 of the project life. This will be done by using remote sensing and field trips just as usual; in that way the monitoring will have a repetition frequency of three years, which is considered valid given the monitoring results executed by one of the project proponents in the area. The responsible party to implement these monitorings will be FUNDECOR, which has a wide experience in doing it</p>
CAR Status:	CLOSED
Follow-up Actions (if any):	

CAR 04/09	Reference Standard & Requirement: CL3.1
Non-conformance	The PDD was not clear on the extent of ground based and remote sensing monitoring of the that would be directed specifically to the sites enrolled in the project.
Corrective Action Request: The project proponent shall explain to what extent on the ground monitoring and /or remote sensing of the project success of enrolled areas will occur.	
Timeline for conformance:	Prior to validation.
Evidence to close CAR:	<p>It has been established in the PDD and the annex document that the monitoring of conformance with the PES program contract between the owner and Pax Natura project will be annually reviewed, and it will be the responsibility of both FUNDECOR and FONAFIFO to establish if the owner continues in compliance, or recommend its separation from the program of environmental services.</p> <p>In the PDD annex document, the project proponents explain that the field monitoring (change in land use and PSP) will be done in the ACCVC total area, that is not only in the 12,000 hectares of natural forest, which will be part of the environmental service project of Pax Natura.</p> <p>In the interview with staff of FUNDECOR, it was indicated that the field monitoring has been periodically executed, and documented evidence was presented during the field visit: from the monitoring with remote sensing as well as from the sampling in the growth plots in the project proposed area.</p>
CAR Status:	CLOSED
Follow-up Actions (if any):	Pending

2.3.2 Observations

Note: Observations are issued for areas that the auditor sees the potential for improvement in

implementing standard requirements or in the quality system; observations may lead to direct non-conformances if not addressed.

OBS 01/09	Reference Standard & Requirement: CL1.1
There was a potential small discrepancy in the calculation of estimated emissions reductions and the PDD does not quote the number of expected salable carbón credits (those coming from in-situ avoided deforestation)	
Observation: Pax Natura should ensure consistency in the presentation of numerical data and provide the number of carbon credits that it expects to generate for sale from the project.	

OBS 02/09	Reference Standard & Requirement: CL3.1
Some references are not mentioned in the bibliography, and some of them are not well referenced.	
Observation: Pax Natura should ensure all references are provided in the bibliography and that the PDD references the annexes correctly.	

OBS 03/09	Reference Standard & Requirement: CM1.1, CM2.1, CM2.3, CM3.1
Whenever achieving the first 7000 hectares goal, it will be necessary to demonstrate that the social and economical benefits from the project on the communities are positive.	
Observation: Pax Natura should implement a methodology with practical indicators to measure with better detail the socioeconomic impact that could take place, at least in the villages closer to the certified fincas, resulting from the implementation of the environmental services project.	

2.4 Actions Taken by Company Prior to Report Finalization

As a requirement prior to the validation of the Pax Natura Project, it was requested that Pax Natura complies with four CARs. Within the timeline for compliance, Pax Natura presented a document as an appendix to the PDD with enough detail to solve the weaknesses and close the corrective actions: the CARs, as well as the actions taken by Pax Natura to solve them, have been specified in the previous section.

3 AUDIT PROCESS

3.1 Audit Overview

Note: The table below provides an overview of the audit scope. See standard checklist appendix for specific details on auditor qualifications, staff interviewed, and audit findings per facility audited.

Location/Facility	Date(s)	Length of Audit	Auditor(s)
Natural forests in fincas privately owned, including the Pax Natura Foundation.	September 3 – 5, 2008	See note below*	Bryan Foster, Hugo Alvarez, William Arreaga
Desk Audit	September 1-18, 2009	See note below*	Adam Gibbon, Mario Chacón, William Arreaga

* **Note:** The validation of the Pax Natura project was not made as usual, since it took place in two different dates: stakeholders consultation, interview with the project proponents, and the field stage were held on September

2008, Whereas the PDD and the calculations were reviewed between the months of July and September 2009. This procedure was executed this way since during the validation stage in the field, Pax Natura did not have a PDD properly defined according to the current CCB standards by then.

3.2 Description of Audit Process

The validation audit for Pax Natura Project was executed in two phases, but mostly through the review of several documents, among them the Project Design Document and other supporting documentation. At this time no field visit was made, since this was made as a part of the prevalidation visit.

Instead, an interview with one of the main developers of such documents took place to solve questions and to request detailed explanations. The procedures to implement were reviewed, and the revision was completed with the analysis of the mathematical calculations used to determine the baseline and additionality. For that matter, it was necessary to analyse the primary source for the assumptions and criteria for the calculations, and so were reviewed the reference documents (see listing in the following section).

3.3 Documents reviewed

1. **FUNDECOR**. 2009. Proyecto Programático de Pago por Servicios Ambientales. Reducción de GEI a través de la Deforestación Evitada del Bosque Húmedo Tropical en Tierras Privadas de Alto Valor para la Conservación en Costa Rica. Pax Natura, Costa Rica. 115 p. versión en español.
2. **Tattenbach et al.** 2006. Generación de servicios ambientales. Ecomarkets: Costa Rica's Experience with Payments for Environmental Services. *Draft*. 28 p. versión electrónica.
3. **Tattenbach et al.** s.f. Mejora del excedente nacional. Informe de consultoría. FONAFIFO, San José, Costa Rica. 40 p. versión electrónica.
4. **Tattenbach et al.** s.f. Development of econometric model for determining additionality of payments for environmental services in the Central Mountain Range Conservation Area, Costa Rica. En preparación.
5. **Helmer y Brown (2000)**. Gradient Analysis of Biomass in Costa Rica and a First Estimate of Countrywide Emissions of Greenhouse Gases from Biomass Burning. Available at <http://tinyurl.com/l6vbfy>.
6. **Powers et al.** 2004. Estimating soil carbon fluxes following land-cover change: a test of some critical assumptions for a region in Costa Rica. *Global Change Biology*.

3.4 Stakeholder consultation process (if applicable)

Stakeholder consultations were made during the prevalidation stage in September 2008 and during the Pax Natura PDD official review stage in August and September 2009. In both cases the goal was to interact with different types of stakeholders: in the field, as well as in the institutions directly involved with the project development. It was interviewed technical staff from the project proponent institutions (FUNDECOR, FONAFIFO, INBIO and Pax Natura Foundation). No comments were received during the consultation period from the CCBA webpage.

Appendix A: COMPANY DETAILS

1 CONTACTS

1.1 Primary Contact for Coordination with SmartWood

Primary Contact, Position:	Mr. Randall Tulpinrud
Address:	POB 520022, Salt Lake City, UT USA 84512
Tel/Fax/Email:	(801) 463-4675 / (801) 277-0665 / randall@paxnatura.org

1.2 Billing Contact

Contact, Position:	Mr. Randall Tulpinrud
Address:	POB 520022, Salt Lake City, UT USA 84512
Tel/Fax/Email:	(801) 463-4675 / (801) 277-0665 / randall@paxnatura.org

2 SmartWood Website Customer Fact Sheet

Note: upon Validation, the SmartWood website posts and maintains Customer Fact Sheets for companies with the information in the table below at <http://www.ra-smartwood.org/>

Field	Text for Customer Fact Sheet	Has this Info Changed?
Contact, Title: (Sales & Marketing)	Mr. Randall Tulpinrud	Yes <input type="checkbox"/> No <input type="checkbox"/>
Address:	POB 520022, Salt Lake City, UT USA 84512	Yes <input type="checkbox"/> No <input type="checkbox"/>
Tel/Fax/Email/Website:	(801) 463-4675 / (801) 277-0665 / randall@paxnatura.org	Yes <input type="checkbox"/> No <input type="checkbox"/>
Products/Descriptions:		Yes <input type="checkbox"/> No <input type="checkbox"/>

3 Validation Scope

3.1 Scope Definition:

The project has an area of 12,000 hectares of natural forest, privately owned (expected participation of 100 individual owners), dispersed in an area of interest of 39,522 hectares within the Conservation Area of Cordillera Volcánica Central (ACCVC), specifically in the Forest Reserve of Cordillera Volcánica Central (RFCVC), located in the provinces of Cartago and Limón. It is expected to gradually complete 12,000 hectares depending on the owners will to subscribe to the payment for environmental services project promoted by the Pax Natura Foundation and the institutions involved: FUNDECOR (Fundación para el Desarrollo de la Cordillera Volcánica Central), INBio (Instituto Nacional de Biodiversidad), and FONAFIFO (Fondo Nacional de Financiamiento Forestal).

With the project implementation it is expected to avoid the deforestation in an area of 5,379 hectares under natural forest, which would represent approximately 1.5 million Mg CO₂ e avoided during the years 2009 and 2019.

3.2 Type of Legal Entity: US-based NGO

3.3 Jurisdiction: US based with a head office in Salt Lake City, Utah.

Appendix B: STANDARD CHECKLIST CCB STANDARDS

1 Evaluation of Project

Project Name:	Programmatic Project for the Payment for Environmental Services Mitigation of Greenhouse Gas Emissions through Avoided Deforestation of Tropical Rainforests on Privately-owned Lands in High Conservation Value Areas of Costa Rica Central Volcanic Range Conservation Area, Costa Rica (PAX NATURA Project).
Contact for Validation:	Mr. Randall Tulpinrud
Address:	POB 520022, Salt Lake City, UT USA 84512
Tel/Fax/Email:	(801) 463-4675 / (801) 277-0665 / randall@paxnatura.org

2 Evaluation Details

Auditor(s), Qualifications:	<p>Bryan Foster, Master of Forest Science from Yale University and both a Ph.D. in Natural Resources and Certificate in Ecological Economics from the University of Vermont. He is an FSC, ISO 14001, and ISO 14064 trained auditor and has worked professionally developing ISO 14001 environmental management systems. He participated as the Team Leader during prevalidation process for Pax Natura.</p> <p>Hugo Alvarez, a forest engineer, graduated from the Technological Institute of Costa Rica (1987). Since 1997, Hugo has been an independent auditor for the forest certification program of SmartWood. During the last 10 years, he has developed diverse abilities to evaluate forest management throughout Latin America. In 2006, he participated in the world's first CCB validation. For the last five years, he has served as the SmartWood representative in Costa Rica and also as an agriculture certification auditor,</p> <p>Adam Gibbon, BS in Natural Sciences from the University of Durham and MS in Environmental Change and Management from Oxford University. His thesis was titled "Carbon Quantification of the cloud forests and grasslands of the Peruvian Andes" which required field work in Peru. Adam was most recently employed at the Environmental Change Institute of Oxford University as a Researcher where he was commissioned to publish papers in the scientific literature as a result of his thesis work. Adam is responsible for technical project coordination, verification systems and tools development, training, and assistance with growing the Rainforest Alliance's climate activities.</p> <p>William Arreaga. Guatemalan; Forestry Specialist, Central American SmartWood Office. Forestry degree from the Escuela Nacional Central de Agricultura, and an engineering degree from USAC; in 2002 he received an M.Sc. in Tropical Forest Management and Biodiversity Conservation from CATIE (Costa Rica). His work has been focused in plantations and natural forests managed in Central America. He also has experience in carbon storage and carbon flows in natural forests and plantations. In 2007, he spent two months at Winrock International as a fellow.</p> <p>Mario Chacón. M.Sc. Management of Tropical Forests and Conservation of Biodiversity, specialization in Agroforestry Systems (CATIE, Costa Rica). He was the Training Manager at the Climate Change Initiatives Program, Conservation International during 2008 and 2009 in Washington D.C.</p>
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Sites Visited:	The validation field stage focused in the visit to natural forests located in several privately owned fincas, among them one finca property of the Pax Natura Foundation, located in Guapiles, Costa Rica. There were visited fincas whose natural forest had already been certified by FONAFIFO as a project of environmental services; besides, it was verified that there was a permanent monitoring system of the forest growth.
People Interviewed, Titles:	German Obando, Department of Science and Technology Director; FUNDECOR, Costa Rica. Gustavo Solano, Projects, FUNDECOR, Costa Rica. Franz Tattenbach, Executive Director, FUNDECOR, Costa Rica. Luz Virginia Zamora, Lawyer, FONAFIFO, Costa Rica. María Elena Herrera, Technician, FONAFIFO, Costa Rica. Oscar Sánchez, Director FONAFIFO, Costa Rica Randall Tulpinrud, Director Pax Natura Foundation, USA.

3 Standard Checklist

Climate, Community and Biodiversity Project Design Standards. First Edition, May 2005.

G1. Original Conditions at Project Site - Required

Concept

The original conditions at the project site before the project commences must be described. This description, along with projections (G2), will help determine the likely impacts of the project

Indicators

The original conditions at the project site before the project commences must be described. This description, along with projections (G2), will help determine the likely impacts of the project:

General Information

- 1) The location of the project and basic physical parameters (e.g. soil, geology, climate).

Findings	It has been clearly established that the Pax Natura Project will have as its action area the Central Volcanic Range Conservation Area (ACCVC), specifically 12,000 hectares distributed along the Central Volcanic Range Forest Reserve (RFCVC), Cartago and Limón. The PDD, as well as the annexed documents, presents with great deal of detail the biophysics and climatic conditions of the project area. Besides, the responsible institutions for the project implementation (mainly Fundecor and INBio) have a large database with information about the site (climate, precipitation, soil type, history of land use, flora, fauna and water resources), defined from specific studies at the project regions. There is access to GIS and statistics of the current and past conditions that will be useful to make the requested projections.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 2) The types and condition of vegetation at the project site.

Findings	It has been established that the Pax Natura project will be implemented in areas of natural forest within six regions of ecological life (categories according to Holdridge for Costa Rica). The PDD includes a complete list of the forests composition (flora and fauna) in these areas.
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Conformance Yes No N/A
 CAR/OBS

Climate Information

3) Current carbon stocks at the Project site(s), using methodologies from the Intergovernmental on Panel on Climate Change’s Good Practice Guidance (IPCC GPG) or other internationally-approved methodologies (e.g. from the CDM Executive Board).

Findings No specific or IPCC approved methodology was used to estimate the carbon stock in the forests of the project area. However, according to SmartWood, Pax Natura provides a practical analysis based on the deforestation data observed at the region, scientific articles and some technical valid assumptions. Also, for estimating the carbon stock, the developers used field data, mostly from permanent sampling plots (PSP) established at representative areas. It is planned to estimate the biomass and carbon stocks to use conventional regression equations developed by Ortíz (1997) in order to establish the carbon by ecologic group; and regression models developed by Baker *et al* (2004) and by Chave *et al* (2001).
 The base for estimating the carbon content in the natural forest up to date and for the projections (10 years), comes from an econometric model developed by FUNDECOR specifically for the region, which establishes that about 85% of the model variability is explained through the alternate land leasing.

Conformance Yes No N/A
 CAR/OBS

Community Information

4) A description of communities located in and around the project area, including basic socio-economic information (using appropriate methodologies such as the livelihoods framework).

Findings The PDD indicates that, within the project’s regional surroundings, there are mostly privately owned fincas, isolated by several miles from the communities. However, based on a report of the Ministry of Health of Costa Rica published in 2007, Pax Natura presents data that corresponds to the socioeconomic indicators of the closest communities (but not located within the project area) with which it would have relationships: Guácimo and Pococi. Some of the indicators considered are social development, population density, birth and death rates.

Conformance Yes No N/A
 CAR/OBS

5) A description of current land use and land tenure at the project site. (See also **G5**).

Findings The project area is completely made up by private fincas, whose owners had expressed their interest in protecting its natural forest areas. Owners of about 5,000 hectares, had already signed memoranda of understanding with the institutions that support the Pax Natura project, and this guarantees the beginning of the project during this year.

Conformance Yes No N/A
 CAR/OBS

Biodiversity Information

6) A description of current biodiversity in the project area and threats to that biodiversity, using appropriate methodologies (e.g., key species habitat analysis, connectivity analysis), substantiated where possible with appropriate reference material

Findings Through research done by INBio in the area, it has been determined that, because of the project area, its topographic characteristics, temperatures, rain pattern and location within the national territory, it is one of the most important regions of the country, considering the endemism (81% of the especies), mostly for the group of terrestrial

vertebrates, herpetological and bird species. There are flora and fauna inventories with high level of detail, and specific studies in which there are analyses of the taxon main threats.

The PDD includes an extense listing of the flora and fauna especies present at the project area.

Conformance
CAR/OBS

Yes

No

N/A

- 7) A list of all IUCN Red List threatened species (which encompasses endangered and vulnerable species) and species on nationally recognized list (where applicable) found within the project boundary. (See also **B1**).

Findings

The PDD includes a list of flora and fauna that INBio has identified as threatened especies according to national lists and according to the IUCN list.

Conformance
CAR/OBS

Yes

No

N/A

G2. Baseline Projections

Concept

An analysis of projected land-use trends is necessary to predict likely on-site changes without implementation of a project. This “without-project” future land-use scenario enables comparison of the project’s likely impacts with what would otherwise have occurred.

Indicators

The project proponents must develop a defensible and well-documented "without-project" future land-use scenario and baseline projections.

- 1) Description of the most likely land-use scenario in the absence of the project, identifying whether the scenario assumes that existing laws or regulations would have required that project activities be undertaken anyway.¹

Findings

The Pax Natura project bases the definition of baseline mostly on historic data and projections at the short and medium term that suggest that the most likely scenario in the absence of the environmental service project would be a non forest alternate use, that is agricultural crops (mostly for biofuels, pineapple crops and others). According to what is expressed in the PDD, these criteria would be directly conditioned to the lack of funding for the implementation of environmental services within the region, which would allow the owners to not prioritize the strict protection of the natural forests within their fincas.

The previous was determined by Tattenbach *et al* (2006) in a consult document denominated "Generation of Environmental Services" presented to FONAFIFO. In that document it is determined that, while keeping other variables constant, there is a close relationship between the payment for environmental services and the deforestation rate in the project area (R^2 of 83% and 98% level of estatistical significance; with $n = 21$ observations distributed among seven regions, 1996 to 2000). This means that at greater payment for environmental services, deforestation would decrease. In order to determine this, it was used an econometric model that suggests that the deforestation in that region depends of the forest proximity to any type of roads.

The payment for environmental services in the area has been kept constant, even when many private owners have expressed their interest for entering into the program.

¹This is important for justifying whether the benefits being claimed by the project are truly “additional”, i.e., the climate, community, and biodiversity impacts that would not be likely to occur without the project. For example, actions implemented by the project must not be required by law, or project proponents must make a compelling case demonstrating that the pertinent laws are not being enforced. The project proponents must provide credible and well-documented analyses (poverty assessments, farming knowledge assessments, remote sensing analysis, etc) showing that without the project, improved land-use practices would be unlikely to materialize.

According to the PDD and supporting documents, FONAFIFO does not have enough funding to be able to expand its work area. Considering this, it can be determined that the area under PES would be kept constant during the next ten years, with the aggravating that the risk would even increase as long as the cost of the alternative leasing of the land for agricultural use be greater than the cost of keeping the natural forests protected.

According to what is explained in the PDD, the difference by implementing the Pax Natura project would be an increment in the area under PES and a reduction of the natural forest vulnerability to degradation and deforestation. According to this, once the Pax Natura project has been implemented, it would obtain the necessary funding to offer the conservation incentives as means of acknowledging the externalities of the natural forest, which otherwise (business as usual) it would not have access to, that is it would overcome an economic barrier.

Conformance
CAR/OBS

Yes No N/A

- 2) A projection of future carbon stock changes in the absence of the project, based on the land-use scenario described above. The timeframe for this analysis can be either the project lifetime (see G3) or the project accounting period, whichever is more appropriate². If there is evidence that non-CO₂ greenhouse gas (GHG) emissions such as CH₄ or N₂O are more than 15% of the baseline GHG fluxes at the project site (in terms of CO₂ equivalents), they must be estimated.

Findings

It is foreseen that the Pax Natura project be implemented starting this year (2009) beginning with the funding of 5,000 hectares, which would add up to the area that FONAFIFO has considered to certify under a normal scenario. For 2010 and 2011, 3500 hectares would add up every year, to make an effective total of 12,000 hectares. During the following seven years (for a project with a span of life of 10 years) it has not been considered to offer more incentives to enlarge the area under PES.

Considering the previous plus other variables (econometric model) the mathematical calculations were performed to determine the difference in the natural forest area and its respective carbon stock, making the difference between a scenario with project and one without project, applicable to the ten years proposed for the project to last.

In sum, the results from the analysis suggest that under a scenario without project, the deforestation between 2009 and 2019 would be of 9,750 hectares, whereas by implementing the environmental service project, the deforestation during the same period of time would be of 4,371 hectares. This means a reduction in the deforestation in the region of 5,379 hectares or, a reduction in emissions of 1.5 millions Mg CO₂ equivalent.

Regarding other types of GEI, Pax Natura justifies in the project PDD the reason why is not planned to monitor them: *"It is not expected that gases different from CO₂ account for more than 15% of the net change of the project's greenhouse gas emission. This is because the project area of interest is mostly covered with natural forest."*

Conformance
CAR/OBS

Yes No N/A

- 3) Description of how the "without-project" scenario would affect local communities in the project area.

Findings

According to what is presented in the PDD, in a without project scenario the decrease in forest coverage could negatively affect the sources of water for communities; in this case Guácimo and Pococí (population of 38,466 and 114,017 respectively). In order to define the variables for the analysis of the sources of water no specific studies were made in the project area, instead it was preferred to use data from the literature, for example Lozilla *et al* (2006) who determined the potential hydric recharge, infiltration and measurements. These authors also determined that the water infiltration through the soil with forest coverage is much greater than the infiltration in soils where agricultural projects are being developed.

² In some cases, the project lifetime and the project accounting period may be different.

Conformance CAR/OBS Yes No N/A

4) Description of how the “without-project” land-use scenario would affect biodiversity in the project area.

Findings The Pax Natura Project PDD describes that under a scenario without project, the expected deforestation would have as a consequence the habitat loss of especies that are endemic to the region, where according to local research it has been established that the project area is considered as one of the most important endemic areas (80% of endemic vertebrate especies). Also, it is indicated that if the payment for environmental services project is not strengthened, it could affect the connectivity between the national parks Braulio Carrillo and Turrialba, and the water sheds Pococí and Guácimo. Last, it is indicated that there could be more gaps in the conservation system of protected areas in the country according to the Project of Grúas II.

Conformance CAR/OBS Yes No N/A

5) Description of how the “without-project” land-use scenario would affect water and soil resources. (See also B5).

Findings In general terms, in a without project situation Pax Natura estimates that no significative negative impacts will result for the water and the soil, since most of the area has forest coverage. However, it is expected that without the implementation of the payment for environmental services project, there will be a gradual degradation of the soil and the loss in the main water flux that feed the project area (Guácimo and Pococí). This was determined based on projections for loss of forest coverage in the area of the project influence.

Conformance CAR/OBS Yes No N/A

G3. Project Design & Goals - Required

Concept

The project must be described in sufficient detail so that a third-party can adequately evaluate it. Projects that operate in a transparent manner enable stakeholders and outside parties to contribute more effectively to the project.

Indicators

The Project proponents must:

1) Provide a description of the scope of the project and a summary of the major climate, community and biodiversity goals.

Findings Pax Natura presents in the PDD how it pretends to implement the program of environmental services, the project area, project period, and in general the objectives pursued are:

- To reduce carbon dioxide emissions, as well as to protect the biodiversity and the hydric resource of surrounding forest areas close to the National Parks, through avoided deforestation.
- To contribute to the efforts directed to avoid the climate change
- To participate in the maintenance of the landscape biological integrity of the Central Volcanic Range Conservation Area.

The objectives are valid considering the project area, the time assigned to implement the project, and the institutions supporting its implementation.

On the other hand, the environmental services project of Pax Natura will seek that, at

least during the 10 years of the project life, the natural forests be free of deforestation threats, offering to the finca owners an incentive to keep them in their natural condition, and so promoting with this to avoid the risk of selling the forest to third parties who would probably use the area to implement a project with higher financial benefits (alternate land use).

Whithin the scope of the project there are initially 12,000 hectares to certify (or already certified) under the program PES of FONAFIFO, located within a total of 34,000 hectares of natural forest, where there have been identified potential threats that would cause a change in the land use.

Conformance
CAR/OBS

Yes No N/A

2) Describe each major project activity (if more than one) and its relevance to achieving the project's goals.

Findings

The main activity expected to be implemented will be the responsibility of three national known institutions: FUNDECOR who developed the PDD, and it will be in charge of selecting the areas and the owners to be included in the environmental service program; besides, it has geographic databases and information; FONAFIFO, is a government institution in charge of administrating and auditing the PES in Costa Rica; and last, INBio will be in charge of the biological monitoring at the project area.

Conformance
CAR/OBS

Yes No N/A

3) Provide a map identifying the project location, where the major project activities will occur, and geo-referenced boundaries of the project site(s).

Findings

Taking advantage of the competitiveness of FUNDECOR regarding its GIS experience and management, the maps presented in the PDD are of high detail and technical quality, useful as tools to support the field activities and monitoring.

In the maps are clearly indicated the project boundaries, the project area of influence (ACCVC), the location of watersheds, national parks, main villages, private fincas to be included in the environmental service project, land use, and others. The maps were prepared in base of LandSat images, orthofotos and real geographic coordinates.

Conformance
CAR/OBS

Yes No N/A

4) Provide a timeframe for the project's duration and the rationale used for determining the project lifetime. If the accounting period for carbon credits differs from the project lifetime, explain.

Findings

Pax Natura has defined a total timeframe of 10 years, starting in 2009, with verification at year 4, 7 and 10. The PDD indicates that it was decided the project duration between 2009 to 2019 since it is expected that the national initiative of Neutral Carbono begins two years later, that is in the year of 2021. However, it also indicates that the commitment to keep the forest coverage is at the long term, that is after 2019 the forest will remain standing even if Costa Rica does not achieve the neutral carbon goal.

Conformance
CAR/OBS

Yes No N/A

5) Identify likely risks to climate, community and biodiversity benefits during the project lifetime. Outline measures that the project plans to undertake to mitigate these risks.

Findings

Pax Natura, within its PDD, defines three type of risks which are the most representatives:

a) Institutional risk: it refers to the risk of failure of the payment for environmental services program that FONAFIFO has promoted during the past ten years. The risk is considered smaller, given the success up to the date with the PES program in Costa Rica and particularly in the project area; besides, there are monitoring and annual audits for verifying the areas in the field and the adherence with the commitments.

b) Risks associated with catastrophic events: this type of risks are not expected, since

for this zone there are not records of volcanic activity, hurricanes, earthquakes or fires. Only are expected land slidings due to volcanic activity or low intensity earthquakes.

c) Risk associated with illegal activity: This refers to the risk of nonconformance from the parts who signed the payment contract for environmental services under the Pax Natura project, either the finca owner, or the forest manager. After the cancellation of the contract, it will be requested the refund of the economic incentive and a denounce will be presented before the respective authority.

Leakage risks are not expected, since the project implementation will not represent the movement of population or their activity to other area. Besides, the PDD mentions that the Pax Natura project area is surrounded by other REDD projects not yet approved, but already certified by FONAFIFO with payment for environmental services.

Conformance
CAR/OBS

Yes No N/A

6) Document and defend how local stakeholders have been or will be defined.

Findings

FUNDECOR and FONAFIFO had worked during the last ten years in the zone promoting the conservation of the natural forest in fincas privately owned, with the communities and getting support from local institutions. At the same time, FUNDECOR has also generated certain experience in managing an FSC certified group, and so guarantees that the group members (mainly individual owners) implement good management practices within the fincas.

It is expected to take advantage of the work experience generated and the relationship with individual owners and the relatively close communities: Canton Pococí and Cantón Guácimo.

For the Pax Natura project implementation, it is planned to use the same interaction means and monitoring of the management practices implemented by the finca owners and the institutions for local support.

FUNDECOR and the FSC group members have a procedure for solving internal conflicts, which would adjust to any case that arise between the owners of the fincas that will belong to the payment for environmental services project.

Conformance
CAR/OBS

Yes No N/A

7) Demonstrate transparency by: making all project documentation publicly accessible at, or near, the project site; only withholding information when the need for confidentiality is clearly justified; informing local stakeholders how they can access the project documentation; and by making key project documents available in local or regional languages, where applicable.

Findings

One of FUNDECOR basic roles as supporting institution to the Pax Natura project will be to make publicly available all the documentation, which is considered not confidential, in its website www.fundecor.org. According to what is mentioned in the PDD, the purpose of making the documents publicly available is to give to interested ones the opportunity to express comments, doubts, present improvements and critics of the work performed by those involved in the project, that is institutions or finca owners. As alternative practice, to those interested the documents related to the FSC certification will be made available, since at the short term is planned to induce the owners to obtain the green seal.

It is not expected that the document's language be an issue, since there is even a version in Spanish of the PDD.

Conformance
CAR/OBS

Yes No N/A

G6. Legal Status - Required

Concept

The project must be based on a solid legal framework (e.g., appropriate contracts are likely to be in place) and the project must seek to satisfy applicable planning and regulatory requirements.

During the project design phase, the project proponents should communicate early on with relevant local, regional and national authorities and allow adequate time to earn necessary approvals. The project design should be flexible to accommodate potential modifications that may arise to secure regulatory approval.

Indicators

The project proponents must:

- 1) Guarantee that no laws will be broken by the project.

Findings	The institutions involved in the Pax Natura project implementation know with detail the content of the forest, environmental and labor laws of the country, and in the case of FUNDECOR, also knows the content and the application of the international agreement Costa Rica is signatory of (Biodiversity Agreement, CITES, ILO agreement). Up to a point, the purpose of the institutions involved in the Pax Natura project is to contribute to guarantee the governability in the area of its projects. The contract signature with the finca owners will guarantee that there will be written control of the project proponents regarding the adherence to the national legal frame.
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

- 2) Document that the project has, or expects to secure, approval from the appropriate authorities.

Findings	Up to a point, the Costa Rican government has delegated in two of the proponent institutions (FONAFIFO and FUNDECOR), the responsibility to assess, monitor and deliverate about the conformance with the legal national frame. As a consequence, there has been developed enough experience to interact with the finca owners to guarantee those implement the forest projects with strict respect of the national laws. In some cases, such as it has happen before, the project proponents will requiere the approval from the MINAET for the field activities.
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

G7. Adaptative Management for Sustainability - 1 Point, Optional

Concept

Adaptive management is a formal, systematic, and rigorous approach to learning from the outcomes of management actions, accommodating change and improving management. It involves synthesizing existing knowledge, exploring alternative actions and making forecasts about their outcomes.³

Adaptive management is based upon the premise that ecosystems and social systems are complex and inherently unpredictable. Adaptive management views land management actions as learning opportunities and as potential experiments for systematically testing assumptions and identifying adjustments that could benefit the project. It enables a project to evolve to meet changing or unanticipated needs, and can help ensure that the project realizes its goals over the long term.

Indicators

The project proponents must:

³ The definition of Adaptive Management and several of the indicators were based on Nyberg (1999). *An Introductory Guide to Adaptive Management*.

them forest incentives for conservation, even when the project life had expired. One example of this is FONAFIFO is obligated before the Costa Rican government to manage the resources and to strengthen the environmental service program indefinitely.

Conformance
CAR/OBS

Yes

No

N/A

G8. Knowledge Dissemination - 1 Point, Optional

Concept

Field-based knowledge can be of value to other projects. If actively disseminated, this information can accelerate the adoption of innovative practices that bring benefits both globally and locally.

Indicators

The project proponents must:

- 1) Describe how they will document the relevant or applicable lessons learned.

Findings

As usual practice, the institutions that will support the Pax Natura project document the achievements and experiences obtained in the field, the databases, analyses and support documentation. It is established in the PDD that once the project has been implemented in the field, the non confidential documents will be posted in the FUNDECOR website.

At the same time, in a given moment the staff from these institutions will support the implementation of the CarFix project in an area close to the Pax Natura project.

Conformance
CAR/OBS

Yes

No

N/A

- 2) Describe how they will disseminate this information in order to encourage replication of successful practices. Examples include: undertaking and disseminating research that has wide-reaching applications; holding training workshops for community members from other locales; promoting “farmer to farmer” knowledge-transfer activities; linking to regional databases; and working with interested academic, corporate, governmental or non-governmental organizations to replicate successful project activities.

Findings

The principal method used to spread the information will be through the website of FUNDECOR (www.fundecor.org); where it is foreseen to publish the documents considered non confidential. Also, it is foreseen to initiate a series of informative workshops.

Conformance
CAR/OBS

Yes

No

N/A

CL1. Net Positive Climate Impacts - Required

Concept

The project must generate net positive impacts on atmospheric concentrations of greenhouse gases (GHGs) within the project boundaries and over the project lifetime.

Indicators

The project proponents must:

- 1) Use the methodologies of the Intergovernmental Panel on Climate Change's Good Practice Guidance (IPCC GPG) to estimate the net change in carbon stocks due to the project activities. The net change is equal to carbon stock changes *with* the project minus carbon stock changes *without* the project (the

latter having been estimated in **G2**). Alternatively, any methodology approved by the CDM Executive Board may be used. This estimate must be based on clearly defined and defensible assumptions about how project activities will alter carbon stocks and non-CO₂ GHG emissions over the duration of the project or the project accounting period.

Findings

The PDD, in section 9.1 explains that because the project is only preventing deforestation, accounting of non-CO₂ GHGs is not necessary. This was found by the auditors to be a valid conclusion.

In the PDD, the change in carbon stocks due to deforestation is calculated by taking the weighted average of carbon stocks in the forest types within the project area according to data gathered by a network of plots reported in Helmer and Brown (2000). The Helmer and Brown (2000) study was thought to be a reputable source from which to extract biomass information (available, with some pages missing here: <http://tinyurl.com/l6vbfy>). A sample comparison of the data presented in Table 17.1 of the Helmer and Brown (2000) with the PDD indicated that data had been transferred across accurately. However, it was noted that the data used in this study comes from plot data from "relatively undisturbed" plots taken in the 1960's. The PDD does not defend the assumption that the 'original forest' in the project area today is relatively undisturbed and likely to contain similar biomass to forty years ago.

In the PDD, the biomass values per hectare were corrected to account for the proportion of forests that were present in a 1986 classification map and thus considered 'original'. A conservative assumption was made that any non-original forest (that established since 1986) had a biomass of zero, and 'original' forests were assigned a biomass of 100% of the Helmer and Brown (2000) value. The final weighted average for forest carbon stock in the area was given as 115 Mg C ha⁻¹. This value was thought to be a conservative average, with the caveat that the assumption of low disturbance needs to be justified.

The amount of deforestation in the with- and without-project scenario was based on an econometric model developed for the Conservation Area of the Central Volcanic Range (ACCVC) by Tattenbach *et al.*, (2006). The model estimates that the project, through enrolling 12,000 ha of private land in payment for ecosystem services scheme, will reduce deforestation in the project area by 5,379 ha. Using this value of avoided deforestation and the weighted average of 115 Mg C ha⁻¹ an estimate of avoided emissions totaling 2,276,526 Mg of CO₂. However the auditors calculations (115*5379*(44/12)) for conversion of the data into emissions reductions yielded a slightly different answer of 2,268,145 Mg of CO₂. It is not clear why this discrepancy has arisen. It was also noted that since only the in-situ avoided deforestation emissions were going to be sold on the voluntary market (see section 13), it would be help the to quote the emissions reductions from these areas only.

In section 2.3 of the PD the baseline gross annual deforestation rate is estimated to be 3.9% within the 34000 ha study area between 2009 and 2019. This value comes from an econometric model developed by Tattenbach et al (2006), the model incorporates payment for ecosystem services in the land rents when modeling deforestation in the Conservation Area of the Central Volcanic Range (ACCVC) of Costa Rica. By signing up 12000 ha to their program the proponents predict that this will reduce gross deforestation to 1.6% between 2009 and 2019. This value also comes from the Tattenbach et al (2006) model. Therefore the proponents are expecting to reduce gross deforestation by 2.3 percentage points, saving 5379 ha of forest from being deforested.

The decrease of 2.3 percentage points will be achieved by raising the area of land protected under payments for environmental services from 0% to 47% within the study area. In section 9.2 the estimated effectiveness at enrolling areas in PES in preventing deforestation is defended. The proponents state that, "it has been observed over time

(in satellite images) that an 11 percentage point increase in PES coverage (from 15% to 26%) led to a 1.7 percentage point reduction in the deforestation rate (2.5% to 0.8%)." However, it is not clear what area of land this data was gathered from.

The PDD, in section 9.3, explains that of the 5,379 ha of avoided deforestation, a portion of this (3,816 ha) is expected to occur within the enrolled areas and the remainder is achieved outside the enrolled areas, by farmers who are anticipating payments and hence conserving forests, but without direct payment at this time. Later in the PD it is acknowledged that reductions that take place on land not included in the project area should not and will not be sold as reductions credits.

Within Tattenbach et al the document the deforestation rates his model predicts in the ACCVC are defended with respect to commonly known reports of deforestation rates falling in Costa Rica. Tattenbach et al first argue that reported rates are often net deforestation rates and secondly they present statistics to demonstrate that the project area has been experiencing higher deforestation rates than the national figures due to the construction of the Braulio Carrillo Highway in the late 1980s. These defenses coupled with the model outputs were considered to adequately defend the projected deforestation rates.

It was also noted by the auditors, that not including tree root carbon pool is a conservative omission.

The heading units presented for the columns in Table 9 appear to be incorrect.

Conformance
CAR/OBS

Yes No N/A

CAR 01/09: Pax Natura shall justify the representativeness of carbon stock plot data used with reference to conditions and landuses within the project area at the present time.

Note: CAR 01/09 was closed based on new income data provided by project proponent. See details at Section 2.3.1.

OBS 01/09: Pax Natura should ensure consistency in the presentation of numerical data and provide the number of carbon credits that it expects to generate for sale from the project.

- 2) Factor in the non-CO₂ gases CH₄ and N₂O to the net change calculations (above) if they are likely to account for more than 15% (in terms of CO₂ equivalents) of the project's overall GHG impact.

Findings

The PDD, in section 9.1 states that non-CO₂ GHG emissions were negligible for this type of project. This was thought to be a reasonable assumption.

Conformance
CAR/OBS

Yes No N/A

- 3) Demonstrate that the net climate impact of the project (including changes in carbon stocks, and non-CO₂ gases where appropriate) will give a positive result in terms of overall GHG benefits delivered.

Findings

The project activities described would lead to a net benefit to the climate in terms of reduced CO₂ emissions from avoided deforestation.

Conformance
CAR/OBS

Yes No N/A

CL2. Offsite Climate Impacts (“Leakage”) - Required

Concept

The project proponents must quantify and mitigate likely negative offsite climate impacts; namely, decreased carbon stocks or increased emissions of non-CO₂ GHGs outside the project boundary, resulting from project activities (referred to as “leakage” in climate change policy).

Indicators

The project proponents must:

- 1) Estimate potential offsite decreases in carbon stocks (increases in emissions or decreases in sequestration) due to project activities.

Findings	<p>The PDD, in section 10, reasons that leakage from activity shifting will be zero and the actual leakage caused by the project could be positive, due to forest being conserved outside the areas actually enrolled in anticipation of future payment. It was understood by the auditors that the project participants would join voluntarily and due to other initiatives in the surrounding areas they would be less likely to purchase land elsewhere for deforestation. However, a full analysis of these assumptions is difficult because the PDD does not provide a detailed description of the drivers of deforestation beyond economic gain. It was therefore not clear whether or not reducing the supply of products that come from deforestation (timber) and those products produced on the land (cattle, crops etc) would cause demand to be shifted and deforestation to occur elsewhere.</p> <p>The PDD, in section 10 states that vehicular emissions are most likely to be negligible and were therefore not counted. This was thought to be a fair assumption.</p> <p>Based on the findings above, it was concluded that the assumption of there being positive leakage was relatively well defended by use of the model. However, more detail surrounding the deforestation drivers and what impact the PES would have on these is required to fully understand the scale of any potential negative leakage.</p>
Conformance	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
CAR/OBS	<p>CAR 02/09 The project proponent shall describe the drivers of deforestation and the end land use for deforested land to allow an assessment of the likelihood of leakage to occur.</p> <p>Note: CAR 02/09 was closed based on new income data provided by project proponent. See details at Section 2.3.1..</p>

- 2) Document how negative offsite impacts resulting from project activities will be mitigated, and estimate the extent to which such impacts will be reduced.

Findings	See CL2.1
Conformance	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
CAR/OBS	See CAR 02/09

- 3) Subtract any likely project-related unmitigated negative offsite climate impacts from the climate benefits being claimed by the project. The total net effect, equal to the net increase in onsite carbon stocks (calculated in the third indicator in **CL1**) minus negative offsite climate impacts, must be positive.

Findings	<p>The PDD makes no reductions for leakage, based on the conclusion that the leakage would actually be positive. Issues were raised above about the thoroughness of the leakage analysis, and these would need to be addressed before this criterion could be found to be in conformance. However, it should be noted it is not expected that the deduction of leakage would lead to the project benefits ceasing to be positive.</p>
Conformance	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
CAR/OBS	See CAR 02/09

CL3. Climate Impact Monitoring - Required

Concept

Before a project begins, the project proponents must have an initial monitoring plan in place to quantify and document changes in project-related carbon pools, and non-CO₂ GHG emissions if appropriate, (within and outside the project boundaries). The monitoring plan should state which measurements will be taken and which sampling strategy will be used.

Since developing a full carbon-monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being evaluated by the CCB Standards. This will be especially true for small-scale projects.

Indicators

The project proponents must:

- 1) Have an initial plan for how they will select carbon pools and non-CO₂ GHGs to be monitored, and the frequency of monitoring. Potential pools include aboveground biomass, litter, dead wood, belowground biomass and soil carbon. Pools to monitor must include any pools expected to decrease as a result of project activities. Relevant non-CO₂ gases must be monitored if they account for more than 15% of the project's net climate impact expressed in terms of CO₂ equivalents.

Findings

The PDD, in section 11, describes an initial plan for a monitoring strategy.

The monitoring strategy will include monitoring gross deforestation rates through landuse change across the project area as well as establishing some permanent plots in the area to track changes in biomass of the forest types.

In section 11 reference is made to Adler's (1980) measurement standards, however the reference is not provided in the document. Annex 5, "Methodology for calculating carbon based on aboveground biomass" relates provides further detail of the carbon calculations and was found to be an acceptable initial plan. However, the Annex is incorrectly referred to as "Annex 4" in section 11.

The frequency of monitoring the remote sensing data is stated as being every three years in section 11. However, in section 7.1 it is stated that the project area will be monitored with remote sensing and GIS data every four years. Therefore the frequency of remote sensing monitoring was unclear. The frequency of monitoring of the biomass plots was not clear. In addition, it was not clear how three or four yearly monitoring events would be scheduled into the ten year project life.

The PDD does not mention any on the ground validation of remote sensing results.

It is also not clear if any attempt will be made to monitor compliance with the terms of the PES payments made to farmers either via remote sensing or from ground surveys. Without any plan to monitor the success of the project on the land areas that fall under it, it will not be possible to differentiate trends occurring on the project areas compared to trends driven by other factors occurring across the whole region.

Conformance

Yes No N/A

CAR/OBS

CAR 03/09 The project proponent shall present the intended monitoring frequency clearly and consistently in the PDD.

CAR 04/09 The project proponent shall explain to what extent on the ground monitoring of the project success of enrolled areas will occur.

Note: CAR 03/09 and CAR 04/09 were closed based on new income data provided by project proponent. See details at Section 2.3.1.

OBS 02/09 The project proponent should ensure all references are provided in the bibliography and that the PDD references the annexes correctly.

CL4. Adapting to Climate Change and Climate Variability – 1 Point, Optional

Concept

Projects designed to anticipate and adapt to probable impacts of climate change and climate variability are more likely to sustain the benefits generated by the project over the long term.

Indicators

The project proponents must:

- 1) Identify likely regional climate change and climate variability impacts, using available studies.

Findings	The PDD, in section 12, states that droughts are likely in the project area as a result of climate change referencing Jiménez and Girot (2002).		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 2) Demonstrate that the project has anticipated such potential impacts and that appropriate measures will be taken to minimize these negative impacts.

Findings	The PDD, in section 12, states that the project activity (avoiding deforestation) is one way to mitigate the effects of reduced water supply because forests play an important role in regulating the water supply of the area. This was thought to be a reasonable assumption.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

CL5. Carbon Benefits Withheld from Regulatory Markets - 1 Point, Optional

Concept

When some carbon benefits generated by a project are not sold to satisfy regulatory requirements, additional mitigation action will be required elsewhere to meet these requirements. Therefore, withholding a portion of the project's carbon benefits from being used in capped markets will result in greater overall climate change mitigation.

Moreover, projects that do not sell all their carbon benefits in regulated regimes have the opportunity to experiment with climate change mitigation activities other than the ones eligible under these regimes (such as avoided deforestation, which is not currently creditable under the Clean Development Mechanism). Such experimentation may generate new knowledge that is of value to carbon rule makers and other project developers.

Indicators

The project proponents must:

1. Not sell at least 10% of the total carbon benefits generated by the project⁴ into regulated GHG markets (e.g., CDM, New South Wales GHG Abatement Scheme, Oregon Standard). Projects can sell these carbon benefits in a voluntary market or retire them.

Findings	The PDD, in section 19, states that all credits generated will be sold on the voluntary market.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

⁴ Total carbon benefits generated by the project can include those coming from activities that are currently not eligible for crediting under existing regulatory regimes (e.g., avoided deforestation).

	<p>project area. The PDD includes an annex with the general data of the stakeholders to be consulted once the project officially begins; among these are:</p> <ul style="list-style-type: none"> a) MINAET (Ministry of Environment, Energy and Transports). b) SINAC (National System of Conservation Areas) c) Central Volcanic Range Conservation Area (ACCVV) d) Universidad Nacional Autónoma (UNA) e) Municipalities of Guácimo and Pococí f) National Forest Office (ONF) g) Tourism Chamber of Sarapiquí (CATUSA) 		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 3) Formalize a clear process for handling unresolved conflicts and grievances that arise during project planning and implementation. The project design must include a process for hearing, responding to and resolving community grievances within a reasonable time period. This grievance process must be publicized to local stakeholders. Project management must attempt to resolve all reasonable grievances raised, and provide a written response to grievances within 30 days. Grievances and project responses must be documented.

Findings	The PDD establishes that FUNDECOR would implement an already designed tool (for FSC certified projects) for conflict prevention and solution among the project participants (finca owners and institutions). According to what is indicated, the tool has not been used since there have not been registered complains or conflicts.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

CM2. Offsite Community Impacts - Required

Concept

The project proponents must quantify and mitigate likely negative social and economic offsite impacts; namely, the decreased social and economic wellbeing of communities or people living outside the project boundary, resulting from project activities.

Indicators

The project proponents must:

- 1) Identify potential negative offsite community impacts that the project is likely to cause.

Findings	<p>According to the Pax Natura Project PDD, there are expected positive impacts in the communities of Guácimo and Pococí (communities neighboring to project area of influence that is close to the 39,000 hectares where the effective 12,000 hectares of the Pax Nature project will be distributed). The positive impact more significant would be the benefit to the watersheds of Guácimo y Pococí since by keeping the forest coverage also the level of this water sheds would be kept.</p> <p>However, after achieving the first 7000 hectares of certified forest under payment for environmental services, the company should consider to assess with greater detail whether the Pax Natura project would be causing negative impacts to neighboring villages or communities.</p>		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
	See OBS 03/09		

- 2) Describe how the project plans to mitigate these negative offsite social and economic impacts.

Findings	No negative impacts have been identified, and so there is not need for a mitigation plan for those impacts.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 3) Evaluate likely unmitigated negative offsite social and economic impacts against the social and economic benefits of the project within the project boundaries. Justify and demonstrate that the net social and economic effect of the project is positive.

Findings	During the project planning stage was identified a primary positive impact (water shed protection), since no negative impacts are not expected, a positive result is expected. However, Pax Natura should assess again after the 7000 hectares goal (year 2010) is achieved.		
Conformance	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
CAR/OBS	See OBS 03/09		

CM3. Community Impact Monitoring - Required

Concept

The project proponents must have an initial monitoring plan to quantify and document changes in social and economic wellbeing resulting from the project activities (within and outside the project boundaries). The monitoring plan should indicate which measurements will likely be taken and which sampling strategy will be used to determine how the project affects social and economic wellbeing.

Since developing a full community-monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being evaluated by the CCB Standards. This will especially be true for small-scale projects.

Indicators

The project proponents must:

- 1) Have an initial plan for how they will select community variables to be monitored, and the frequency of monitoring. Potential variables include income, health, roads, schools, food security, education and inequality. Community variables at risk of being negatively impacted by project activities should be monitored.

Findings	As initial monitoring plan is considered to measure the following indicators: a) Establishment of the PES income baseline in the zone (pre project) b) PES income monitoring in the zone c) The quality of the water within the springs supplying the communities within the project. According to the scope of the Pax Natura project, it will only be working with owners of individual fincas which do not belong to the communities. At this moment it is not known which fincas would be benefitted with the payment for environmental services project and if according to their location would generate some positive or negative impact to the villages or larger communities (for example, Cantón Pococí and Guácimo). In that way, it would be expected that after the 7000 hectares is achieved (year 2010) Pax Natura implements a socioeconomic monitoring including the variables suggested by this standard: income, health, road, education.		
Conformance	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
CAR/OBS	See OBS 03/09		

CM4. Capacity Building - 1 Point, Optional

Concept

Projects that include a significant capacity-building (training, skill building, etc) component are more likely to sustain the positive outcomes generated by the project and have them replicated elsewhere. The project proponents must include a plan to provide orientation and training for the project's

employees and relevant community members with an eye to building locally relevant skills and knowledge over time.

Indicators

The project proponents must show that capacity building is:

- 1) Structured to accommodate the needs of communities, not only of the project;

Findings	The objective group is made up by the owners of individual fincas, there are not communities interested or organized to belong to the Pax Natura project. Since it will be mandatory for fincas participating in the PES project that also demonstrate satisfactory adherence to the FSC certification, the project proponents plan to promote that the owners be included in constant training and learning process, as well as social and financial aspects to strengthen the success of both projects (PES y FSC).		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 2) Targeted to a wide range of groups, not just elites;

Findings	The intention is to include any one who is interested in the training events, mostly the proponent of the CarFix project (not validated yet). The public goal for the training will be made up by technicians from local institutions or individuals from forest projects in the region, such as conservation initiatives from SINAC or the ACCVC, for instance.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 3) Targeted to women to increase their participation; and

Findings	It is expected that within the interested in belonging to the project, there also be a significant portion of women owners of natural forests. As common practice, the project proponents will not inhibit the gender participation in the projects they implement, instead they promote the participation of women in training events.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 4) Aimed to increase community participation in project implementation.

Findings	In the PDD has defined that as much as possible, the local criteria and the participation from villages or close communities will be beneficiated with job and training opportunities. This is with the intention of involving them in the initiative of protecting the whole project area of influence (ACCVC) and to generate more interest in requesting payment for environmental services.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

CM5. Best Practices in Community Involvement - 1 Point, Optional

Concept

Projects that use best practices for community involvement are more likely to benefit communities. Best practices include: respect for local customs, local stakeholder employment, worker rights and worker safety.

Indicators

Project proponents must:

- 1) Demonstrate that the project was developed with a strong knowledge of local customs and that, where relevant, project activities are compatible with local customs.

Findings	The institutions involved in the Pax Natura project have worked for a long time in the ACCVC at the individual owner level, or in some cases with groups organized of finca owners (this is the case of the FSC group certification that has been maintained since approximately ten years). This open participation experience has allowed Fundecor, mostly to design the present payment for environmental services project.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 2) Show that local stakeholders will fill all employment positions (including management) if the job requirements are met. Project proponents must explain how stakeholders will be selected for positions and where relevant, must indicate how traditionally underrepresented stakeholders and women, will be given a fair chance to fill positions for which they can be trained.

Findings	The need of hiring staff from the area if necessary has been considered; however, at the moment it has been planned to use the staff from the finca itself, that has been hired in the project zone.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 3) Show that the project will inform workers about their rights, and that the project complies with international rules on worker rights.

Findings	FUNDECOR will be in charge of verifying that the finca owners obey the national labor law. This is to meet with the CCBA and with the FSC standard once they enter this certification scheme.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 4) Comprehensively assess situations and occupations that pose a substantial risk to worker safety. A plan must be in place to inform workers of risks and to explain how to minimize such risks. Where worker safety cannot be guaranteed, project proponents must show how the risks will be minimized using best work practices.

Findings	Given the nature of the payment for environmental services project, it is not expected that the finca owners or their employees execute tasks that might put at risk their physical integrity. However, it is expected that as part of the commitment with the owners, there be an evaluation of the labor risks and protection gear be provided according to the activity performed.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

B1. Net Positive Biodiversity Impacts - Required

Concept

The project must generate net positive impacts on biodiversity within the project boundaries and within the project lifetime, measured against the baseline conditions.

Projects should have no negative effects on species included in the IUCN Red List of threatened species (which encompasses endangered and vulnerable species) or species on a nationally recognized list (where applicable). Invasive species must not be planted by the project.

Genetically Modified Organisms (GMOs), as a relatively new form of technology, raise a host of ethical, scientific and socio-economic issues. Some GMO attributes may result in invasive genes or species. In

	There are not expected risks or threats to the flora and fauna resulting from the project implementation, since it is all about payment for environmental services in natural forests.			
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	

4) Identify all species to be used by the project and show that no known invasive species will be used.

Findings	It is not planned to use not known or invasive especies, since in general there will not be reforestation nor enrichment, the project will be completely developed in natural forests (avoided deforestation).			
Conformance CAR/OBS	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	

5) Guarantee that no genetically modified organisms will be used to generate carbon credits.

Findings	No genetically modified organisms will be used.			
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	

B2. Offsite Biodiversity Impacts - Required

Concept

The project proponents must quantify and mitigate likely negative offsite biodiversity impacts; namely, decreased biodiversity outside the project boundary resulting from project activities.

Indicators

The project proponents must:

1) Identify potential negative offsite biodiversity impacts that the project is likely to cause.

Findings	Since it is a project that pursues the objective of avoiding the loss of natural forest coverage, no negative impacts to the biodiversity are expected as a result from the project implementation. Instead, positive impacts are expected for the flora and fauna, as long as the forest coverage is kept.			
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	

2) Describe how the project plans to mitigate these negative offsite biodiversity impacts.

Findings	See previous findings.			
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	

3) Evaluate likely unmitigated negative offsite biodiversity impacts against the biodiversity benefits of the project within the project boundaries. Justify and demonstrate that the net effect of the project on biodiversity is positive.

Findings	Positive impacts are expected with the the project implementation and no negative impacts.			
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	

B3. Biodiversity Impact Monitoring - Required

Concept

The project proponents must have an initial monitoring plan to quantify and document the changes in biodiversity resulting from the project activities (within and outside the project boundaries). The monitoring plan should state which measurements will likely be taken and which sampling strategy used.

Since developing a full biodiversity-monitoring plan can be costly, it is accepted that some of the plan details may not be fully defined at the design stage, when projects are being evaluated by the CCB Standards. This will especially be true for small-scale projects.

Indicators

The project proponents must:

- 1) Have an initial plan for how they will select biodiversity variables to be monitored, and the frequency of monitoring. Potential variables include species abundance and diversity, landscape connectivity, forest fragmentation, habitat area and diversity, etc. Biodiversity variables at risk of being negatively impacted by project activities should be monitored.

Findings	Pax Natura, through INBio has planned that it will be implemented a biodiversity monitoring program during the years 1 (baseline), 4, 7 and 10 (as final comparison). The program is made up of several critical indicators that will focus in measuring the impacts on the flora and fauna.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

B4. Native Species Use - 1 Point, Optional

Concept

In most cases, species that are native to a region will have a higher biodiversity benefit than non-native species. In other cases, non-native species can be more effective than native species for rehabilitating degraded areas or providing fast growing biomass, timber, fruits and other beneficial products. For instance a project may need to use non-native species on severely degraded land to achieve ecological restoration before native species can be reintroduced.

Indicators

The project proponents must:

- Show that the project will only use species that are native to the region.

Or

- Justify that any non-native species used by the project are superior to native species for generating concrete biodiversity benefits (e.g., for rehabilitating degraded areas unlikely to support natives, or for producing fuel wood that reduces logging pressure on intact ecosystems)

Findings	The project is about protecting the original forest coverage, no exotic species will be used.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

B5. Water and Soil Resource Enhancement - 1 Point, Optional

Concept

Climate change and other factors may stress and degrade water and soil resources at the project site over time. Projects should enhance the quality and quantity of water and soil resources.

Indicators

The project proponents must:

- 1) Identify project activities that are likely to enhance water and soil resources

Findings	According to what is mentioned in the PDD, the same project implementation will function to keep the water and the soil resource free of impact risks. This is related with the goal of keeping the forest coverage in the project area. In general, the activities that will be implemented during the ten years of the project lifetime will focus to guarantee the permanence of the forest coverage, it is foreseen mostly control and monitoring and the use of monitoring tools, but no negative impacts are expected with the execution of such activities.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>

- 2) Credibly demonstrate that these activities are likely to improve water and soil resource compared to the baseline, using justifiable assumptions about cause and effect, and relevant studies.

Findings	The activities to be implemented as part of the project do not represent any negative impact risk to the soil or to the water in the project area.		
Conformance CAR/OBS	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>