# REDUCTION OF DEFORESTATION AND DEGRADATION IN TAMBOPATA NATIONAL RESERVE AND BAHUAJA-SONENE NATIONAL PARK WITHIN THE AREA OF MADRE DE DIOS REGION – PERU: MONITORING REPORT

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| | |
|---|---|
| **Project Title** | Reduction of deforestation and degradation in Tambopata National Reserve and Bahuaja-Sonene National Park within the area of Madre de Dion region –Perú |
| **Project ID** | **1067** |
| **Version** | **1.0** |
| **Report ID** | |
| **Date of Issue** | 20 – 05 - 2020 |
| **Project Location** | **Perú, Madre de Dios** |
| **Project Proponent(s)** | **Principal Proponent of the project:**<br>**Asociación para la Investigación y Desarrollo Integral – AIDER**<br>**Contact: Jaime Nalvarte Armas**<br>**Address: Calle Las Camelias 174, Piso 6 - San Isidro. Lima**<br>**Telephone: (511) 5956644**<br>**Email: lima@aider.com.pe** |
| **Prepared By** | **Asociación para la Investigación y Desarrollo Integral - AIDER** |

| | |
|---|---|
| **Validation/Verification Body** | **SCS** |
| **GHG Accounting/Crediting Period** | **July 1, 2010 – June 30, 2030; 20 years** |
| **Monitoring Period of this Report** | **January , 2019 to December 31, 2019** |
| **History of CCB Status** | **CCB/VCS Verification statement: July 30, 2019** |
| **Gold Level Criteria** | **Climate and Biodiversity**<br>The project Reduction of deforestation and degradation in the Tambopata National Reserve and the Bahuaja Sonene National Park of the Madre de Dios region - Peru has exceptional benefits to biodiversity by including, in the project area, sites with high priority for its conservation, as is the case of the Pampas of the Heath, which present globally significant source populations of the Crinose Wolf (Chrysocyon brachyurus) and the deer of the marshes (Blastocerus dichotomus). Presence that has been confirmed for the current verification period.<br>In addition, the project generates benefits at the level of adaptation through the implementation of agroforestry systems in areas of reduced risk, using species that provide organic matter, prevent erosion, favor the labeling of the soil, etc. so that they are less susceptible to being affected by phenomena related to climate change and are viable alternatives for sustainability for the population. To the end of this period we have 1304.85 ha of agroforestry systems and a total of 339 beneficiaries. |

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# 1 SUMMARY OF PROJECT BENEFITS

## 1.1 Unique Project Benefits

| Outcome or Impact | Achievements during the Monitoring Period | Section Reference | Achievements during the Project Lifetime |
|---|---|---|---|
| 1) Estimated net emissions reductions in the project area, measured with respect to the scenario without project. | 731,387 tCO2-e generated by the project (period January-December 2019). | | 4,181,249 tCO2-e generated by the project (period January-December 2019). |
| 2) Hectares of reduced forest loss in the project area, compared to the scenario without a project. | 1,867 hectares avoided from deforestation (period January-December 2019). | | 10,012.68 hectares avoided from deforestation (period January-December 2019). |
| 3) Critically endangered species worldwide or in danger of extinction that benefit from reduced threats as a result of project activities, compared to the scenario without a project | Any | - | The species/objects of conservation for monitoring are not under the category of “critical danger” or “danger of extinction” |
| 4) | | | |
| 5) | | | |

## 1.2 Standardized Benefit Metrics

<table>
<tr><th>Category</th><th>Metric</th><th>Achievements during Monitoring Period</th><th>Section Reference</th><th>Achievements during the Project Lifetime</th></tr>
<tr><td rowspan="2">GHG emission reductions & removals</td><td>Net estimated emission removals in the project area, measured against the without-project scenario</td><td>Not applicable</td><td>-</td><td>Not applicable</td></tr>
<tr><td>Net estimated emission reductions in the project area, measured against the without-project scenario</td><td>
<table>
<tr><th rowspan="4">Period</th><th>Ex post net anthropogenic GHG emission reductions</th></tr>
<tr><th>annual</th></tr>
<tr><th>$\square REDD_t$</th></tr>
<tr><th>$tCO_2$-e</th></tr>
<tr><td>January – June 2019</td><td>323,289.5</td></tr>
<tr><td>July – December 2019</td><td>408,098.4</td></tr>
<tr><td>Total</td><td>731,387.9</td></tr>
</table>
</td><td>3.2.4</td><td>
<table>
<tr><th rowspan="4">Period</th><th>Ex post net anthropogenic GHG emission reductions</th></tr>
<tr><th>annual</th></tr>
<tr><th>$DREDD_t$</th></tr>
<tr><th>$tCO_2$-e</th></tr>
<tr><td>2010-2011</td><td>165992</td></tr>
<tr><td>2011-2012</td><td>270079</td></tr>
<tr><td>2012-2013</td><td>270079</td></tr>
<tr><td>2013-2014</td><td>370903</td></tr>
<tr><td>2014-2015</td><td>418096</td></tr>
<tr><td>2015-2016</td><td>765062</td></tr>
<tr><td>2016-2017</td><td>180165</td></tr>
<tr><td>7/12/2017</td><td>300,030</td></tr>
<tr><td>1/06/2018</td><td>300,030</td></tr>
<tr><td>7/12/2018</td><td>409,425</td></tr>
<tr><td>01/01-30/30 2019</td><td>323,289.5</td></tr>
<tr><td>01/07-31/12 2019</td><td>408,098.4</td></tr>
<tr><td>Total</td><td>4181248.9</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Category</th><th>Metric</th><th>Achievements during Monitoring Period</th><th>Section Reference</th><th>Achievements during the Project Lifetime</th></tr>
<tr><td rowspan="2">Forest[1] cover</td><td>For REDD[2] projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario</td><td><table><tr><th>Period</th><th>Surface (ha)</th></tr><tr><td>January – December 2019</td><td>1867</td></tr></table></td><td>3.2</td><td><table><tr><th>Period</th><th>Surface (ha)</th></tr><tr><td>2010-2011</td><td>424.3</td></tr><tr><td>2011-2012</td><td>573.5</td></tr><tr><td>2012-2013</td><td>788.1</td></tr><tr><td>2013-2014</td><td>907.8</td></tr><tr><td>2014-2015</td><td>1036.6</td></tr><tr><td>2015-2016</td><td>827.2</td></tr><tr><td>2016-2017</td><td>1327.1</td></tr><tr><td>07-12/2017</td><td>670.73</td></tr><tr><td>01-06/2018</td><td>670.73</td></tr><tr><td>07-12/2018</td><td>919.22</td></tr><tr><td>01-12/2019</td><td>1867</td></tr><tr><td>Total</td><td>10,282.28</td></tr></table></td></tr>
<tr><td>For ARR[3] projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario</td><td>Not applicable</td><td>-</td><td>Not applicable</td></tr>
<tr><td>Improved land management</td><td>Number of hectares of existing production forest land in which IFM[4] practices have occurred as a result of the project's activities, measured against the without-project scenario</td><td>Not applicable</td><td>-</td><td>Not applicable</td></tr>
</table>

[1] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)
[2] Reduced emissions from deforestation and forest degradation (REDD) - Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)
[3] Afforestation, reforestation and revegetation (ARR) - Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)
[4] Improved forest management (IFM) - Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood and fuelwood (*VCS Program Definitions*)

| Category | Metric | Achievements during Monitoring Period | Section Reference | Achievements during the Project Lifetime |
|---|---|---|---|---|
| | Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the without-project scenario | Not applicable | - | Not applicable |
| Training | Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities | 339 | 4.3.2 | 339 families benefited from the agroforestry project, as part of the project's REDD strategy. |
| | Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities of project activities | 93 | 4.3.2 | 93 women trained in issues of Agroforestry Systems with Cocoa, members of COOPASER. |
| Employment | Total number of people employed in of project activities,[5] expressed as number of full time employees6 | Not applicable | - | Not applicable |
| | Number of women employed in project activities, expressed as number of full time employees | Not applicable | - | Not applicable |
| Livelihoods | Total number of people with improved livelihoods[7] or income generated as a result of project activities | 339 | 4.3.2 | 339 families, family´s members of COOPASER, as well as the population of the native communities of |

[5] Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers and community members that are paid to carry out project-related work.
[6] Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102];[17.28])
[7] Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

| Category | Metric | Achievements during Monitoring Period | Section Reference | Achievements during the Project Lifetime |
|---|---|---|---|---|
| | | | | Palma Real and sonene |
| | Number of women with improved livelihoods or income generated as a result of project activities | 93 | 3.4.2 | 93 women members of COOPASER |
| Health | Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario | Not applicable | - | Not applicable |
| | Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario | Not applicable | - | Not applicable |
| Education | Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario | Not applicable | - | Not applicable |
| | Number of women and girls for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario | Not applicable | - | Not applicable |
| Water | Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario | Not applicable | - | Not applicable |
| | Number of women who experienced increased water | Not applicable | - | Not applicable |

| Category | Metric | Achievements during Monitoring Period | Section Reference | Achievements during the Project Lifetime |
|---|---|---|---|---|
| | quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario | | | |
| Well-being | Total number of community members whose well-being[8] was improved as a result of project activities | 339 | 4.3 | 339 families, partners of the COOPASER |
| | Number of women whose well-being was improved as a result of project activities | Not applicable | - | Not applicable |
| Biodiversity conservation | Change in the number of hectares significantly better managed by the project for biodiversity conservation,[9] measured against the without-project scenario | Not applicable | - | Not applicable |
| | Number of globally Critically Endangered or Endangered species[10] benefiting from reduced threats as a result of project activities,[11] measured against the without-project scenario | Not applicable | - | Not applicable |

[8] Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.
[9] Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.
[10] Per IUCN's Red List of Threatened Species
[11] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

# 2 GENERAL

## 2.1 Project Description

### 2.1.1 Implementation Description

The REDD project is implemented in the area comprised by Tambopata National Reserve and Bahuaja-Sonene National Park sector within Madre de Dios region, corresponding to the Partial Administration Contract of TAMBNR and BSNP – Madre de Dios, signed between the Peruvian government and the Association for Research and Integrated Development – AIDER. The area of project has an extension of 541,620.14 hectares and aim is conserve forests in both Protected Natural Area - NPA from the imminent advance of deforestation.

In order to implement effective measures to avoid deforestation and forest degradation for the period January 1 - December 31, 2019; activities have been developed in accordance with the type of actors and threats. These activities come from the established components in the REDD + Strategy, which have been improving and aligning with the reality of the area. These activities come from the established components in the REDD + strategy, which have been improving and aligning with the reality of the area. The components are: i) Integral Biological Monitoring System that feeds the REDD + monitoring, ii) Promotion of research as a strategic activity for channeling resources in favor of conservation, iii) Agroforestry plots installed for cocoa production in sectors 3 and 4 of the buffer zone, preventing the advance of the agricultural frontier, iv) Strengthening of organizations in the buffer zone, v) Control and surveillance mechanisms in the RNTAMB and the PNBS expanded and strengthened, vi) Promotion of sustainable mining in sector 2 of the buffer zone, vii) Promotion of community rural tourism in sector 6 of the buffer zone, viii) Environmental education and communication, and ix) Management.

The verification period runs from January 1 to December 31, 2019, and it has managed to avoid 731,387.9 tCO2-e

### 2.1.2 Project Category and Activity Type

Sectoral scope 14 – Agriculture, Forestry and Other Land Use

AFOLU project category: Reduced Emissions from Deforestation and Degradation (REDD)

Activity type: Avoiding Unplanned Deforestation and Degradation (AUDD)

Project activity type was defined according to a decision tree located in the methodology (REDD-MF, see 5 step 0). Forest areas are expected to be converted into non-forest areas in the “without-project” scenario, with the project area lacking legal authorization for a non-forest conversion.

Project is individual, not grouped.

### 2.1.3 Project Proponent(s)

**Table 1.** Description of the project proponent

| | |
|---|---|
| Organization name | Asociación para la Investigación y Desarrollo Integral - AIDER |
| Contact person | Jaime Nalvarte Armas |
| Title | Chief Executive Officer |
| Address | Calle Las Camelias 174, Piso 6 - San Isidro. Lima |
| Telephone | (511) 5956644 |
| Email | lima@aider.com.pe |

### 2.1.4 Other Entities Involved in the Project

**Table 2.** Description the SERNANP

| | |
|---|---|
| Organization name | National Service of Protected Natural Areas – SERNAN,P |
| Role in the project | The National Service of Protected Natural Areas (SERNANP) is in charge of leading the management of the National System of Natural Protected Areas. Consequently, they are responsible of headship of the Tambopata National Reserve and Bahuaja-Sonene National Park. Their purpose is provide political support, monitoring and supervision of the taken commitments for the implementation of the project, in their capacity as the State entity responsible for the management of the NPA. |
| Contact person | Pedro Gamboa Moquillaza |
| Title | Chief of SERNANP |
| Address | Diecisiete Street Nº 355 - El Palomar - San Isidro. Lima, Perú. |
| Telephone | (51 1) 225-2803 |
| Email | sernanp@sernanp.gob.pe |

**Table 3.** Description the Pontifical Catholic University of Peru

| | |
|---|---|
| Organization name | Pontifical Catholic University of Peru - PCUP |
| Role in the project | PCUP complements AIDER's efforts as executor of the Administration Contract providing its extensive research experience in TAMBNR, through the participation of its professionals in the development of academic and research activities. Likewise, PUCP advises AIDER on the administration of the research component of the contract, specifically promoting further research and improving researching conditions. An example of this collective effort is the construction and implementation of a 45m high tower for continuous $CO_2$ measurements over the forest, within the TAMBNR. |

| | |
|---|---|
| Contact person | Luis Guzman Barron Sobrevilla |
| Title | Rector of PCUP |
| Address | Universitaria avenue 1801- San Miguel. Lima, Peru |
| Telephone | (51 1) 626-2000 |
| Email | www.pucp.edu.pe |

### 2.1.5 Project Start Date (G3.4)

The project start date is July 1, 2010.

### 2.1.6 Project Crediting Period (G3.4)

Project crediting period: 20 years (July 01, 2010 – June 30, 2030).
First period of quantified GHG emissions reduction: 10 years (July 01, 2010 – June 30, 2020).

### 2.1.7 Project Location (G3.3)

The project area politically belongs to the Tambopata and Inambari districts, Tambopata province, Madre de Dios region, Peru. It occupies the southeast end of the region, reaching the international border with the Republic of Bolivia. Figure 1 shows the location map of project area.

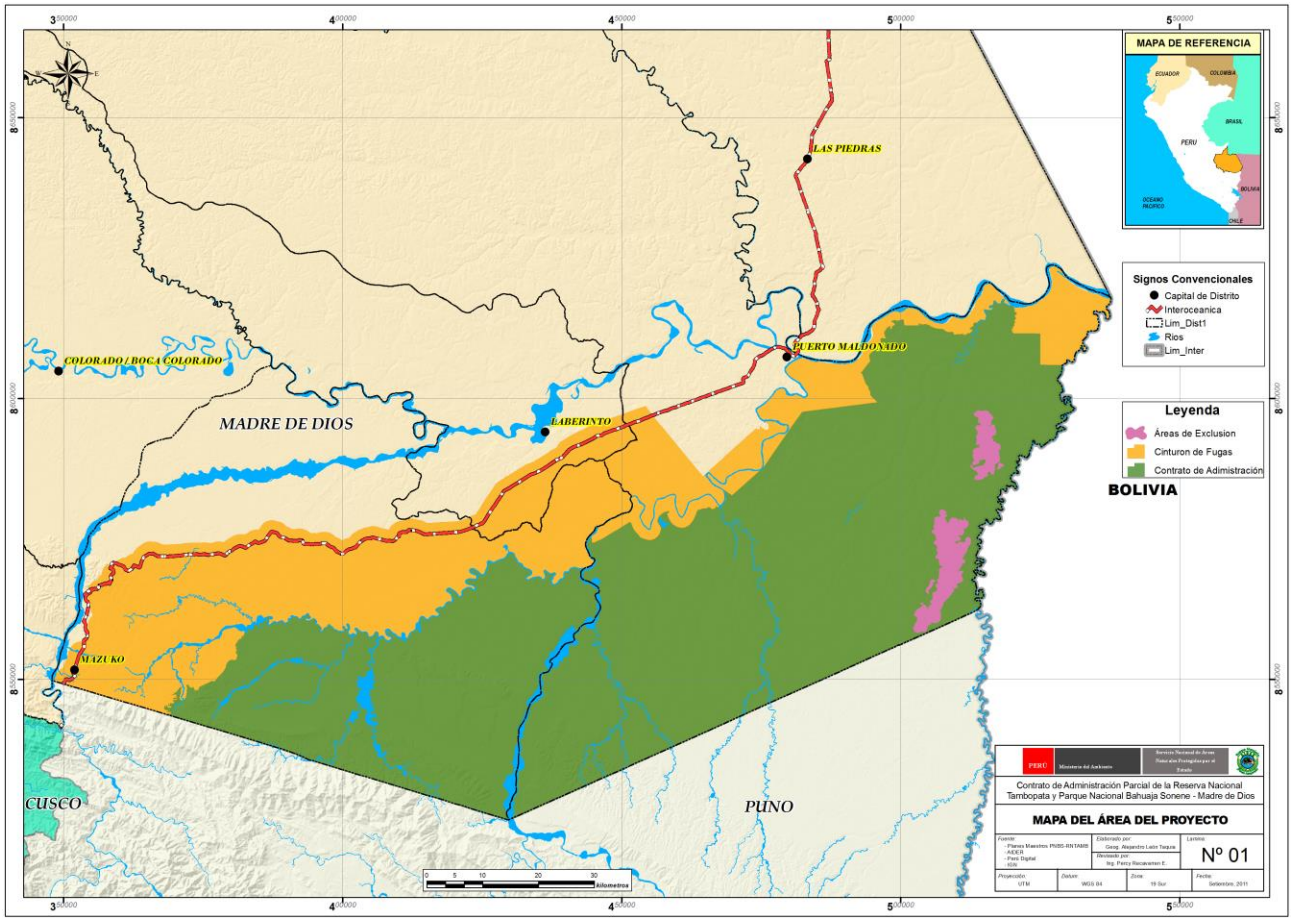


Figure 1. Location map of the project area

### 2.1.8 Title and Reference of Methodology

Approved VCS Methodology VM0007, REDD Methodology Modules (REDD-MF) version 1.4, developed by Avoided Deforestation Partners. The modules used for monitoring were the following:

- Module VCS VMD0015 “Methods for Greenhouse Gasses emissions and removals monitoring” (M-MON); noting that the PD was validated using version 1.0 of this module and that the monitoring period 2014-2015 used version 2.1, which was approved on November 20, 2012.

- Module VCS VMD0010 “Emissions estimate for activity displacement due to avoided unplanned deforestation” (LK-ASU), version 1.0.

- Module VCS VMD0013 “Greenhouse gases emissions estimate for burning biomass” (E-BB), version 1.0.

### 2.1.9 Other Programs (CL1.5)

- **Emission Trading Programs and Other Binding Limits:**

  The project is not included in an emissions trading program; this program does not exist in Peru to date.

- **Other Forms of Environmental Credit:**

  Does not apply.

- **Participation under Other GHG Programs: Indicate whether the project is registered under any other GHG programs and, where this is the case, provide the registration number and details. Provide details of any GHG credits claimed under such programs:**

  The project has only applied to the VCS carbon standard.

### 2.1.10 Sustainable Development

The established baseline for the REDD+ project is 10 years and will be revised in 2020.

It should be noted that to date it does not yet have a regional baseline, at the national or jurisdictional level. But, the country has been working to fulfill the commitments established for the United Nations Framework Commission for Climate Change; it is so, that in June 2016 Perú send its proposed for Forest Reference Emissions Level for reducing emissions from deforestation in the Peruvian Amazon, and continue working to establish the national reference emissions level (Annex 1).
As part of this, for the pre-nesting process, in June 24$^{th}$, 2018, the Environmental Ministry established that initiatives that are developed in Natural Protected Areas can continue with their REDD+ initiatives on the use of non-nested baselines at the reference level of forest emissions in the Amazon; with this, the projects validated until this date, can: a) use until December 31$^{st}$ 2020 the base lines; b) Carry out and finalize until December 31, 2025 the verification process of the emission reduction until December 31, 2020; and c) Sell verified emission reductions until December 31, 2025 until December 31, 2020. After this, the project proponents, will need to start the nesting – permanent alignment to all mitigation measures related to REDD+ (Annex 2).

The project proponent will revise and update the baseline again. Also be considered in the review of the baseline the following tasks:

- Adjustment the component of change in land use and land cover baseline.
- Adjust the carbon component of the baseline

About the contribution to the achievement of sustainable development of the population of the region, environmentally with the development of the project contributes to the mitigation and adaptation of the effects of climate change; With the agroforestry activities, in addition to contributing to the capture of carbon, a source of income for the farmers has been generated, which will help to diminish the poverty of these, improving their income and living conditions, as well as strengthening the capacities of these. As well as working for the conservation of forests and the biodiversity of flora and fauna in these forests.
Likewise, the work that has been developed with the native communities, also seeks to improve the living conditions of these, respecting their customs and culture, supporting the conservation of their forests and the generation of income for their communities, as is the case of support for the ecotourism activities of the Palma Real native community.

The project is being developed transversally, taking into account both women and men, who have been supported in the strengthening of their capacities, as the case may be. For example, as part of the agroforestry activities, there are partners both men and women, who participate directly in the activities that are carried out.

## 2.2 Project Implementation Status

### 2.2.1 Implementation Schedule (G3.4)

**Table 4.** Implementation schedule

| Date | Milestone(s) in the project's development and implementation |
|---|---|
| January 1, 2009 | Start of the Partial Administration Contract of the RNTAMB and the PNBS - Madre de Dios area (initially only for 7 years). |
| October 26, 2010 | Extension of the Administration Contract for a period of 20 years. |
| July 1, 2010 | Validation of the REDD + project under VCS and CCB standards. |
| April 9, 2013 | First verification VCS (verification deed of representation). |
| May 29, 2015 | First verification CCB (verification statement). |
| July 27, 2016 | Verified VCS verification (verification deed of representation). |
| July 27, 2016 | CCB verification (verification statement). |
| March 8, 2019 | Last verified VCS verification (verification deed of representation). |
| July 30, 2019 | Last VCS verification (verification report). |
| July 30, 2019 | Last CCB verification (verification report). |

### 2.2.2 Methodology Deviations

No methodology deviations have been made during this monitoring period

### 2.2.3 Minor Changes to Project Description (*Rules* 3.5.6)

No change has been reported.

### 2.2.4 Project Description Deviations (*Rules* 3.5.7 – 3.5.10)

For the present monitoring period was not made any project description deviation.

After the validation of the project, changes were made regarding the activities of the REDD + Strategy (First version of 2008 - Second version of 2012 – Third version of 2014).

This Deviations were added to the deviations made from the first verification period (July 1, 2010 through June 30, 2011):

- **Discarding of Claslite software use to support delimitation of the area potentially impacted by degradation process**

  During the verification period 2013-2014, CLASLite software version 2.2 had not been updated for non-governmental users; this prevented to use it to support monitoring of degradation in this period, because the software requires updates every three months based on atmospheric data, which were not provided by the software creator.

  The delimitation of the potentially affected area by degradation processes was worked according to the provisions of the VCS VMD0015 module "Methods for monitoring greenhouse gas emissions and removals" (M-MON) v2.1, complying with the provisions of the methodological framework.

- **Monthly monitoring of hotspots**

  For verification period 2014-2015, monthly monitoring of hotspots was not performed because little information was available. The data source selected for this monitoring and indicated at Project Description, the University of Maryland in agreement with Conservation International Peru, was not available because the reports of hotspots in the Amazon region of Peru were not continuous.

  Likewise, the available information, provided by INPE from Brazil through their web data base[12], had errors at hotspot location; these errors were detected when info was contrasted between satellite imagery and field. Therefore, using this data source was dismissed.

  More trustable sources were sought, choosing data from National Aeronautics and Space Administration (NASA), which were available from user record in 2011. Nevertheless, monitoring of burned areas was performed according to specified in module E-BB.

- **Tambopata - Bahuaja REDD+ Strategy**

  Tambopata Bahuaja REDD+ Strategy has been updated by AIDER staff in order to be more effective and efficient in the activities realization for reduce emissions of greenhouse gases from deforestation and forest degradation in the Tambopata National Reserve (RNTAMB) and Bahuaja Sonene (PNBS).

  This strategy includes the components of previous strategy and it includes biological monitoring and research activities since these actions also contributed to control and reduce the threat of deforestation and forest degradation in both ANP. Also there has been included environmental education and communication considering the importance of promote forest valoration for their conservation.

  The zoning of activities has also been updated considering the reality of the area.

[12] http://www.dpi.inpe.br/proarco/bdqueimadas/

### 2.2.5 Risks to the Project (G3.5)

In the PDD, the potential risks were identified and classified into five categories. For this period, the following mitigation measures have been taken:

**Table 5.** Mitigation Measures

| Categories | Risk Description | Mitigation Measures |
|---|---|---|
| Climate | Alteration of agroforestry production cycles; decreased productivity of agroforestry and chestnut systems; alteration of reproduction patterns of fish and game fauna; decrease in food available for wildlife; all this, as a consequence of climate change. | The implementation of cocoa agroforestry systems continued to be promoted, in land degraded by agriculture and livestock, located in the buffer zone of the RNTAMB, as the main strategy to avoid deforestation in the ANP (REDD+ Tambopata-Bahuaja project).<br><br>The fishing and hunting carried out by the native communities in the two protected natural areas was monitored, as well as the chestnut use reported for the Bahuaja Sonene National Park. |
| Lands and resources | Invasion of land by migrants | The State has been implementing strict measures to stop the invasion of land for illegal activities. |
| | Superposition of concessions or rights of different land uses and possible disputes for this cause and for doubtful possession of the land in the buffer zone. | The State has been implementing strict measures to stop the invasion of land for illegal activities (mining). |

Source: AIDER.

It should be noted that the risk analysis presented in the PDD will continue to be taken into account for the execution of the project and the measures to be carried out.

The following preventive tools, identified in previous reports, will continue to be used:

- ✓ Information provided by INDECI through its SINPAD platform (National Information System for the prevention of Disasters), as a source of information for making decisions regarding the occurrence of possible natural disasters that affect the project.
- ✓ Information provided by SENASA -MDD on the occurrence of pests and diseases in the region.
- ✓ Communal Burning Plan prepared by AIDER for six native communities (Palma Real, Infierno, Sonene, Tres Islas, Puerto Arturo and Boca Pariamanu) with the objective of preventing fires coming from burning in agricultural activities, and others in which use the fire, fixing the measures considered appropriate from a communal perspective.

### 2.2.6 Enhancement of High Conservation Values (G3.6)

The project will give technical and operational support to the staff and members of the management committees of the Tambopata National Reserve and the Bahuaja-Sonene National Park (chiefs, specialists, park rangers, presidents and committee members), regarding the research priorities for the

management (promotion of research oriented to the management of the NPA, granting facilities in terms of procedures for authorizations of research and logistic support), and monitoring of biological diversity and human activities, for the adequate management of resources under management such as tourism, chestnut harvesting, hunting fauna, fishing and gathering other non-timber products such as "misa" (*Couratari* sp.) or lianas such as "tamishi" (*Thoracocarpus* sp and *Heteropsis* sp).

The Management Contract activities propose joint strategies for the control, monitoring and adequate management of biodiversity values through the implementation of a research promotion strategy (based on alliances with researchers and institutions that carry out research, conformation of an Advisory Committee that helps to guide the development of research, development of "anchor" or "magnet" projects that, due to their importance, attract other related projects, infrastructure implementation such as scientific stations in the sector of San Antonio, La Torre, among others) , which positions the ANP as places for the realization of both national and international research, which contribute to the knowledge of diversity, conservation status and management of non-timber resources and wildlife.

**Table 6.** Strategic allies for the implementation of the biological monitoring and research strategy

| INSTITUTION | OBJECTIVE/TOPIC |
|---|---|
| Pontifical Catholic University of Peru (PUCP) | Develop and promote research and biological monitoring in the Natural Protected Areas (ANP) in an orderly and planned manner with a view to converting them into internationally recognized research centers. |
| Frankfurt Zoological Society (SZF) | Monitoring of river wolves (Pteronura brasiliensis) and bodies of water in the Tambopata National Reserve and the Bahuaja-Sonene National Park |
| Forever Fauna Association (AFF) | Monitoring of endangered wildlife (mammals, birds, amphibians, reptiles, coprophagous beetles, butterflies and mosquitoes) in the RNTAMB and the PNBS |
| University of Texas | Monitoring of Collpas: Mapping of clay licks to determine the relative abundance of clay licks in different sectors of the reserve and the park for the prioritization of studies and management of these; and clay palms determining their current status in the RNTAMB and the PNBS |
| National Amazonic University of Madre de Dios (UNAMAD) | Promote cooperation and collaboration to execute activities and projects of biological monitoring, scientific and technological research. |
| Wildlife Conservation Society (WCS) | Formulate a system that analyzes, complements and interprets the actions of biological monitoring and impacts of anthropic activities in the ANPs |
| Peruvian Safaris S.A. | Implementation of activities oriented to develop research and biological monitoring in the Tambopata National Reserve. |

Local, national and international participation will be promoted through a volunteer program for the monitoring activities of biological diversity and human activities and research in the NPA, together with activities and specific support in logistics and coordination to the management committees of the ANP, which is a space for the participation of local actors and public and private institutions directly and indirectly involved in the management.

Likewise, for the maintenance of the High Conservation Values, the activities described below are contemplated.

**G1.8.1.** Significant concentrations of biodiversity values: a. protected areas, b. threatened species, c. endemic species, d. areas with significant concentrations of a species during any period of its life cycle (migrations, feeding or mating areas).

The maintenance of this High Conservation Value will be achieved through the consolidation of an Integral Monitoring Plan, which considers the conservation objects:

1. Forest types (remote monitoring through satellite images executed by AIDER, which is corroborated in the field).
2. Castañales (monitoring initiated with the project Fauna Forever has a work and research plan)
3. Pampas del Heath (monitoring initiated with the Zoological Society of Frankfurt-SZF, there are preliminary reports and wildlife registration through trap cameras)
4. Wetlands, rivers, lakes and aguajales (initiated and baseline monitoring in main water bodies with the SZF for work with river wolf and biologist Julio Araujo, fish specialist, who elaborates an ictiofauna diagnosis of the RNTAMB and the PNBS, with preliminary reports).
5. Collpas (work started with the Guacamayo project, mapping the main collpas of the RNTAMB and the PNBS, there are preliminary reports).
6. Jaguar (Panther onca)
7. Endangered major mammals Ateles chamek and Pteronura brasiliensis. (there are reports of the Fauna Forever project in the case of maquisapa, and in the case of the river wolf, the wolves of the RNTAMB and the PNBS were surveyed in coordination with the Zoological Society of Frankfurt, with preliminary reports for the year 2010 ).
8. Threatened birds (Harpia harpyja and Primolius couloni)

Human activities:

1. Hunting (hunting registers were collected from the RNTAMB control posts, which are being systematized for analysis, and there is also a proposal for a registration form for the development of a management plan) .
2. Fishing (the fishing logbooks were collected from the RNTAMB control posts, which are being systematized for analysis, and there is also a proposal for a registration form for the development of a management plan) .
3. Tourism (there is a register of tourists entering the RNTAMB, and the impact of the same is being evaluated on fauna through the Fauna Forever project, the information is in preliminary reports).
4. Mining (there is an specific diagnosis document of the ANP and the buffer zone prepared this year (Díaz Revoredo 2010), which specifies the critical areas, type of mining, location of the same and proposes measures to be taken for the control, formalization of the activity in terms of implementation of management plans, among others).
5. Selective extraction of wood (this activity, although registered on a smaller scale, is prioritized by the ANPs in the sector of the RNTAMB cat and the area adjacent to the Kotsimba Native Community in the PNBS, through patrols and continuous operations).
6. Farming (there is a diagnostic document for the activity (AAE, 2010) with a sample of 125 people surveyed in the RNTAMB and on the Interoceanic Highway, having identified production sectors, cultivated products, costs thereof, markets to which is accessed and place of origin of the farmers.Additionally, data from the Regional Government of Madre de Dios and the NGO Asociación Agricultura Ecológica were used).

These indicators of the biological and human landscape contribute to have a perception of the conservation status of the project area and provide early warnings, feeding an information system implemented with the personnel of the ANP, allied institutions (public and private), favoring the inclusion of park rangers in the analysis and dissemination of results.

The development of research also includes its dissemination as a contribution to environmental education. The dissemination of the qualities of the ANP (research projects and monitoring programs) will be strengthened through an institutionalized event since 2009 (Biological monitoring and research symposium in the Tambopata National Reserve and the Madre de Dios area of the National Park Bahuaja-Sonene), in which the different actors involved as researchers and directors of monitoring projects expose their knowledge and advances to the general public (university students, public and private institutions), an event organized by the heads of the ANP, AIDER and the National Amazonic University of Madre de Dios.

**G1.8.2.** Extensive areas at the landscape level with global, regional or national significance

This comprehensive monitoring system also aims to integrate it with the analysis and monitoring work carried out by WCS in the Madidi-Tambopata Great Landscape, which includes the nucleus of the Vilcabamba-Amboró Conservation Corridor (Peru - Bolivia). This will allow a broad understanding of the status of the species whose distribution area coincides with the project area (of the 07 selected by WCS, which are: river wolf, jaguar or otorongo, Andean condor, Andean bear, horsehair wolf, military macaw, vicuna, the Andean condor and vicuna are excluded because they are outside the project area). In this regard, the integrated monitoring plan of the RNTAMB and the PNBS with WCS is being prepared and workshops and interviews have been carried out to define indicators, methods and periodicity of monitoring.

In November of this year, AIDER staff participated in the Binational Training Course on Monitoring of Species and Human Activities at the Landscape level: "A contribution to the comprehensive monitoring systems of the protected areas and indigenous territories of the Great Madidi Landscape - Tambopata ", Organized by the National Service of Protected Areas of Bolivia-SERNAP, the National Service of Natural Protected Areas by the State of Peru-SERNANP, and the Association for the Conservation of Wildlife-WCS, held in Rurrenabaque-Bolivia.

**G1.8.3.** Threatened or rare ecosystems

In this case the tropical savanna ecosystem ("pampas del Heath"), the two pampas areas in Peru (Juliaca and Picoplancha) are being monitored through a system complemented by the personnel of the ANP, AIDER and SZF with diverse strategies:

- Control and surveillance from the San Antonio control post located on the Heath River with personnel from the RNTAMB.
- Remote monitoring through satellite images, to obtain early warnings of unplanned burning, with a total extension of 6480 ha in 2008 and an extension of 6548 ha in 2010.
- Monitoring of species and design of a control plan, through the experiences of the present year 2010, prioritizing future development of activities with the involvement of the Native Communities Palma Real and Sonene, in a management plan for burning, hunting , fishing, among others.

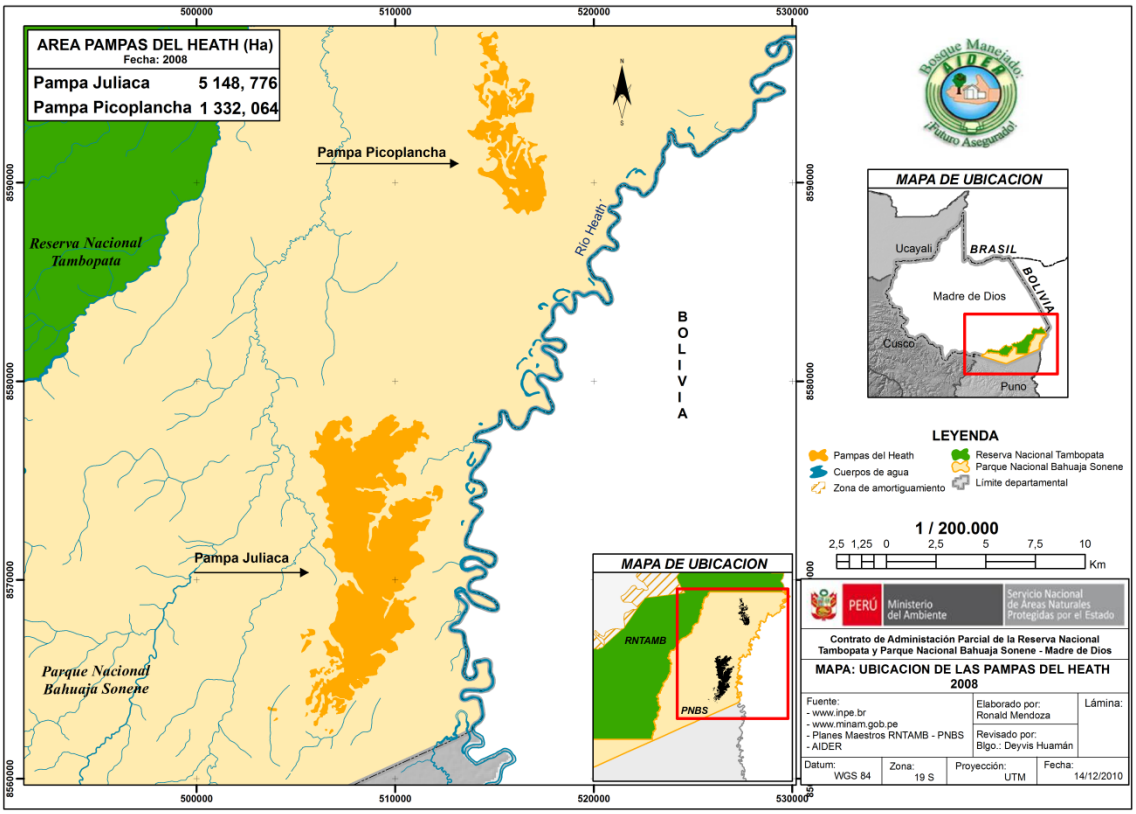


Figure 2. Location of “Pampas del Heath” – 2008
Source: Own elaboration

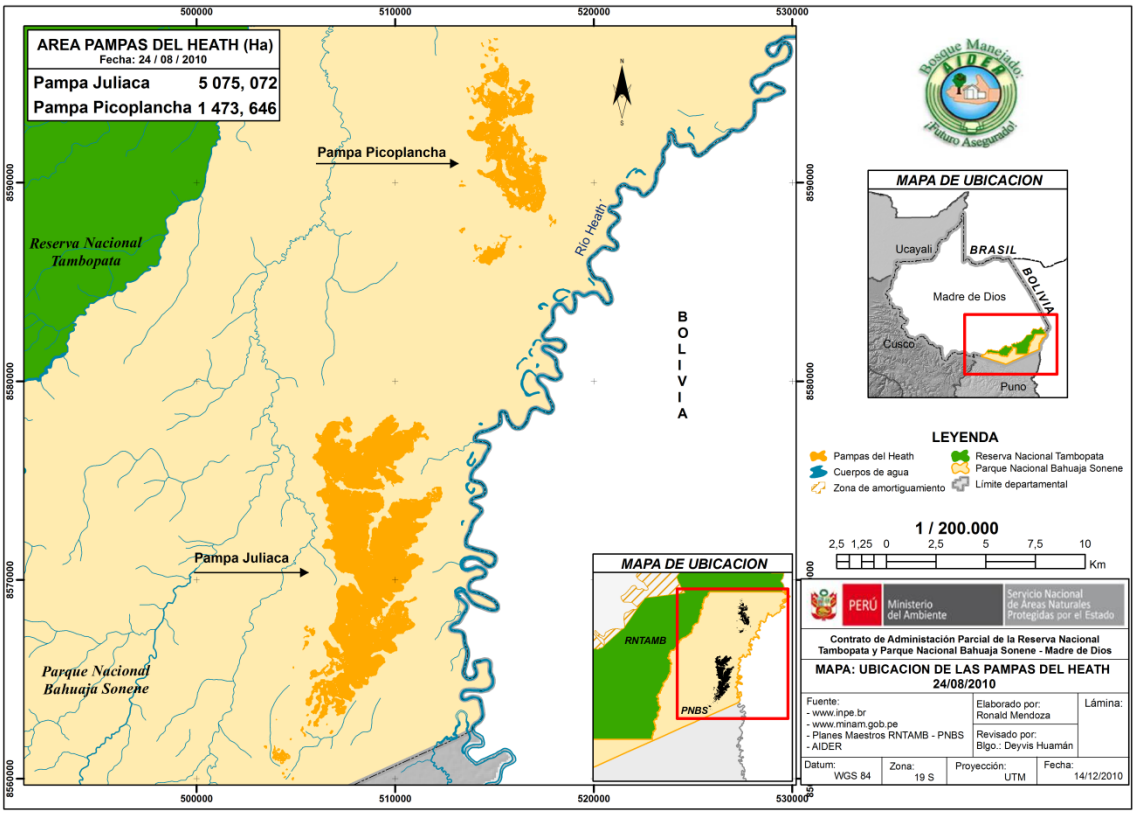


Figure 3. Location of "Pampas del Heath" – 2010
Source: Own elaboration

G1.8.4. Areas that provide critical ecosystem services

The project currently promotes mining initiatives with social responsibility and low mercury use, having started work with the association APAYLOM, in a first stage formalizing their mining claims and contributing to the preparation of the Environmental Impact Assessments, to later promote the development of mining with techniques that reduce the use of mercury as the retort. In this way, it will contribute to maintaining the quality of the water resource for human consumption.

Regarding the fires, a continuous remote monitoring will be carried out through satellite images (images from the INPE - Brazil), to obtain early warnings of burns inside the RNTAMB and the PNBS; With this information, field work will be carried out to determine the causes of the burnings. This information will be used to prepare maps of priority zones of protection and work with populations.

**METHODOLOGY USED**: Information is collected from the satellites that Brazil has, through the INPE (free images), offering these not only information about heat sources, but also LANDSAT, CBERS images, among others, that are available on their website www.inpe.br.

The data obtained from the web are reviewed to confirm that the places where the heat source is observed correspond effectively to burning, since, in many cases, they do not correspond to the exact place due to the scale. Then we proceed to correct the data using the ArcGIS software, overlapping the data obtained on the hot spots with the vector data (shapefile of

districts) obtained from the Ministry of Environment (MINAM) that are available on its website http://geoservidor.minam.gob.pe/intro/ and database of the NPA.

The term 'heat source' is generally used to define an area that has an anomalous surface temperature. In most cases the presence of a focus is associated with the potential existence of a fire or fire.

According to the temperatures reached by the fires (between 300° C and 1500° C depending on the type of vegetation, accumulated fuel, environmental conditions, among others) the thresholds are established to identify heat sources.

**Table 7.** Number of burns in the last 12 years in Pampas del Heath

| YEAR | PAMPAS DEL HEATH | |
|---|---|---|
| | JULIACA | PICOPLANCHA |
| 1999 | 3 | 0 |
| 2000 | 0 | 0 |
| 2001 | 1 | 0 |
| 2002 | 35 | 0 |
| 2003 | 0 | 0 |
| 2004 | 8 | 4 |
| 2005 | 9 | 0 |
| 2006 | 23 | 0 |
| 2007 | 18 | 0 |
| 2008 | 0 | 0 |
| 2009 | 2 | 0 |
| 2010 | 38 | 0 |

Source: firms@hermes.geog.umd.edu

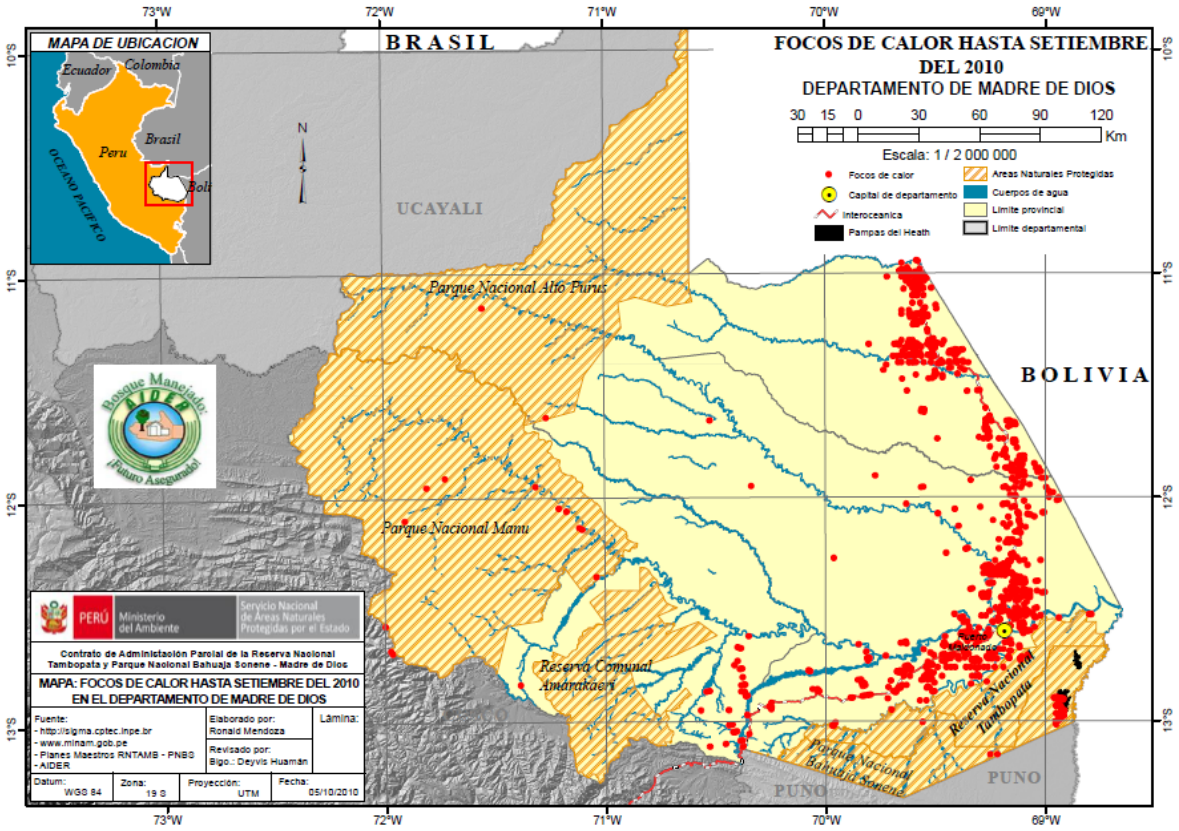


Figure 4. Map of Map of heat hot spots in Madre de Dios until September 2010
Source: Own elaboration

**G1.8.5.** Key areas to meet the basic needs of local communities

It is promoting the systematization of hunting, fishing and non-timber resource collection records in the RNTAMB, in order to determine priority areas and the subsequent elaboration of resource management plans, which assure the populations a sustainable use.

As a second point, participatory rural diagnoses are being developed in the Palma Real and Sonene Native Communities, which contribute to understanding the socio-economic and cultural dynamics of the population, in order to generate an approach, intervention strategies and participation.

**G1.8.6.** Critical areas for the traditional cultural identity of the communities

The maintenance of the traditional territory of the Ese'eja ethnic group will be achieved through continuity in the protection of areas of ancestral importance; in addition, an approach and understanding of the cultural identity of the communities with the personnel of the NPA and AIDER will be promoted.

Control posts are being implemented in the sectors of Jorge Chávez, La Torre (infrastructure completed in 2010) and Farfán Creek (to be built next year with the support of the Zoological Society of Frankfurt, with an elaborated technical file).

### 2.2.7 Benefit Permanence (G3.7)

At the end of the life cycle of the project, the surface of the ANP (RNTAMB and PNBS - Madre de Dios area) will be duly physically and legally sanitized, which will facilitate its management as well as the resolution of possible possession conflicts.

Through the work of communication and awareness of the project, the role of the ANP will be properly understood by the population, conceptualizing them as a reserve of resources; in the same way, they will have an adequate knowledge of the property of the State over the ANP.

The ANP will have an improved control and surveillance system. It will also have a biological monitoring system already implemented that will help the management of the ANP.

The project, through the Management Committee, will participate in the Territorial Organization of Madre de Dios, which will serve as an instrument for an adequate management of the territory inside and outside the project area and will transcend its life cycle.

By building and strengthening the capacities of the Management Committee, producer associations and inter-institutional relations, the benefits of climate, community and biodiversity of the project will be able to continue once the life cycle has concluded. Through the strengthening of the institutional framework, better control of economic activities and compliance with environmental standards will be carried out, as is the case of the current mining exclusion zone. The productive chain, for its part, will be established by the project and, with the appropriate capacity building, may continue after its end.

During the project activity, agroforestry systems appropriate to the specific reality of the project area will be tested and validated. Likewise, through the development of the low impact gold production experience with APAYLOM, the feasibility of carrying it out in compliance with environmental standards will be demonstrate.

## 2.3 Stakeholder engagement

### 2.3.1 Community Consultation (G3.8)

Work continues with the Management Committee of the Tambopata National Reserve as a space for consultation and presentation of the project, since, as mentioned above, they are made up of representatives of the different populations surrounding the ANP.

The document of internal communication strategies for the communities of Palma Real, Sonene and Infierno, prepared and previously reported, continues to be a consultation document to support the management of communities for community decision making, under agreed agreements.

### 2.3.2 Public Comment Period Publicity (G3.9)

The publication of this report is done according to the information protocols of the VCS and CCB standards, as it has been doing to date.

### 2.3.3 Distribution of Project Information (G3.9)

The dissemination of the results of this report, as in the case of the previous reports, is carried out in a timely manner with the populations and key actors participating in the project, guaranteeing an informative process that gathers the opinions of all the actors involved.

The results of the project have been available to the actors interested in different meetings maintained with them, the SERNANP know this information as we prepare quarterly reports with the advances of the activities in the project.

### 2.3.4 Conflicts and Grievances (G3.10)

In order to continue supporting the management and resolution of conflicts in communities and/or surrounding populations, has been trained in the subject of "Biological monitoring, human activities and management of socio - environmental conflicts for good management of the protected natural area" , with the participation of park rangers from the Tambopata National Reserve and specialists from AIDER.

## 2.4 Management Capacity and Best Practices

### 2.4.1 Required Technical Skills and Expertise (G4.2)

AIDER has more than 30 years of experience in project management of conservation of natural resources in the Amazon, which has developed capacities to interact with different types of actors, as a result of which has established cooperation agreements with local governments, research institutions, companies private organizations, producer organizations and native communities. It has also developed a PM & E system applicable to environmental projects, which has effective tools and methodologies to have effective control over the interventions carried out.

As a result of the experience in the execution of development projects with rural populations, mainly indigenous, AIDER has developed capacities in the management of participatory natural resource management tools and in the application of the principles of interculturality and gender approach, the same which are recognized nationally and internationally and have allowed, among other achievements, the validation of a proposal for the management of communal forests and the voluntary forest certification of native communities, under FSC standards.

Regarding the issue of carbon and environmental services, AIDER has capacities for the formulation of CDM and REDD forestry projects, thanks to the participation of its professional staff in training courses run by the Tropical Agricultural Research and Higher Education Center - CATIE , Winrock International and the National Environment Fund.

In 2010, has implemented the first reforestation project in the country, with the purpose of carbon sequestration that already has financing and an assured market, in the Ucayali Region. He has also managed to design a reforestation project in a rural community, endorsed by the national environmental authority, with the aim of becoming the first MDL forest project in Peru and the second in the world. Both projects are in the validation phase.

In terms of REDD projects, AIDER has been developing a PD for Native Communities with FSC forest certification, under the VCS standards, a project that already has the interest of companies that purchase carbon credits, such as Ecoresources.

As a result of the experiences described above, AIDER has established contact with various specialists at an international level, so that the institution keeps updated on the advances in international protocols and tendencies within the framework of the Kyoto Protocol, post-Kyoto agreements and REDD.

AIDER professionals permanently working on the development of the project, made up of forestry engineers, geographers, biologists, agronomists, economists, social and administrative specialists, which are shown in Table 8.

**Table 8.** Project Staff

| Components | Name | Profession | Responsability | Skills |
|---|---|---|---|---|
| **Management and Monitoring** | Jaime Nalvarte Armas | Ing. Forestal Mg. Sc. (Management of Forest Resources) | AIDER Management | With training in politics, legislation and forest administration. Extensive professional experience in the management of the design and management processes of conservation projects, management and sustainable use of forest resources, with special emphasis on Forest Management with a participatory approach. Active participation in the design and implementation of REDD projects and national policies. |
| | Marioldy Sánchez Santivañez | Forestry Engineer with a Master's Degree in Social Management | Monitor the activities of the REDD project within the framework of the administration contract | Specialized in the formulation, planning and monitoring of development projects in the environmental field, with extensive experience working in the Amazon. With experience in the design of carbon forestry projects (REDD), with participation in two validation processes under the VCS and CCB standards. |
| **Climate, Carbon and Community** | Percy Recavarren Estares | Ing. In Renewable Natural Resources (Forestry mention) with a Master's degree in Forestry and Forest Resources Management. | Direct and assist technically in the formulation and implementation and monitoring of the project | Experience in community zoning and zoning processes considering social, economic and environmental factors, with the use of GIS tools, as well as in the preparation and monitoring of environmental impact studies (EIA) in natural resource exploitation operations. With experience in the design and implementation of carbon forestry projects (REDD), with participation in a CDM and three validation processes under the VCS and CCB standards. |
| | Sylvia Mayta D´Ugard | Barchelor of Forestry Science | Technical coordination of the implementation of the REDD + project and methodological support VCS | Professional experience, in the topics of forest management, forest inventory and knowledge of Verified Carbon Standards Standard (VCS). |
| | Sofia Molero | Sociologist | Responsible CCB for | Experience in the execution of forest |

| | | | | |
|---|---|---|---|---|
| | Denegri | | REDD + projects | conservation projects in the Peruvian Amazon with indigenous populations and settlers. Experience in PDD design, validation and verification processes under the CCB standard. |
| | Sandra Anccasi Lazo | Bachelor in Forestry | Biomass evaluation of the project area, leakage belt | Experience in biomass assessment following the requirements of the IPCC, inventories of forest degradation and field validation of deforestation maps. |
| **Geographic information system** | Luis Campos Carrera | Geographer Engineer | SIG responsible | Advanced knowledge in the management, analysis and interpretation of Remote Sensing and Geographic Information Systems. |
| **Biodiversity** | Juan Carlos Lara Rivas | Forestry Engineer | Responsible for monitoring biodiversity and HCV | Work experience in research in zoology and ecology in Protected Areas, with topics related to the implementation of research plans, management documents, monitoring, wildlife management. |
| | Vanessa Hilares | Forestry Engineer | Monitoring of biodiversity and research | Experience in biological studies, entomology, wildlife monitoring and management, management of statistical programs and SIG. |
| **Social** | Rosalía Castro | Social specialist | Social support and Development of DRP, Social baseline, Guide for conflict management | Experience in social project management and conflict management. Experience in the application of a gender and intercultural approach. Management of participatory tools for the realization of diagnoses. |
| **Economic financial** | Berenice Brizuela | Engineer in Business Management | Commercial and financial support of the project | Experience in conducting business plans, market studies of forest products and economic feasibility analysis of projects. |
| **Productive** | Gilberto Vera | Agricultural engineer | REDD+ Strategy | Experience in forest management, scientific data collection, monitoring, logistics and technical assistance. |

The social team of the headquarters of AIDER in Madre de Dios is currently made up of professionals with training in Social Sciences and experience working with settlers and indigenous people of the Peruvian Amazon, under the intercultural, participation and interdisciplinarity approaches. The team has a national trajectory in issues of organizational strengthening, conflict resolution at different levels such as federations, leaders and community leaders as well as organized groups within each native community and settler settlement.

The team is formed to work transversally to the proposal of the REDD project, mainly in relation to the strengthening of governance and the promotion of sustainable productive activities; this is already working, strengthening and being part of the inter-institutional collaboration spaces, such as the Multisectorial Group for the protection of the Tambopata National Reserve and its buffer zone, a platform that, through the Management Committee of the RNTAMB and the Management of Natural Resources of the Regional Government of Madre de Dios, links public and non-governmental entities that carry out actions and / or have competencies in the project area.

The conformation, participation and actions in the framework of these coordination spaces will allow the sum of technical efforts and budgets of different institutions that work in the scope of the project, thus ensuring a level of governance that generates conditions for sustainable development and the REDD mechanism.

### 2.4.2 Worker Training (G4.3)

During the current verification period, various training activities were carried out, of which the following stand out:

- Training for COOPASER members in pruning, pest control, harvesting, post-harvesting, grafting.
- Training for COOPASER partners in strengthening organic certification and fair trade programs.
- Training of COOPASER members in cooperativism as an alternative for participatory development, Grafting (Management of the pattern and grafts), Pruning (objective, type of pruning and season) and fertilization (forms and doses).
- Training for COOPASER partners in pest and disease control in cocoa production, cocoa harvesting and handling of harvest residues, and collection, fermentation, drying, classification, storage and quality control in a beneficiation plant.
- Training of park rangers in agroforestry, REDD + Project and biological monitoring, human activities and conflict management.
- Training course, aimed at volunteers: Assessment of fauna in linear transects.
- Training in agroforestry systems with cocoa, first aid and risks of snake bites and the impact of jaguars on livestock activity for good management of the Natural Protected Area.
- Strengthening of capacities of park rangers to manage visitors in ANP.
- Training for park rangers of the two ANPs on the subject of conflicts with carnivores, predators of domestic animals, zoonotic diseases of importance, use and management of the Conflict Sheet: People - Wildlife.
- Training in nursery management in Madre de Dios, where park rangers from the two ANPs were trained in the management and installation of nurseries for Brazil nuts and the proper propagation of the species, for good management of the protected natural area and Jorge control posts Chávez and San Antonio, in the fight for the conservation of the species.

### 2.4.3 Community Employment Opportunities (G4.4)

50% of the technical team lives in Madre de Dios since before the start of the project; some professionals are graduates of the National Amazonic University of Madre de Dios - UNAMAD. The selection of personnel is done through the elaboration of Terms of Reference, in which the knowledge, skills and experience required for each position are defined; on this basis, the evaluation of candidates is carried out, prioritizing the hiring of local personnel, as part of the institutional policy of professional skills development in the regions where AIDER executes its projects.

Although AIDER does not have an explicit policy of hiring women and other underrepresented groups, it does practice a transversal policy of gender equity and interculturality for all its interventions: its human team at the national level includes women, indigenous people and peasants.

The permanent team of the project will perform technical and administrative management tasks; however, activities to reduce deforestation emissions will be directly executed by the local population. From their participation as community park rangers, in the implementation of conservation agreements and sustainable economic activities, men and women will obtain significant economic, social and environmental benefits, including indigenous peoples.

### 2.4.4 Relevant Laws and Regulations Related to Worker's Rights (G4.5)

During the verification period, 9 relevant modifications have been made regarding the labor legislation in Peru:

- ✓ **Accuracy regarding the obligation to carry out occupational medical examinations at the beginning:** In accordance with the provisions of Supreme Decree No. 016-2016-TR, which modifies the Regulations of the Occupational Health and Safety Law, occupational medical examinations must be carried out every two years, counted from the entry of the worker (for new workers) or from the date of his last occupational medical examination performed by the employer (in the case of workers with a valid link). Therefore, as established by the Occupational Health and Safety Law, it will only be mandatory to carry out these examinations at the beginning of the employment relationship when the worker carries out a high-risk activity.

- ✓ **Use of technology in the signing of labor documents:** Legislative Decree No. 1310 establishes that, in all types of employment documents, the employer can substitute his signature o grapher and the manual seal by the following options: digital signature, electronic signature and micro shapes.

- ✓ **Implementation of virtual means for the delivery of tickets and proof of payment:** The same device provides that when the payment of economic labor obligations is deposited into an account through companies of the financial system, the employer can substitute the printing and physical delivery of the bills or proof of payment for the provision of said documents to the worker through the use of information and communication technologies. For this, it is required that the means used guarantee the proof of its issuance by the employer and an adequate and reasonable access by the worker. In this case, the worker's signature is not required.

- ✓ **Conservation of labor documents:** Legislative Decree No. 1310 provides that, for all legal purposes, employers are obliged to keep documents and proof of payment of economic labor obligations only up to five (5) years after the payment is made. This period must be observed in its actions by the administrative, inspecting, judicial and arbitration bodies. On the other hand, it prescribes that, in the case of the ONP, the employer may destroy the payroll information of periods prior to July 1999, after digitization with legal value or physically deliver it to the entity.

- ✓ **Delimitation of the intervening authority of the National Civil Service Authority due to effects on the principle of probity:** One of the attributions of the National Authority of the Civil Service is the intervenor, in case of detecting irregularities in the administration or management of human resources in contest matter. Now, through Legislative Decree No. 1337, the National Authority of the Civil Service will exercise, exceptionally, this attribution in case of request of a holder of the entity of the Executive Power, in cases of serious damage to the principle of probity and public ethics. In this sense, an intervenor will be appointed who will act as the disciplinary administrative procedure organ that motivated the intervention.

- ✓ **Disqualification of the civil servant to provide services for five years:** The sanctions of dismissal or dismissal that remain firm or that have exhausted the administrative route, and have been duly notified, entail the automatic disqualification for the exercise of the public function and to provide services for five years. During this period, the civil servant will not be able to re-enter to provide services to the State, under any form or modality. It is mandatory the registration of the server in the National Registry of Sanctions against Civil Servants and in the Register of Disability, as provided for by Legislative Decree No. 1295.

- ✓ **Prohibition of providing services to the State for the commission of corruption offenses:** According to Legislative Decree No. 1295, persons with a convicted and / or enforceable conviction for any of the offenses set forth in articles 382, 383, 384, 387, 388, 389, 393, 393-A, 394, 395, 396, 397, 397-A, 398, 399, 400 and 401 of the Penal Code, cannot provide services in favor of the State, in any form or form.

- ✓ **Publicity of sanctions against civil servants:** Sanctions registered in the National Registry of Sanctions against Civil Servants are public access as long as they remain in force.

### 2.4.5 Occupational Safety Assessment (G4.6)

As mentioned in the previous report, there is a Security Plan for the project, which was later complemented by the Labor Security Policy of AIDER, as an institutional measure to ensure compliance with these documents.

Likewise, work has been done on the identification of occupational risks, according to the areas of project activities in the field. This work was carried out under the modality of workshops, for which matrices and formats were worked, according to information needs.

### 2.4.6 Financial Health of Implementing Organization(s) (G4.7)

AIDER has received technical cooperation funds since 1992 and has directed a US $ 1,664,764 project called "Jemabaon Nii: Managing communal forests to alleviate poverty", funded by the Royal Netherlands Embassy from 2003 to 2005, and which was the continuation of the project "Conservation of communal forests in the Peruvian Amazon", developed between 1999 and 2003 with the support and funding of the Embassy itself. In the last two years, AIDER has reported a total income of US $ 800,000 from the execution of projects, consulting and technical assistance, and is expected to receive a budget of US $ 450,000 during 2009. The financial statements of AIDER of the last five years are attached to this document.

In 2008, AIDER signed a partial Administration Contract with the Peruvian State of the RNTAMB and the PNBS-area of Madre de Dios for seven years (with the possibility of renewing it for 20 years) that contemplate the financing of the World Bank, through the project GPAN, executed in Peru by PROFONANPE. This financing is US $ 1 177 040 for the first two years of the Contract.

The Administration Contract considers the management of three components of the protected natural areas: Biological Monitoring, Research and Environmental Services. This last component will be fully financed by BAM S.A.C., a Peruvian company with British private capital, which has signed a financial agreement with AIDER for US $ 5 177 045, which are in the process of being transferred to AIDER for the design and execution of the REDD project.

In 2009, SFM-BAM S.A.C. transferred to AIDER US $ 539 150 for the design of the project, baseline and preparation of the CCB PDD. In 2010, the amount transferred will be US $ 191,700 and, from 2011 until 2015, financing will be US $ 4,446,119 to guarantee activities to mitigate deforestation

AIDER is also establishing agreements to finance other activities that contribute to the sustainability of the REDD project, for example, international research entities, Peruvian universities and the Regional Government of Madre de Dios.

The cash flow of the project for the life cycle of the project (10 years) is attached to this document. This information is considered commercially sensitive.

## 2.5 Legal Status and Property Rights

### 2.5.1 National and Local Laws (G5.1)

Several of the laws and regulations mentioned here remain in force since the preparation of the PDD. Further; The amendments, updates and new laws that have been enacted since the beginning of the Project Verifications have been incorporated into the Project Implementation Reports - PIR, as indicated below:

- Laws and regulations indicated in the preparation of the PDD:

  During the decade prior to the start of the project, laws and regulations have been approved that favor the establishment of compensation mechanisms for environmental services; however, they have been limited to expressing general purposes of the State, which have not been put into practice. This is the case of Law No. 28611, General Environmental Law (2005), which declares that the State establishes mechanisms to value, reward and maintain the provision of environmental services (among which it considers the mitigation of emissions of gases) greenhouse), seeking to achieve the conservation of ecosystems, biological diversity and other natural resources. This Law establishes that the Ministry of the Environment (MINAM), in its capacity as National Environmental Authority, promotes the creation of mechanisms for financing, payment and supervision of environmental services. Likewise, Law No. 27308, Forestry and Wildlife Law (2009), states in Article No. 35 - Compensation for environmental services of forests, that "the State will implement compensation mechanisms for the effects of pollution caused by the consumption of fossil fuels, which will be used to finance conservation activities, rehabilitation of natural areas, and forestry and wildlife research. "

  On the other hand, the National Environmental Policy (approved by Supreme Decree No. 012-2009-MINAM) establishes, within its Policy Guidelines regarding the use of natural resources, to promote the design and implementation of economic and financial instruments, systems of compensation, economic retribution and distribution of payment for environmental services. Likewise, the policy guidelines regarding forests include giving priority to the integral use of forest resources, supporting initiatives regarding timber and non-timber resources, wildlife and environmental services.

In this way, the activity of the project is in accordance with the purposes expressed by these regulatory frameworks regarding the establishment of payment mechanisms for environmental services.

Law No. 26834, Law of Natural Protected Areas (1997), establishes that the natural condition of such areas must be maintained in perpetuity, allowing the regulated use of the area and the use of resources, or determining the restriction of direct uses; the project complies with maintaining the natural condition of the NPAs that make up the project area. This Law establishes two categories of protected natural areas, in which certain activities are allowed or restricted; the activities of the project are in accordance with the permitted uses established for each of the categories of ANP, which are described below:

a. Areas of indirect use, those that allow non-manipulative scientific research, recreation and tourism, in appropriately designated and managed areas; in these areas the extraction of natural resources is not allowed, as well as modifications and transformations of the natural environment. Within this category are the National Parks.
b. Areas of direct use, those that allow the use or extraction of resources, primarily by local populations, in those areas and places and for those resources, defined by the management plan of the area; other uses and activities that are developed must be compatible with the objectives of the area. Within this category are the National Reserves, in which it allows the commercial exploitation of natural resources under management plans, approved, supervised and controlled by the competent national authority.

The figure of the Administration Contract is contemplated in the Law of ANP, which specifies that the State recognizes and promotes private participation in the management of Protected Natural Areas. The granting of rights to individuals obliges them to comply with the policies, plans and standards that the Competent National Authority, in this case SERNANP, determines for protected areas. Head Resolution No. 155-2002-INRENA approved the list of protected natural areas that may or may not be entrusted to third parties through administrative contracts, with the RNTAMB and the PNBS being among the first. Likewise, by means of Head Resolution No. 270-2001-INRENA, the Complementary Provisions to the Regulation of the Law of Protected Natural Areas for the granting of Administration Contracts were approved.

Below are detailed, in hierarchical order, the laws and regulations that regulate the permitted activities within the Natural Protected Areas and their Buffer Zones:

- Regulation of the Law of Protected Natural Areas (approved by DS Nº 038-2001-AG)
- SINANPE 2009 Master Plan
- The Master Plan of the RNTAMB
- Law No. 27308, Forestry and Wildlife Law
- Resolution of Intendance No. 53-2008 INRENA-IANP

With respect to relevant international treaties, Peru is a member of the United Nations Framework Convention on Climate Change and is a party to the Convention on Biological Diversity.

- Laws and regulations indicated in the verification of the period 2010-2013

The laws and regulations indicated in the PDD have remained in force since its preparation until the implementation of the project during the period 2010-2013.

It is worth mentioning that in 2011 the new Forestry and Wildlife Law was enacted (Law No. 29763), which regulates forest ecosystem services in a clearer and more detailed manner, indicating that the state recognizes the importance and necessity of conservation. and responsible and sustainable management of forest ecosystems to counteract the negative effects of climate change, promoting,

through SERFOR and regional governments, research, practices and activities to mitigate climate change of forest ecosystems, including, as a priority, the activities of reduction of deforestation and degradation of forest ecosystems. However, at the date of the end of the period (2010-2013) there is still no corresponding regulation so it cannot be executed, following the enactment of Law N ° 27308 As of the date of the verification period, there are no new laws or regulations that could affect the project.

- Laws and regulations indicated in the verification of the period 2013-2014

  The laws and regulations mentioned since the PDD until the present verification period have remained in force during the period 2013-2014.

  In addition, in June 2014, Law N ° 30215, Law on Mechanisms for Compensation for Ecosystem Services, was enacted. This law defines as a taxpayer to ecosystem services that natural or legal person, public or private, recognized by the Ministry of the Environment, which through technically viable actions contributes to the conservation, recovery and sustainable use of the sources of ecosystem services. Identifying as possible contributors to the holders of contracts for the administration of protected natural areas and other mechanisms defined by the National Service of Natural Protected Areas by the State (SERNANP), regarding the sources of ecosystem services found in them. In this sense, AIDER, as the owner of the partial administration contract of the RNTAMB and the PNBS-MDD, is considered a contributor to ecosystem services. In addition, this law establishes the creation of the Single Registry of Mechanisms for Compensation for Ecosystem Services, which aims to validate, regulate and supervise the compensation mechanisms for ecosystem services derived from voluntary agreements that establish conservation, recovery and sustainable use actions.

  On the other hand, in 2014 the Directive on the Commercialization of Rights Generated by Conservation Projects of Natural Ecosystems present within Natural Protected Areas of National Administration was approved by Presidential Resolution No. 262014-SERNANP. The purpose of this directive is to regulate the procedures for the authorization, development and implementation of projects that contribute to the conservation of natural ecosystems present in ANP that generate ecosystem services. The directive clearly indicates that the SERNANP is the authority in charge of the conservation of the ecosystems present within the Natural Protected Areas of National administration and therefore is the owner of any right that could be generated by the maintenance or recovery of natural ecosystems or ecosystem services that generate. In this sense, SERNANP is empowered, in its capacity as manager of the NPAs of national administration, to commission a part of the conservation tasks through a management contract to a private non-profit organization called Executor, who presents, as part of the adjudication process, a technical and financial proposal detailing its intervention strategy and the mechanisms for its financing.

  In addition, this directive establishes the procedures for the implementation of projects aimed at obtaining tradable rights generated by the conservation of natural ecosystems present within ANP, as well as the procedures for the commercialization of rights generated by the conservation of the ecosystems.

  It should be noted that Law No. 29763, Forestry and Wildlife Law, indicates that the State recognizes the importance and necessity of the conservation and responsible and sustainable management of forest ecosystems to counteract the negative effects of climate change, promoting, through SERFOR and regional governments, research, practices and activities to mitigate climate change of forest ecosystems, including, first and foremost, activities to reduce deforestation and degradation of forest ecosystems; it is not yet in force since its regulation has not yet been promulgated.

  As mentioned, it can be said that at the date of the verification period (2013-2014) there are no new laws or regulations that could affect the project.

- Laws and regulations indicated in the verification of the period 2014-2015

  An updated list was presented, in relation to what was described in the PDD and PIRs, of laws and regulations related to the project:

  - Law on Mechanisms for Compensation for Ecosystem Services No. 30215.
  - Directive on the Commercialization of the Rights generated by Conservation Projects of the Natural Ecosystems present within Protected Natural Areas of National Administration (approved by General Directive N ° 001-2014-SERNANP).
  - General Environmental Law No. 28611.
  - National Environmental Policy (approved by Supreme Decree No. 012-2009-MINAM)
  - Procedure for the Evaluation and Authorization of Projects of Greenhouse Gas Emissions and Carbon Capture (approved by Directive N ° 002-2009MINAM).
  - Forestry and Wildlife Law No. 29763.
  - Law on Natural Protected Areas No. 26834.
  - Regulation of the Law of Natural Protected Areas (approved by Supreme Decree No. 038-2001-AG).
  - Supplementary Provisions to the Regulation of the Law of Protected Natural Areas for the Granting of Administration Contracts (approved by means of Head Resolution No. 270-2001-INRENA).
  - Update of the Master Plan for Protected Natural Areas (approved by Supreme Decree No. 016-2009-MINAM).
  - Modification of Article 116 of the Regulations of the Law on Natural Protected Areas "Issuance of Compatibility and Prior Favorable Technical Opinion" (approved by Supreme Decree No. 003-2011-MINAM)
  - Update of the Master Plan, period 2011-2016, of the Tambopata National Reserve (approved by Presidential Resolution No. 158-2011-SERNANP).
  - Update of the Master Plan, period 2015-2019, of the Bahuaja Sonene National Park (approved by Presidential Resolution No. 111-2015-SERNANP).

  Several of the laws and regulations mentioned here remain in force since the preparation of the PDD. Further; The modifications, updates and new laws that have been enacted since the beginning of the Project Verifications (periods: 2010-2011, 2011-2013 and 2013-2014) have been incorporated into the Project Implementation Reports - PIR.

  In 2009, Directive No. 002-2009-MINAM was promulgated, which describes the set of activities necessary for the evaluation of projects to reduce greenhouse gas emissions and carbon sequestration, such as: Clean Development Mechanism ( CDM), forestry projects, projects for Reduction of Emissions from Deforestation and Degradation (REDD) and programmatic CDM. Whose scope of application is for all natural or legal persons, public or private who intend to carry out projects to reduce greenhouse gas emissions and carbon sequestration, in order to be evaluated by the Ministry of the Environment through its Vice Ministry of Strategic Development of Natural Resources in order to determine whether or not it contributes to the sustainable development of the Country

- Laws and regulations indicated in the verification of the period 2015-2017

  In addition to the laws and regulations mentioned in the previous periods, in this period the regulation of Law 29763 - Forest and Wildlife Law was approved and the Law came into effect, nullifying the Wildlife and forest Law No. 27308.

  The Forest Emissions Reference Level (FREL) has been working since 2012, the FREL proposal was sent to the United Nations Frame Commission for Climate Change (UNFCCC) June 2016[13].

[13] https://redd.unfccc.int/files/frel__submission_peru_modified.pdf

FREL includes the entire Amazonian biome of Peru, with an extension of 78'308,801 ha (60.9% of the national territory), because it is important for Peru to highlight that this biome is being considered and that no territory is excluded.

- Laws and regulations indicated in the verification of the period 07-2017 to 12-2018

  The following law was approved under the environmental theme: Law Nª 30884 "Law that regulates the plastic of a single use and the containers or disposable containers". Promulgated on December 8, 2018.

- Laws and regulations indicated in the verification of the period 01-01-2019 to 31-12-2019:

  At the end of the verification period, the regulation of Law No. 30754, Framework Law on climate change, enacted on December 31, 2019, was approved.

### 2.5.2 Free, Prior and Informed Consent (G5.3)

Below is the information reported in the previous verification vintages:

- Vintage 2010 – 2013:

  In each community in which we have worked, property rights have been respected and the solution of border conflicts that they could present has been promoted. The process of border control was facilitated in four native communities: Palma Real, Sonene, Infierno and Tres Islas; initiating cleaning activities of the boundaries of each community.

  In addition, it has participated in the solution of the border conflict between the Native Communities of Tres Islas and San Jacinto, a situation that had not been solved for more than 18 years. It was possible to gather the parties, who for a long time refused to talk and began the conversations to reach an agreement, in addition a minutes of proposal for the solution of the conflict between both parties and an agreement of agreement between Three was drafted. Islands and San Jacinto in the sector called Chorrera. This process has involved the participation of different institutions such as AIDESEP, FENAMAD, Ombudsman office, AFIMAD, COINBAMAD, Rainforest Alliance and AIDER.

  Also, conversations and coordination between the Tambopata National Reserve and the Native Community of Infierno began to resolve the conflict overlapping areas and reach the recognition of the community's territory.

  In none of the areas where the project has been implemented has it been necessary to move some population to another sector, proof of which is that the Palma Real, Sonene, Infierno and Tres Islas communities have strengthened security over land tenure to through the zoning strategy of its areas that has forced legal physical sanitation.

- Vintage 2013 – 2014

  In each community in which we have worked, property rights have been respected and the solution of border conflicts that they could present has been promoted. The process of seizure has been facilitated in the Palma Real and Sonene native communities; initiating cleaning activities of the boundaries of each community.

  The conflict was resolved by overlapping areas between the Tambopata National Reserve and the Native Community of infierno. Currently the community property title is registered in public registers.

In none of the areas in which the project has been implemented has it been necessary to move some population to another sector, proof of which is that the Palma Real, Sonene and Infierno communities have strengthened security over land tenure through the zoning strategy of its areas that has forced legal physical sanitation.

- Vintage 2014 – 2015

In each community and populated center with which we have worked, property rights have been respected and the solution of border conflicts that they could present has been promoted. As already mentioned in the previous PIRs, the process of seizure has been facilitated in the Palma Real and Sonene native communities. In addition, we have been very careful when incorporating beneficiaries to the project in the sense of reviewing their property titles, verifying that everything is in order and there is no conflict of overlapping rights of use.

Likewise, there is a procedure established for the incorporation of beneficiaries in the project activities, specifically in the agroforestry component, which consists of an admissibility format and an application for admission. In the admissibility format, the criteria considered to be part of the project are specified, which are:

In relation to the producer:

- The producer must live in the area of influence of the project.
- Agriculture should be your main family activity
- Must be a member or associate with the Cooperative that will collect the production of cocoa that generates
- Must have ownership documents of the land

In relation to the property

- The plot should be located between sectors III and IV of the REDD + strategy Tambopata Bahuaja Sonene
- The plot must have been intervened before 2012
- It must not be secondary forest for more than 5 years
- Must be in the buffer zone
- Must be in the buffer zone of the Tambopata National Reserve
- It must not be in a flood area due to river overflows
- Well drained area
- It must have infrastructure that allows road access to Puerto Maldonado.

In addition, this format specifies the location of the farm, the number of hectares it has and which is the main crop that the farmer grows in it.

Once the farmer is admitted to the project, in the event that he is not yet a member of the cooperative in charge of collecting the cocoa that will be produced, he sends the application for admission to the cooperative, in which he/she undertakes to comply with the statutes, internal regulations and with all dispositions required by the cooperative.

It should be noted that in none of the areas in which the project has been executed has it been necessary to move some population to another sector.

- Vintage 2015 – 2017,

In each community and populated center with which we have worked, property rights have been respected and the solution of border conflicts that they could present has been promoted. As already

mentioned in the previous PIRs. In addition, we have been very careful when incorporating beneficiaries to the project in the sense of reviewing their property titles, verifying that everything is in order and there is no conflict of overlapping rights of use.

Likewise, there is a procedure established for the incorporation of beneficiaries in the project activities, specifically in the agroforestry component, which consists of an admissibility format and an application for admission. In the admissibility format, the criteria considered to be part of the project are specified, which are the same reported in the previous verification period.

It should be noted that in none of the areas in which the project has been executed has it been necessary to move some population to another sector.

- Vintage 07-2017 to 12-2018:

  AIDER now has a Participatory Consultation Plan to continue reinforcing this process with the native communities and other stakeholders involved in the project.

- Vintage 01-01-2019 to 31-12-2019

  AIDER now has a Participatory Consultation Plan to continue reinforcing this process with the native communities and other stakeholders involved in the project.

### 2.5.3 Property Rights Protection (G5.4)

As indicated in the PDD, there are two populations within the RNTAMB: Nueva América and Sandoval. Both population centers remain within the ANP and will not be relocated. It should be noted that the population of New America is willing to work on the activities of the project and has not increased its agricultural frontier within the ANP and so far there are beneficiaries of the project belonging to New America.

In the case of the communities and population centers located in the buffer zone, it has not been considered to relocate them, but rather to work with them in the promotion of sustainable productive activities, conservation agreements, control and surveillance, and forest governance, activities that are already being made. Under no circumstances has the project carried out activities within its territories without their authorization, before initiating any type of intervention, meetings were held with the respective boards of directors and information was given regarding the actions that were intended to be carried out. Subsequently the boards of directors informed their respective assemblies and it was the latter that authorized some type of intervention in their locality.

### 2.5.4 Identification of Illegal Activity (G5.5)

The identified activities that could affect or generate some type of impact to the Climate, Community and Biodiversity objectives of the project are those mentioned below:

- Illegal gold mining
- Illegal extraction of wood
- Burns
- Expansion of the agricultural frontier
- Agricultural invasion of areas with another type of land use (timber concessions, chestnut concessions, etc.)

As explained, the project will actively work in the promotion of productive alternatives to these activities, which help to generate equal or higher income to producers, through innovations that minimize environmental impact as well as through the promotion of new environmentally friendly activities.

In addition, the project will increase control and surveillance actions, not only by increasing the human, technical and financial resources available to the RNTAMB, but also by supporting the implementation of the Community Monitoring Plan. In this regard, special emphasis will be placed on the areas identified as critical because of the high threat of illegal activities.

# 3 CLIMATE

## 3.1 Monitoring GHG Emission Reductions and Removals

### 3.1.1 Data and Parameters Available at Validation

| | |
|---|---|
| Data / Parameter | Forest / Non Forest Cover Regional Map |
| Data unit | - |
| Description | Map showing the location of forest areas within the reference region, project area and leakage belt at the Start of the crediting period. |
| Source of data | Landsat 5 images. GPS points taken in the case of field verifications. |
| Value applied | - |
| Justification of choice of data or description of measurement methods and procedures applied | Image interpretation done using ENVI 5.1 and Arc Gis 10.1 software. Minimum precision of the map will be of 90%, according to the specified in the M-MON module.<br>The map will be validated on the field through a systematic unaligned sampling; precision calculation and commission and omission mistakes will be done through a confusion matrix. |
| Purpose of the data | Determination of baseline scenario (AFOLU projects only)<br>• Calculation of baseline emissions.<br>• Calculation of project emissions.<br>• Calculation of leakage |
| Comments | - |

| | |
|---|---|
| Data / Parameter | $\Delta C_{BSL,unplanned}$ |
| Data unit | t $CO_2e$ |
| Description | Net greenhouse gas emissions in the baseline from unplanned deforestation. |
| Source of data | Landsat 5 TM and ETM satellite images<br><br>INEI, MINAM, IGN, digital Peru, Master Plans of the RNTAMB and PNBS-MDD, DGFFS, SERNANP, MINAGRI, IIAP, experts with knowledge about the reality of agents of deforestation in the buffer zone adjacent to the Madre de Dios river area.<br><br>All sources of data used are shown in Annex 23 "Estimation of unplanned deforestation in the baseline scenario", of Project Development Design (PDD). |

| | |
|---|---|
| Value applied | 482,322.1 |
| Justification of choice of data or description of measurement methods and procedures applied | Document "Estimation of unplanned deforestation in the baseline scenario" was developed based on Module: VMD0007 Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation (BL-UP) 2.0 version, as required the VCS VM0007 REDD Methodological Modules (REDD-MF) version 1.0, with which the project was approved.<br><br>It was prepared by the technical team of the Project Executing and was completed in 2011. It also has a validity of 10 years, according to described in the VCS-PD. |
| Purpose of the data | Determination of baseline scenario (AFOLU projects only)<br>• Calculation of baseline emissions.<br>• Calculation of project emissions.<br>• Calculation of leakage |
| Comments | - |

| | |
|---|---|
| Data / Parameter | $A_i$ |
| Data unit | Ha |
| Description | Area of stratum *i* |
| Source of data | Landsat 5 satellite images<br>IGN-MINEDU, Tambopata National Reserve master plan, Bahuaja Sonene National Park master plan, SERNANP.<br><br>All data sources that were used are detailed in Annex 21 "Stratification of forests of Tambopata National Reserve and Bahuaja-Sonene National Park within the area of Madre de Dios region", of Project Development Design (PDD). |
| Value applied | The number of hectares per strata for project area and leakage belt are detailed in the "Database of calculation of carbon stock .xls" spreadsheet "Table 1" worksheet |
| Justification of choice of data or description of measurement methods and procedures applied | The document "Stratification of the forests of the Tambopata National Reserve and Bahuaja-Sonene National Park area of Madre de Dios region", was developed based on the module VCS VMD0016 Methods for stratification of the project area (X-STR) v 1.0 as required by the VCS VM0007 REDD Methodological Modules (REDD-MF) version 1.0, with which the project was approved.<br>It was prepared by the technical team of the Project Executing and was concluded in 2011. It has a validity of 10 years, according to described in the VCS-PD. |
| Purpose of the data | Determination of baseline scenario (AFOLU projects only)<br>• Calculation of baseline emissions.<br>• Calculation of projects emissions. |
| Comments | Ex-ante will be assumed that the strata area remains constant |

| | |
|---|---|
| Data / Parameter | *ARRD,unplanned,hrp* |
| Data unit | Ha |
| Description | Total area deforested during the historical reference period in the RRD. |
| Source of data | Landsat 5 TM and ETM satellite images<br><br>INEI, MINAM, IGN, digital Peru, Master Plans of the RNTAMB and PNBS-MDD, DGFFS, SERNANP, MINAGRI, IIAP, experts with knowledge about the reality of agents of deforestation in the buffer zone adjacent to the Madre de Dios river area.<br><br>All sources of data used are shown in Annex 23 "Estimation of unplanned deforestation in the baseline scenario", of Project Development Design (PDD). |
| Value applied | The value applied is shown in Annex 23 "Estimation of unplanned deforestation in the baseline scenario" and Baseline and case of the project. xls "Table15" worksheet |
| Justification of choice of data or description of measurement methods and procedures applied | Document "Estimation of unplanned deforestation in the baseline scenario" was developed based on Module: VMD0007 Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation (BL-UP) 2.0 version, as required the VCS VM0007 REDD Methodological Modules (REDD-MF) version 1.0, with which the project was approved.<br><br>It was prepared by the technical team of the Project Executing and was concluded in 2011. It has a validity of 10 years, according to described in the VCS-PDD. |
| Purpose of the data | Determination of baseline scenario (AFOLU projects only)<br>• Calculation of baseline emissions. |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *CF* |
| Data unit | t $C^{-1}$ t d.m. |
| Description | Carbon fraction of dry matter |
| Source of data | Default value 0.50 t $C^{-1}$ t d.m. is from literature "Pearson, T; Walker, S; Brown, S. 2005. Sourcebook for Land use, Land-use Change and forestry Projects. Winrock international. EEUU. 57 p." |
| Value applied | 0.5 |

| | |
|---|---|
| Justification of choice of data or description of measurement methods and procedures applied | - |
| Purpose of the data | Determination of baseline scenario (AFOLU projects only)<br>• Calculation of baseline emissions.<br>• Calculation of project emissions.<br>• Calculation of leakage. |
| Comments | The Carbon of dry matter has been used to determine the "carbon due to logging in the baseline scenario", which for the purposes of our project will be equal to the "net GHG emissions of leakage due to market effects" as detailed in Annex 25 " Estimation of leakage due to market effects" of VCS -PDD.<br>The value of "net GHG emissions of leakage due to market effects" is zero since the leakage due effect market percentage represents, respect to net profit of the project, less than 5% (calculated for the project baseline) as detailed in the "leak due to market effect xls" spreadsheet and "Calculation of leakage due to market effect" worksheet. |

| | |
|---|---|
| Data / Parameter | *fj (X,Y)* |
| Data unit | t d.m. tree$^{-1}$ |
| Description | Allometric equation for species j linking measured tree variable(s) to aboveground biomass of living trees |
| Source of data | The resulting data comes from aboveground biomass of living trees inventory |
| Value applied | The values applied are in the Project Document-PD. |
| Justification of choice of data or description of measurement methods and procedures applied | Feitas *et al.* Research Institute of the Peruvian Amazon. 2006. Environmental Services Storage and Carbon Sequestration Ecosystem Aguajal in the Pacaya Samiria National Reserve - Loreto. Technical Document. Nº 29. Iquitos, Perú. 65 p.<br><br>PASA, A. s.f. Small holders' Contribution on Climate Change Mitigation and Water Quality: The Case of the CBFM Project in Midwestern Leyte, Department of Agroforestry, College of Forestry and Natural Resources Visayas State University Philippines. 12 p.<br><br>Pearson *et al*. 2005. Sourcebook for Land use, Land-use Change and forestry Projects. Winrock international. EEUU. 57 p.<br>WINROCK INTERNATIONAL. 2006. Carbon Storage in the Los Amigos conservation concession, Madre de Dios, Perú. Winrock International. Massachusetts, USA. 27 p. |

| | |
|---|---|
| Purpose of the data | Determination of baseline scenario (AFOLU projects only)<br>• Calculation of baseline emissions.<br>• Calculation of project emissions. |
| Comments | |

| | |
|---|---|
| Data / Parameter | R |
| Data unit | t root d.m. $t^{-1}$ shoot d.m. |
| Description | Root to shoot ratio appropriate to species or forest type / biome. |
| Source of data | The resulting data comes from aboveground biomass of living trees inventory. |
| Value applied | 0.37 |
| Justification of choice of data or description of measurement methods and procedures applied | Cairns et al. 1997 is a widely accepted peer reviewed scientific publication. Cairns, M. A., S. Brown, E. H. Helmer, and G. A. Baumgardner. 1997. Root biomass allocation in the world's upland forests. Oecologia 111, 1-11.<br><br>IPCC. 2006 INV GLs AFOLU Chapter 4 Table 4.4. |
| Purpose of the data | Calculation of baseline emissions<br>Calculate project emissions |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *COMFi* |
| Data unit | Dimensionless |
| Description | Combustion factor for stratum *i* (vegetation type) |
| Source of data | Default values in Table 2.6 of IPCC, 2006 (Annex 2) of Project Development Design (PDD). |
| Value applied | 0.5 |
| Justification of choice of data or description of measurement methods and procedures applied | N/A |
| Purpose of the data | Calculating emissions baseline<br>Used to determine GHG emissions from biomass burning |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *G gi* |

| | |
|---|---|
| Data unit | Dimensionless |
| Description | Combustion emissions factor for *i* stratum and *g* gas - source of data |
| Source of data | Defaults can be found in Volume 4, Chapter 2, of the IPCC 2006 Inventory Guidelines in table 2.5 (see Annex 2: emission factors for various types of burning for $CH_4$ and $N_2O$). |
| Value applied | 6.80 for $CH_4$ and 0,20 for $N_2O$ in tropical forest |
| Justification of choice of data or description of measurement methods and procedures applied | N/A |
| Purpose of the data | Calculating emissions baseline<br>Used to determine GHG emissions from biomass burning |
| Comments | - |

| | |
|---|---|
| Data / Parameter | $C_{AB,tree,i}$ |
| Data unit | t $CO_2$-e $ha^{-1}$ |
| Description | Carbon stock in aboveground biomass in trees in the project case in stratum *i* |
| Source of data | The resulting data comes from aboveground biomass of living trees inventory |
| Value applied | The values applied are in the Project Document-PD. |
| Justification of choice of data or description of measurement methods and procedures applied | The inventory made for the carbon stock determination was exploratory type with temporary sample plots. As a base was used the stratification and variability of each stratum, which is the principle design of the optimal fixation.<br>The sample plots were circular and concentrically nested. |
| Purpose of the data | Calculating emissions baseline<br>Calculate project emissions |
| Comments | - |

| | |
|---|---|
| Data / Parameter | $C_{BB,tree,i}$ |
| Data unit | t $CO_2$-e $ha^{-1}$ |
| Description | Carbon stock in belowground biomass in trees in the project case in stratum *i* |
| Source of data | The resulting data comes from aboveground biomass of living trees inventory |

| | |
|---|---|
| Value applied | The values applied are in the Project Document-PD. |
| Justification of choice of data or description of measurement methods and procedures applied | Allometric equation for predicting root biomass density as a function of aboveground biomass density. |
| Purpose of the data | Calculating emissions baseline<br>Calculate project emissions |
| Comments | - |

### 3.1.2 Data and Parameters Monitored

| | |
|---|---|
| Data / Parameter | Forest cover monitoring map for the project area. |
| Data unit | Ha |
| Description | Map showing the location of forest areas within the project area at the end of every monitoring period. If there were deforested areas within the project area, the comparison with the base map has to show the deforested areas in every monitoring period. |
| Source of data | Landsat 8 - OLI images. GPS points taken in the case of field verifications. |
| Description of measurement methods and procedures to be applied | Image interpretation done using geographic information systems (GIS). |
| Frequency of monitoring/recording | Annual |
| Value monitored | 541,442.00 |
| Monitoring equipment | Computer (desktop/laptop) with an i7 processor and 6 GB of RAM memory.<br>Software: ENVI 5.1 and Arc GIS 10.1<br>GPS Garmin Navigator |
| QA/QC procedures to be applied | The map was be validated through visual interpretation of satellite images of high resolution (RapidEye images with 6.5 meter spatial resolution and Landsat Panchromatic Pansharpening images, with 15 m spatial resolution). The precision calculation was conducted through a confusion matrix.<br>Minimum precision of the map will be of 90%, according to the specified in the M-MON module.<br>The elaboration of the map will be done according to the Standard Operational Procedure elaborated for this purpose. See appendix 3. |

| | |
|---|---|
| Purpose of the data | Estimating project emissions |
| Calculation method | The selected image of the previous year serves as a reference, which is updated with the new "non-forest" areas generated by the software and by the knowledge the remote sensing analyst has of the area; thus, the forest area is defined for this monitoring period.<br>The accuracy of the map is calculated by comparing it with the field data. |
| Comments | - |

| | |
|---|---|
| Data / Parameter | Forest cover monitoring map for the leakage belt. |
| Data unit | Ha |
| Description | Map showing the location of forest areas within the leakage belt age belt at the end of every monitoring period. |
| Source of data | Landsat 8 - OLI images. GPS points taken in the case of field verifications. |
| Description of measurement methods and procedures to be applied | Image interpretation done using geographical information systems. |
| Frequency of monitoring/recording | Annual |
| Value monitored | 189,791.59 |
| Monitoring equipment | Computer (desktop/laptop) with an i7 processor and 6 GB of RAM memory.<br>Software: ENVI 5.1 and Arc GIS 10.1<br>GPS Garmin Oregon600 |
| QA/QC procedures to be applied | The map was validated through visual interpretation of satellite images of high resolution (RapidEye images with 6.5 meter spatial resolution and Landsat Panchromatic Pansharpening images, with 15 m spatial resolution). The precision calculation was conducted through a confusion matrix.<br>Minimum precision of the map will be of 90%, according to the specified in the M-MON module.<br>The elaboration of the map will be done according to the Standard Operational Procedure elaborated for this purpose. See Appendix 3. |
| Purpose of the data | Estimating leakage |
| Calculation method | The selected image of the previous year serves as a reference, which is updated with the new "non-forest" areas generated by the software and by the knowledge the remote sensing analyst has of the area; thus, the forest area is defined for this monitoring period.<br>The accuracy of the map is calculated by comparing it with the |

| | |
|---|---|
| | field data. |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *ADefPA,iu,t* |
| Data unit | Ha |
| Description | Area of recorded deforestation in the project area in stratum *i* converted to land use *u* at time *t* |
| Source of data | Landsat 8 Landsat 8 - OLI images. |
| Description of measurement methods and procedures to be applied | Image interpretation done using geographical information systems. |
| Frequency of monitoring/recording | Annual |
| Value monitored | 19.5 |
| Monitoring equipment | Computer (desktop/laptop) with an i7 processor and 6 GB of RAM memory.<br>Software Arc GIS 10.1 |
| QA/QC procedures to be applied | The map was be validated through visual interpretation of satellite images of high resolution (RapidEye images with 6.5 meter spatial resolution and Landsat Panchromatic Pansharpening images, with 15 m spatial resolution). The precision calculation was conducted through a confusion matrix.<br>Minimum precision of the map will be of 90%, according to the specified in the M-MON module.<br>The elaboration of the map will be done according to the Standard Operational Procedure elaborated for this purpose. See appendix 3. |
| Purpose of the data | Calculation of project emissions |
| Calculation method | The selected image of the previous year serves as a reference, which is updated with the new "non-forest" areas generated by the software and by the knowledge the remote sensing analyst has of the area; thus, the deforested area is defined for this monitoring period.<br>The accuracy of the map is calculated by comparing it with the field data. |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *ADefLB,i,u,t* |
| Data unit | Ha |
| Description | Area of recorded deforestation in the leakage belt in stratum *i* converted to land use *u* at time *t* |

| | |
|---|---|
| Source of data | Landsat 8 - OLI images. |
| Description of measurement methods and procedures to be applied | Image interpretation through the use of geographic information systems (GIS). |
| Frequency of monitoring/recording | Annual |
| Value monitored | 2,369.36 |
| Monitoring equipment | Computer (desktop/laptop) with an i7 processor and 6 GB of RAM memory.<br>Software Arc GIS 10.1 |
| QA/QC procedures to be applied | The map was be validated through visual interpretation of satellite images of high resolution (Rapideye). The precision calculation and commission and omission mistakes was conducted through a confusion matrix<br>Minimum precision of the map will be of 90%, according to the specified in the M-MON module.<br>The elaboration of the map will be done according to the Standard Operational Procedure elaborated for this purpose. See appendix 3. |
| Purpose of the data | Estimating project emissions |
| Calculation method | The selected image of the previous year serves as a reference, which is updated with the new "non-forest" areas generated by the software and by the knowledge the remote sensing analyst has of the area; thus, the deforested area is defined for this monitoring period.<br>The accuracy of the map is calculated by comparing it with the field data. |
| Comments | |

| | |
|---|---|
| Data / Parameter | $A_{DegW,i}$ |
| Data unit | Ha |
| Description | Area potentially impacted by degradation processes in stratum i |
| Source of data | Reports from the rangers of the TAMBNR and BSNP regarding illegal extraction of wood. Location map of the physical components of the project area. |
| Description of measurement methods and procedures to be applied | Delimitation of the potential area subject to forest degradation based on the expertise of the rangers (see the participatory workshop memory on Annex 2 of the corresponding section). |
| Frequency of monitoring/recording | Quinquennial |
| Value monitored | 15,072 |

| | |
|---|---|
| Monitoring equipment | Computer (desktop/laptop) with an i7 processor and 6 GB of RAM memory.<br>Software Arc GIS 10.1 |
| QA/QC procedures to be applied | Participatory workshop performed with the rangers to validate the preliminary delineation of the potential area subject to forest degradation. |
| Purpose of the data | Estimating project emissions |
| Calculation method | Using the UTM coordinates of the points of interventions performed by the rangers during the monitoring period and their knowledge of the area and of degradation activities, the area of the critical sectors within the project area was determined. See appendix 3. |
| Comments | - |

| | |
|---|---|
| Data / Parameter | $A_{DistPA,q,i,t}$ |
| Data unit | Ha |
| Description | Area impacted by natural disturbance in the project stratum *i* converted to natural disturbance stratum *q* at time *t*; ha |
| Source of data | Image interpretation by software using geographic information systems. GPS points taken in the case of checks in the field. |
| Description of measurement methods and procedures to be applied | Computer (desktop/laptop) with i7 processor and 6 GB of RAM memory.<br>Software Arc GIS 9.3.1 |
| Frequency of monitoring/recording | Annual |
| Value monitored | 0 |
| Monitoring equipment | Computadora (desktop/portátil) con procesador i7 con 6 GB de memoria RAM.<br>Software Arc GIS 9.3.1<br>GPS Garmin Oregon600 |
| QA/QC procedures to be applied | Georeferenced photographic record of the disturbance |
| Purpose of the data | Calculation of project emissions |
| Calculation method | It will refer to the classified image of the previous year, which will be updated with new areas of "non-forest" generated by the software and knowledge in the area of remote sensing analyst. Field will be verified and recorded disturbance characteristics in a format. |
| Comments | - |

| | |
|---|---|
| Data / Parameter | $C_{DegW,i,t}$ |
| Data unit | t $CO_2$-e |
| Description | Biomass carbon of trees cut and removed through illegal logging and fuelwood and charcoal extraction degradation process from plots measured in stratum *i* at time *t* |
| Source of data | Field measurements |
| Description of measurement methods and procedures to be applied | Field measurements according to the procedure described in M-MON module, v2.1. |
| Frequency of monitoring/recording | Every five years |
| Value monitored | 351 |
| Monitoring equipment | Caliper |
| QA/QC procedures to be applied | The gathering of information on the field will be done according to the Standard Operational Procedure elaborated for this purpose. See appendix 3. |
| Purpose of the data | Estimating project emissions |
| Calculation method | Allometric equations used to calculate aerial biomass (Brown, 1997, as quoted by Pearson *et al*., 2005) and underground biomass (Source: Cairns *et al.*, 1997, as quoted by IPCC, 2003). |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *Aburn,i,t* |
| Data unit | Ha |
| Description | Total of burnt areas within the project area for the monitoring period |
| Source of data | Landsat 8 images. GPS points taken in the case of field verifications. |
| Description of measurement methods and procedures to be applied | Image interpretation through the use of geographic information systems (GIS) |
| Frequency of monitoring/recording | Annual |
| Value monitored | 6.82 |
| Monitoring equipment | Computer (desktop/laptop) with an i7 processor and 6 GB of RAM memory.<br>Software ENVI 5.1 and Arc GIS 10.1<br>GPS Garmin Navigator |
| QA/QC procedures to be applied | The map will be validated on the field through the sampling of 10% of the total analyzed area; the classes on the map must correspond to the ones on the field.<br>Minimum precision of the map will be of 90%.<br>The elaboration of the map will be done according to the Standard Operational Procedure elaborated for this purpose. |

| | |
|---|---|
| | See appendix 3. |
| Purpose of the data | Estimating project emissions |
| Calculation method | The Landsat 8 images were analyzed by their spectral firms, color shades and shapes; subsequently, training samples were obtained from the image and the maximum likelihood algorithm was applied, extracting areas of interest. Finally, a post-classification was made to eliminate the isolated pixels in the area. |
| Comments | - |

| | |
|---|---|
| Data / Parameter | $AP_i$ |
| Data unit | Ha |
| Description | Total area of the degradation sampling plots in i stratum |
| Source of data | Field measurements |
| Description of measurement methods and procedures to be applied | Systematic random sampling, covering at least 3% of the potential area subject to degradation. |
| Frequency of monitoring/recording | Every five years |
| Value monitored | 387 ha sampled through a total of 98 000m of 40m wide transects, distributed systematically in the potential area subject to degradation. |
| Monitoring equipment | Computer (desktop/laptop) with an i7 processor and 6 GB of RAM memory.<br>GPS Garmin Navigator |
| QA/QC procedures to be applied | The gathering of information on the field will be done according to the Standard Operational Procedure elaborated for this purpose. See appendix 3. |
| Purpose of the data | Estimating project emissions |
| Calculation method | Cabinet processing of the information gathered on the field using geographic information systems (GIS). |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *TOTFOR* |
| Data unit | Ha |
| Description | Total available national forest area |
| Source of data | Official data, peer reviewed publications, remotely sensed imagery (coarse scale imagery is appropriate) or cadastral maps and other verifiable sources |
| Description of measurement methods | Not applicable |

| | |
|---|---|
| and procedures to be applied | |
| Frequency of monitoring/recording | Must be monitored at least every 5 years or if verification occurs on a frequency of less than every 5 years examination must occur prior to any verification event |
| Value monitored | 1,799,515 |
| Monitoring equipment | - |
| QA/QC procedures to be applied | It's considered the forest area available for unplanned deforestation corresponding to area of Madre de Dios, due to the spatial characteristics of accessibility of the region.<br><br>More details are in Annex 24 of VCS-PDD |
| Purpose of the data | Calculation of leakage emissions |
| Calculation method | - |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *PROTFOR* |
| Data unit | Ha |
| Description | Total area of fully protected forests nationally. |
| Source of data | Official data, peer reviewed publications and other verifiable sources. |
| Description of measurement methods and procedures to be applied | Not applicable |
| Frequency of monitoring/recording | Must be monitored at least every 5 years or if verification occurs on a frequency of less than every 5 years examination must occur prior to any verification event. |
| Value monitored | 138,532 |
| Monitoring equipment | - |
| QA/QC procedures to be applied | - |
| Purpose of the data | Calculation of leakage emissions |
| Calculation method | - |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *MANFOR* |
| Data unit | Ha |
| Description | Total area of forests under active management nationally |
| Source of data | Official data, peer reviewed publications and other verifiable sources |

| | |
|---|---|
| Description of measurement methods and procedures to be applied | Not applicable |
| Frequency of monitoring/recording | Must be monitored at least every 5 years or if verification occurs on a frequency of less than every 5 years examination must occur prior to any verification event. |
| Value monitored | 1,043,273 |
| Monitoring equipment | - |
| QA/QC procedures to be applied | - |
| Purpose of the data | Calculation of leakage emissions |
| Calculation method | - |
| Comments | - |

| | |
|---|---|
| Data / Parameter | *PROPIMM* |
| Data unit | Proportion |
| Description | Estimated proportion of baseline deforestation caused by immigrating population |
| Source of data | Calculated based on official data the INEI 2007. |
| Description of measurement methods and procedures to be applied | Estimated as proportion of the area deforested in the past 5 years by population that migrated into the Leakage Belt and project area in the past 5 years. |
| Frequency of monitoring/recording | Must be monitored at least every 5 years or if verification occurs on a frequency of less than every 5 years examination must occur prior to any verification event. |
| Value monitored | 0.187 |
| Monitoring equipment | - |
| QA/QC procedures to be applied | It's established based on official information provided by INEI, considering the persons performing activities of agriculture and mining in the influence area.<br>More details are in Annex 24 of VCS-PDD |
| Purpose of the data | Calculation of leakage emissions |
| Calculation method | - |
| Comments | |

| | |
|---|---|
| Data / Parameter | *PROPRES* |
| Data unit | Proportion |
| Description | Estimated proportion of baseline deforestation caused by |

| | |
|---|---|
| | population that has been resident for ≥5 years |
| Source of data | Calculated based on official data the INEI 2007. |
| Description of measurement methods and procedures to be applied | Estimated as proportion of the area deforested in the past 5 years by population resident in the Leakage Belt and project area for ≥5 years (all areas within 2km of the boundaries of the project area and the leakage belt shall be considered here). |
| Frequency of monitoring/recording | Must be monitored at least every 5 years or if verification occurs on a frequency of less than every 5 years examination must occur prior to any verification event. |
| Value monitored | 0.813 |
| Monitoring equipment | - |
| QA/QC procedures to be applied | - |
| Purpose of the data | Calculation of leakage emissions |
| Calculation method | - |
| Comments | - |

### 3.1.3 Monitoring Plan

The monitoring purpose is to obtain the necessary information in order to estimate the amount of avoided emissions during the crediting period, evaluate the effectiveness of the project activities and collect all the information required to ensure the realization of the project's emissions reduction targets.

The monitoring plan is directed to the following activities that need to be monitored:

- Baseline revision
- Monitoring of actual carbon stock changes and greenhouse gas emissions
- Monitoring of leakage carbon stock changes and greenhouse gas emissions
- Estimation of *ex-post* net carbon stock changes and greenhouse gas emissions

a. Monitoring activities include the use of remote sensors and in-situ inspections. The combination of both data sources gives as a result the required calculations and estimates to determine whether the project is being developed in accordance to the VCS-PD.

   For the monitoring of the areas subject to deforestation and forest degradation and associated emissions, the VCS VMD0015 module "Methods for GHG emissions and removals monitoring" (M-MON) version 2.1 will be used; likewise, the report of leakages caused by the project due to activity displacement will be prepared according to the VCS VMD0010 module "Emissions estimate for activity displacement due to avoided unplanned deforestation" (LK-ASU) version 1.0. As for the estimate of GHG other than $CO_2$ produced by burning biomass, the VCS VMD0013 module "Greenhouse gases emissions estimate for burning biomass" (E-BB) version 1.0 will be used. The remaining carbon stored in long-lasting wood products reservoir, as a result of logging activities, will be calculated using the VCS VMD0005 module "Estimate of the carbon content in long-lasting wood products" (CP- W) version 1.1; and finally, the "Tool for testing the significance of GHG emissions from A/R CDM project activities" (T -SIG) will be used in order to evaluate if it is correct to rule out emission sources, leakage sources and long-lasting wood products reservoir.

b. It is conservatively considered that the carbon stored in the aerial and underground biomass reservoirs keeps constant, so it will not be monitored. Likewise, the secondary forest growth (carbon increment) is omitted in a conservative way, considering, however, the mosaic of secondary forest and agriculture as a single category, due to the complications in differentiating secondary forests from areas with agricultural management (by presenting similar visual and spectral characteristics) on the pixel size of the images to be used. It is necessary to point out that, in many occasions, forest regeneration is impeded (as in the case of areas affected by mining or those invaded by aggressive and competitive exotic).

   Monitoring the changes in land use, based on Landsat 8 – OLI satellite images, will be performed annually, involving all the changes in forest cover. The deforested area (in hectares) is calculated for the project area and leakage belt. Also, once the deforestation map is generated, validation was given through the visual interpretation employing high- resolution satellite images like RapidEye images with 6.5 meter spatial resolution and Landsat Panchromatic Pansharpening with 15 m spatial resolution.

   On the other hand, it has been used the spectral vegetation indices like a tool for identification and determination of burned areas, specifically the index of normalised burning ratio (NBR). In addition, once the map of burning was generated, validation occurred through field verification and visual interpretation by used of RapidEye satellite images, with 6.5 meters of spatial resolution and Landsat Panchromatic Image pansharpening with 15 meter of spatial resolution.

   Spatial information that may be provided by government entities will be updated annually.

c. All the monitoring activities will be implemented using Standard Operational Procedures (SOP) elaborated by the project team. The staff will be permanently trained to ensure the quality of the data.

d. The Group Assurance and Quality Control program schedules auditing visits to verify the compliance of the SOPs, choosing random processes to ensure their correct implementation.

e. Monitoring data is stored and processes in the cities of Puerto Maldonado and Lima following the procedure described in the See appendix 4.

f. Monitoring is performed by a professional monitoring team that will be found in the cities of Lima and Puerto Maldonado, in coordination with the headship of Tambopata National Reserve and Bahuaja-Sonene National Park. The monitoring team answers to the Ecosystem Services Area of AIDER coordinator, with an office in Lima.

   In-situ monitoring will be in charge of the professional monitoring team in Madre de Dios, with the cooperation of the Rangers of the Protected Natural Areas (within the project area) and their extensive knowledge, the ones who receive training through training workshops to fulfill these tasks.

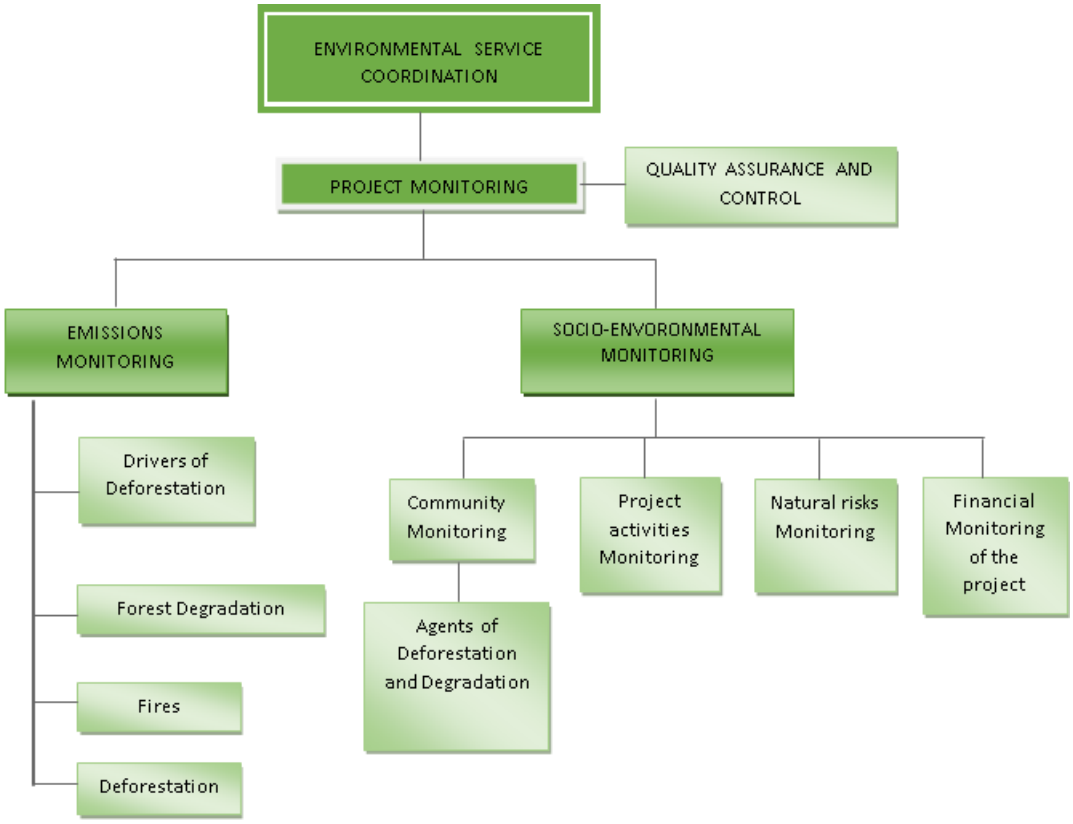


**Figure 5.** Monitoring organization chart

- **Baseline Review**

  The reference scenario will be reviewed every 10 years. The deforestation rate will be updated for the reference region, the project area and the leakage belt, and the same will be done for the drivers of deforestation. Also, the information of the stored carbon will be verified by evaluating 10% of the plots in every stratum to determine the reference scenario. Using the updated information, the deforestation model will be adapted for the project area and the leakage belt in the reference scenario, projecting the deforested areas once again and calculating the carbon emissions in the reference scenario for the subsequent period.

- **Monitoring of actual carbon stock changes and greenhouse gas emissions**

  Monitoring is performed using geographic software to process and interpret satellite images, complementing them with field verifications; the parameters subject to monitoring are specified on section 3.1.2.

- **Monitoring of leakage carbon stock changes and greenhouse gas emissions**

  Relevant parameters for monitoring of leakage caused by activities shifting are found in section 3.1.2. Deforested areas at leakage belt are being monitored, trying, as much as possible, to cross information from ground- truth data with information of social monitoring at the different populations (according to Climate, Community & Biodiversity standards), to

confirm that leakages are, effectively, attributable to the project activity.

Monitoring of measures to avoid deforestation and reduce risk of leakage: the implementation of the Strategy to Reduce Emissions from Deforestation and Forest Degradation in Tambopata National Reserve (RNTAMB) and Bahuaja-Sonene National Park (PNBS) - Madre de Dios area is annually monitored; in this management document the project activities described on section 1.8 of PD have been developed, through measurement of its targets and indicators and supported by information obtained in community monitoring. Emissions that could result from project activities are considered insignificant, due to the selected technology level (see section 1.7 of PD) and the selected emissions sources (see section 2.3 of PD).

- **Estimation of *ex-post* net carbon stock changes and greenhouse gas emissions**

The estimation of net ex-post changes in carbon stocks will be conducted according methodology REDDMF. Calculations are detailed in the "REDD project emissions (period 2019).xls" (Annex 3). The following enumerates the procedure steps according to the specified in the M-MON module, v2.1.

**STEP 1. Selection and analysis of land use change and land cover change data sources**

The complete procedure is found in Annex 3 of section 3.1.2.

At the end of the monitoring period:

- Forest cover maps for the project area and leakage belt were elaborated.

- The area of the forest and non-forest cover within the project area and leakage belt were obtained.

**Table 9.** Forest and non-forest cover area within the project area and leakage belt

| Category | Forest cover (ha) | Non-forest cover (ha) |
|---|---|---|
| Project area | 541,442.00 | 19.50 |
| Leakage belt | 189,791.59 | 2,369.36 |

**STEP 2. Interpretation and analysis**

**Monitoring deforestation**

The development of this step consisted in the estimation of the emissions produced due to deforestation within the project area and leakage belt for the period (2019), running from January 1, 2019 to December 31, 2019. The estimate was developed following the applicability of the VMD0015 M-MON module, v2.1.

**Emissions produced due to deforestation**

$$\Delta C_{P,DefPA,i,t} = \sum_{u=1}(A_{DefPA,u,i,t} * \Delta C_{pools,P,Def,u,i,t})$$ **(M-MON Equation 3)**

Where:

$\Delta C_{P,DefPA,i,t}$= net changes in carbon stocks as a result of deforestation in the case of the project, in the project area, i stratum in t time; $tCO_2$-e.

$A_{DefPA,u,i,t}$= registered deforestation in the project area, i stratum converted into u land use in t time; ha.

$\Delta C_{pools,P,Def,u,i,t}$= net changes in carbon stocks in all reservoirs in the case of the project, in u land use, i stratum and t time; t CO2-e $ha^{-1}$.

$u$= 1, 2, 3,… U post-deforestation land uses

$i$= 1, 2, 3,… M stratum

$t$= 1, 2, 3,… t* years since the implementation of the REDD project

**Table 10.** Net changes in carbon stocks in the project area (January - June, 2019)

| Strata | *ADefPA,u,i,t* | *□C pools, P, Def,u,i,t* | *□CP, DefPA,i,t* |
|---|---|---|---|
| Mixed Aguajal | - | 222.61 | - |
| Alluvial floodplain | 2.31 | 356.39 | 823.97 |
| Strong High Hill | - | 496.71 | - |
| Soft High Hill | - | 429.65 | - |
| Strong Low Hill | - | 583.43 | - |
| Soft Low Hill | - | 758.62 | - |
| High Terrace | - | 429.95 | - |
| Low Terrace | 7.51 | 486.71 | 3,653.25 |
| Strong Dissected Terrace | - | 487.22 | - |
| Soft Dissected Terrace | 0.1 | 377.53 | 49.08 |
| | **9.95** | | **4,526.29** |

**Table 11.** Net changes in carbon stocks in the project area (July - December, 2019)

| Strata | *ADefPA,u,i,t* | *□C pools, P, Def,u,i,t* | *□CP, DefPA,i,t* |
|---|---|---|---|
| Mixed Aguajal | - | 222.61 | - |
| Alluvial floodplain | 1.55 | 356.39 | 552.40 |
| Strong High Hill | - | 496.71 | - |
| Soft High Hill | - | 429.65 | - |
| Strong Low Hill | - | 583.43 | - |
| Soft Low Hill | - | 758.62 | - |
| High Terrace | 0.81 | 429.95 | 348.26 |
| Low Terrace | - | 486.71 | - |
| Strong Dissected Terrace | - | 487.22 | - |
| Soft Dissected Terrace | 9.55 | 377.53 | 3,605.02 |
| | **9.55** | | **3,605.02** |

Calculations are detailed in the "REDD project emissions (period 2019).xls" spreadsheet and "Equations 3 and 4" sheet.

$$\Delta C_{P,DefLB,i,t} = \sum_{u=1}(A_{DefLB,u,i,t} * \Delta C_{pols,P,Def,u,i,t}) \quad \textbf{(M-MON Equation 4)}$$

$\Delta C_{P,DefLB,i,t}$= net changes in carbon stocks as a result of deforestation in the case of the project, in the project area and leakage belt, i stratum in t time; $tCO_2$-e.

$A_{DefLB,u,i,t}$= registered deforestation area in the leakage belt area, i stratum converted into u land use in t time; ha.

$\Delta C_{pols,P,Def,u,i,t}$= net changes in carbon stocks in all reservoirs in the case of the project, in u land use, i stratum and t time; t CO2-e $ha^{-1}$

$u$= 1, 2, 3,… U post-deforestation land uses

$i$= 1, 2, 3,… M stratum

$t$= 1, 2, 3,… t* years since the implementation of the REDD project

Table 1. Net changes in carbon stocks in the leakage belt (January –June, 2019)

| Strata | *ADefLB,u ,i,t* | *C pools, P, Def ,u,i ,t* | *CP, DefLB,i,t* |
|---|---|---|---|
| Alluvial floodplain | 213.57 | 356.39 | 76,113.78 |
| Strong High Hill | 150.45 | 496.71 | 74,730.04 |
| Soft High Hill | 19.20 | 429.65 | 8,251.07 |
| Strong Low Hill | 79.95 | 583.43 | 46,647.87 |
| Soft Low Hill | 3.07 | 758.62 | 2,325.18 |
| High Terrace | 37.08 | 429.95 | 15,941.69 |
| Low Terrace | 1,046.56 | 486.71 | 509,371.33 |
| Strong Dissected Terrace | 147.73 | 487.22 | 71,977.30 |
| Soft Dissected Terrace | 158.12 | 377.53 | 59,694.38 |
| **Total** | **1,855.73** | | **865,052.65** |

Table 2. Net changes in carbon stocks in the leakage belt (July – December, 2019)

| Strata | *ADefPA,u ,i,t* | *C pools, P, Def ,u,i,t* | *CP, DefPA,i,t* |
|---|---|---|---|
| Alluvial floodplain | 30.88 | 356.39 | 11,006.63 |
| Strong High Hill | 56.61 | 496.71 | 28,116.28 |
| Soft High Hill | 22.68 | 429.65 | 9,744.12 |
| Strong Low Hill | 35.06 | 583.43 | 20,452.86 |
| Soft Low Hill | - | 758.62 | - |
| High Terrace | 7.52 | 429.95 | 3,232.37 |
| Low Terrace | 98.32 | 486.71 | 47,852.90 |
| Strong Dissected Terrace | 88.94 | 487.22 | 43,333.72 |
| Soft Dissected Terrace | 173.62 | 377.53 | 65,547.58 |
| Total | 513.63 | - | **229,286.45** |

Calculations are detailed in the "REDD project emissions (period 2019).xls" spreadsheet and "Equations 3 y 4" sheet.

**Changes in carbon content due to deforestation**

$$\Delta C_{pools,Def,i,t} = C_{BSL,i} - C_{P,post,i} - C_{WP,i}$$ **(M-MON Equation 5)**

Where:

| | | |
|---|---|---|
| $\Delta C_{pools,Def,u,i,t}$= | | net changes in carbon stocks in all reservoirs as a result of deforestation in the case of the project, in u land use, i stratum and t time; t $CO_2$-e $ha^{-1}$. |
| $C_{BSL,i}$= | | carbon stocks in all reservoirs for the baseline scenario, i stratum; t $CO_2$-e $ha^{-1}$. |
| $C_{P,post,u,i}$= | | post-deforestation carbon stocks in all reservoirs, u land use, i stratum; t CO2-e ha-1. |
| $C_{WP,i}$= | | sequestrated carbon in wooden products extracted from i stratum; $tCO_2$-e $ha^{-1}$ |
| $u$= | 1, 2, 3,… | U post-deforestation land use |
| $i$= | 1, 2, 3,… | M stratum |
| $t$= | 1, 2, 3,… | t* years since the implementation of the REDD project |

Table 3. Net changes in carbon stocks for the project area, per stratum

| Strata | C_BSL,i (tCO2-e/ha) | C_P,post,i (tCO2-e/ha) | C_wp,i | ΔC_pools,Def,u,i,t (CO2-e)/ha |
|---|---|---|---|---|
| Mixed Aguajal | 267.59 | 44.98 | 0 | 222.61 |
| Alluvial floodplain | 401.37 | 44.98 | 0 | 356.39 |
| Strong High Hill | 541.69 | 44.98 | 0 | 496.71 |
| Soft High Hill | 474.63 | 44.98 | 0 | 429.65 |
| Strong Low Hill | 628.41 | 44.98 | 0 | 583.43 |
| Soft Low Hill | 803.60 | 44.98 | 0 | 758.62 |
| High Terrace | 474.93 | 44.98 | 0 | 429.95 |
| Low Terrace | 531.69 | 44.98 | 0 | 486.71 |
| Strong Dissected Terrace | 532.20 | 44.98 | 0 | 487.22 |
| Soft Dissected Terrace | 422.51 | 44.98 | 0 | 377.53 |

(*) Sequestrated carbon for the wooden products is cero, as said reservoir has been considered as not significant in the PD.

Table 4. Net changes in carbon stocks for the leakage belt, per stratum

| Strata | C_BSL,i (tCO2-e/ha) | C_P,post,i (tCO2-e/ha) | C_wp,i | ΔC_pools,Def,u,i,t (CO2-e)/ha |
|---|---|---|---|---|
| Alluvial floodplain | 401.37 | 44.98 | 0 | 356.39 |
| Strong High Hill | 541.69 | 44.98 | 0 | 496.71 |
| Soft High Hill | 474.63 | 44.98 | 0 | 429.65 |

| | | | | |
|---|---|---|---|---|
| Strong Low Hill | 628.41 | 44.98 | 0 | 583.43 |
| Soft Low Hill | 803.60 | 44.98 | 0 | 758.62 |
| High Terrace | 474.93 | 44.98 | 0 | 429.95 |
| Low Terrace | 531.69 | 44.98 | 0 | 486.71 |
| Strong Dissected Terrace | 532.20 | 44.98 | 0 | 487.22 |
| Soft Dissected Terrace | 422.51 | 44.98 | 0 | 377.53 |

(*) Sequestrated carbon for the wooden products is cero, as said reservoirs have been considered as not significant in the PD.

Calculations are detailed in the "REDD project emissions (period 2019).xls" spreadsheet and "Equation 5" worksheet.

**Post-deforestation carbon stocks**

$$C_{post,u,i} = C_{AB\_tree,i} + C_{BB\_tree,i} + C_{AB\_nom-tree,i} + C_{BB_{nom}-tree,i} + C_{DW,i} + C_{LI,i} + C_{SOC,PD-BSL,i}$$

**(M-MON Equation 6)**

Where:

$C_{post,u,i}$= post-deforestation carbon stocks in all reservoirs, u land use, i stratum; $tCO_2$-e $ha^{-1}$.
$C_{AB\_tree,i}$= carbon stocks in aerial tree biomass in i stratum; $tCO_2$-e $ha^{-1}$.
$C_{BB\_tree,i}$= carbon stocks in underground tree biomass in i stratum; $tCO_2$-e $ha^{-1}$.
$C_{AB\_nom-tree,i}$= carbon stocks in aerial other vegetation biomass in i stratum; $tCO_2$-e $ha^{-1}$.
$C_{BB_{nom}-tree,i}$= carbon stocks in underground other vegetation biomass in i stratum; $tCO_2$-e $ha^{-1}$.
$C_{DW,i}$= carbon stocks in dead wood in i stratum; $tCO_2$-e $ha^{-1}$
$C_{LI,i}$= carbon stocks in dead leaves in i stratum; $tCO_2$-e $ha^{-1}$.
$C_{SOC,PD-BSL,i}$= post-deforestation average carbon content in the organic carbon in the soil, i stratum; t $CO_2$-e $ha^{-1}$.
$u$= 1, 2, 3,… U post-deforestation land uses
$i$= 1, 2, 3,… M "with project" scenario strata

Within the project area, deforestation and subsequent land use change is aimed at developing agricultural activities; on the northwestern corner of the project area, deforestation due to mining is also registered, but for calculation purposes, it is not considered in the post-deforestation carbon for the mining stratum (which is zero) to have conservative results.

Agricultural activity:

$$C_{post,u,i} = C_{AB\_tree,i} + C_{BB\_tree,i} + C_{AB\_nom-tree,i} + C_{BB_{nom}-tree,i} + C_{DW,i} + C_{LI,i} + C_{SOC,PD-BSL,i}$$

$$C_{post,u,i} = 31.19 + 13.79 + 0 + 0 + 0 + 0 + 0$$

$$\mathbf{C_{post,u,i} = 44.98\ tCO_2\text{-}e}$$

For further detail see “Post-deforestarion.xls” spreadsheet and “post-deforestation index” worksheet.

**Monitoring forest degradation**

✓ **Degradation through extraction of trees for illegal timber**

For the specific case of REDD + project, it has replaced sampling limited field by systematizing reports or reports of patrollings special that are periodically made by the rangers of both ANPs, with this an evaluation area was identified and made field work. This work allowed us to refine the area potentially subject to degradation (*ADegW, i*).

Control and surveillance to which it is subjected the entire project area by be protected natural areas, allows the continuous updating of illegal activities found by: checkpoints, reference areas, sectors and geographical coordinates.

The methodological process the degradation monitoring is developed in Annex 3, in section 3.1.2.

✓ **Monitoring degradation due to selective logging of forest management areas possessing a FSC certificate**

Does not apply because there is no FSC forest management areas within the project area, as these operations are incompatible with the objectives of the Protected Natural Areas found within the project area, according to the Project Description.

**Monitoring areas undergoing natural disturbance**

- Legal base

In Peru there is a system for natural disasters management. The National Disaster Risk System – SINAGERD was created with Law No. 29664. Article 1 mentions that it is an inter-institutional, synergistic, decentralized and participatory system, which aims to identify and reduce hazard associated risks or minimize their effects, as well as prevent the generation of new risks by establishing principles, policy guidelines, components, processes or instruments of the Disaster Risk Management.

Article 9 specifies that the National Institute of Civil Defense - INDECI is an integral part of SINAGERD. Article 13 defines the functions of INDECI, which are to develop, coordinate and facilitate the formulation and implementation of the National Plan for Disaster Risk Management.

By Supreme Decree No. 059-2001-PCM, Chapter IV, Article 57, it is established that INDECI is the responsible entity in charge of the programming, gathering and processing of statistical Civil Defense information; it also provides permanent, timely and up to date computer services and communications system of Civil Defense.

**Monitoring areas undergoing carbon stock enhancement**

Carbon stock enhancement due to forest re-growth has been omitted in a conservative way as specified on the project description.

**Monitoring project emissions**

The areas burned during monitoring period have been delineated, in order to calculate resulting emissions produced by fires, according to procedure indicated in module E-BB; burned areas mapping procedure can be found in Annex 3 in section 3.1.2.

$$B_{i,t} = (C_{AB\_tree,i,t} + C_{DWit} + C_{LI,I,t}) * \frac{12}{44} * (\frac{1}{CF}) \quad \textbf{(Equation 2 de E-BB)}$$

Where:

$B_{i,t}$= Average aboveground biomass stock before burning for stratum i, time t; tonnes d. m. $ha^{-1}$

$C_{AB\_tree,i,t}$= Mean aboveground biomass carbon stock in stratum i at time t; t CO2-e $ha^{-1}$ (estimated using the CP-AB)

$C_{DWit}$= Carbon stock in dead wood for stratum i, at time t; t $CO_2$-e $ha^{-1}$ (estimated using CP-D)

$C_{LI,I,T}$= Mean carbon stock in litter for stratum i, at time t; t $CO_2$-e $ha^{-1}$ (estimated using CP-L)

$\frac{12}{44}$= Inverse ratio of molecular weight of $CO_2$ to carbon, t CO2-e t $C^{-1}$

CF Carbon fraction of biomass; t C $t^{-1}$ d.m. (default carbon fraction of biomass is 0.47 tC $t^{-1}$ d.m. (see also section III))

i= 1, 2, 3 …M strata

t= 1, 2, 3, … t* years elapsed since the start of the REDD project activity

Only there were identified areas burned in the stratum of soft dissected terrace. The area appears in the following table:

Table 5. Average aboveground biomass stock before burning for stratum

| Years | Strata | C_(AB_(tree,i,t) ) | C_Dwit | C_(LI,I,T) | B_(i,t) |
|---|---|---|---|---|---|
| January – June 2019 | Alluvial floodplain | 401.37 | 0 | 0 | 232.90 |
| July - December 2019 | | 401.37 | 0 | 0 | 232.90 |
| January – June 2019 | Soft Dissected Terrace | 422.51 | 0 | 0 | 245.17 |
| July - December 2019 | | 422.51 | 0 | 0 | 245.17 |

Calculations are detailed in the “REDD project emissions (period 2019).xls” spreadsheet and “Equation - burned” worksheet.

$$E_{BiomassBurn,i,t} = \sum_{g=1}^{G}(((A_{burn,i,t} * B_{i,t} * COMF_I * G_{g,i}) * 10^{-3}) * GWP_g$$

**(Equation 1 de E-BB)**

Where:

$E_{BiomassBurn,i,t}$= Greenhouse emissions due to biomass burning as part of deforestation activities in stratum i in year t; tCO2-e of each GHG (CO2, CH4, N2O)

$A_{bum,i,t}$= Area burnt for stratum i at time t; ha

$B_{i,t}$= Average aboveground biomass stock before burning stratum i, time t; tonnes d. m. $ha^{-1}$

$COMF_i$= Combustion factor for stratum i; dimensionless (see annex 1 for default values as derived from Table 2.6 of IPCC, 2006)

$G_{g,i}$= Emission factor for stratum i for gas g; kg t-1 dry matter burnt (see section III and annex 2 for default values as derived from Table 2.5 of IPCC, 2006)

$GWP_g$= Global warming potential for gas g; t CO2/t gas g (default values from IPCC SAR: CO2 = 1; CH4 = 21; N2O = 310)

g= 1, 2, 3 ... G greenhouse gases (to include carbon dioxide1, methane and nitrous oxide)

i= 1, 2, 3 …M strata

t= 1, 2, 3, … t* years elapsed since the start of the REDD project activity

Table 6. Emissions of GHG due to the burned biomass for the period January – June, 2019

| Period | Estratum | A_(bum,i,t) | B_(i,t) | COMF_I | G_g,i | GWP_g | E_*BiomassBurn,i,t* |
|---|---|---|---|---|---|---|---|
| January – June 2019 | Alluvial floodplain | 0.27 | 232.90 | 0.5 | 6.80 | 25 | 5.35 |
| | | | | | 0.2 | 298 | 1.87 |
| | Soft Dissected Terrace | 0.36 | 245.17 | 0.5 | 6.80 | 25 | 7.50 |
| | | | | | 0.2 | 298 | 2.63 |
| | | | | | | | **17.35** |

**Table 7.** Emissions of GHG due to the burned biomass for the period July – December, 2019

| Period | Estratum | A_(bum,i,t) | B_(i,t) | COMF_I | G_g,i | GWP_g | E_*BiomassBurn,i,t* |
|---|---|---|---|---|---|---|---|
| July – December 2019 | Alluvial floodplain | 0.21 | 232.90 | 0.5 | 6.80 | 25 | 4.16 |
| | | | | | 0.2 | 298 | 1.46 |
| | Soft Dissected Terrace | 5.98 | 245.17 | 0.5 | 6.80 | 25 | 124.54 |
| | | | | | 0.2 | 298 | 43.66 |
| | | | | | | | **168.20** |

Calculations are detailed in the “REDD project emissions (period 2019).xls” spreadsheet and “Equation - burned” worksheet.

$$GHG_{P,E,i,t} = E_{FC,i,t} + E_{BiomasBurn,i,t} + N_2O_{direct-N,i,t}$$

**(Equation 30 de M-MON)**

Where:

$GHG_{P,E,i,t}$= Greenhouse gas emissions as a result of deforestation activities within the project area in the project case in stratum i in year t; t $CO_2$-e

$E_{FC,i,t}$= Emission from fossil fuel combustion in stratum i within the project area in year t; t $CO_2$-e

$E_{BiomasBurn,i,t}$= Non-$CO_2$ emissions due to biomass burning in stratum i in year t; t $CO_2$-e

$N_2O_{direct-N,i,t}$= Direct $N_2O$ emission as a result of nitrogen application on the alternative land use in stratum i within the project area in year t; t $CO_2$-e

$i$= 1, 2, 3 …M strata

$t$= 1, 2, 3 …t* years elapsed since the start of the REDD VCS project activity

Table 8. Emission GEI from activities of the project

| Period | ***EFC,i ,t*** | **E_*BiomassBurn,i,t*** | ***N2Odirect N,i,t*** | ***GHGP, E,i,t*** |
|---|---|---|---|---|
| January – June 2019 | 0 | 17.35 | 0 | **17.35** |
| July – December 2019 | 0 | 168.20 | 0 | **168.20** |

The emission by burning of fossil fuels and application of fertilizers is considered to be insignificant, in agreement to the explained in the section 2.3 of the description of the project, for what for effects of the calculation they are equal to zero.

Calculations are detailed in the "REDD project emissions (period 2019).xls" spreadsheet and "Equation - burned" worksheet.

**STEP 3. DOCUMENTATION**

The methodological procedures used in steps 1-2 were documented. The following information will be provided:

a. Data sources and pre-processing: Type, resolution, source and acquisition date of the remotely sensed data (and other data) used; corrections performed (geometric, radiometric); projection and parameters used to geo-reference the images; error estimate of the geometric correction; software and software version used to perform tasks; etc.

b. Data classification: Definition of the classes and categories; classification approach and classification algorithms; coordinates and description of the ground-truth data collected for training purposes; ancillary data used in the classification, if any; software and software version used to perform the classification; additional spatial data and analysis used for post-classification analysis, including class subdivisions using non-spectral criteria, if any; etc.

c. Classification accuracy assessment: accuracy assessment technique used; coordinates and description of the ground-truth data collected for classification accuracy assessment; and final classification accuracy assessment.

d. Changes in data sources and pre-processing / data classification (if this is determined by the technical team): If in subsequent periods changes will be made to the original data or use of data:

- Each change and its justification will be explained and recorded; and
- When data from new satellites are used documentation will follow "a" to "c" above.

### 3.1.4 Dissemination of Monitoring Plan and Results (CL3.2)

The results of the Monitoring Plan will be socialized in the project communities by the end of the third quarter of the year (end of September), to this date the Verification process should be finished and is when AIDER presents its quarterly report to SERNANP.

## 3.2 Quantification of GHG Emission Reductions and Removals

### 3.2.1 Baseline Emissions

Net emissions for the reference scenario and monitoring period of January, 01 to December 31, 2019 are of 851,472.75 tCO2-e, according to the specified calculations in the Project Description.

### 3.2.2 Project Emissions

Emissions produced due to the project's activities have been considered insignificant according to the justification given in section 2.3 of the Project Description.

**Net emissions calculation**

$$\Delta C_P = \sum_{t=1}^{t*} \sum_{i=1}^{M} \left( \Delta C_{P,DefPA,i,t} + \Delta C_{P,Deg,i,t} + \Delta C_{P,DistPA,i,t} + GHG_{P-E,i,t} - \Delta C_{P,Enh,i,t} \right)$$

**(M-MON Equation 1)**

**Where:**

$\Delta C_P$ = Net GHG emissions within the project area under the "with project" scenario, $tCO_2$-e.

$\Delta C_{P,DefPA,i,t}$ = Net change in carbon stocks as a result of deforestation in the case of the project, within the project area, *i* stratum and t time; t $CO_2$-e $ha^{-1}$.

$\Delta C_{P,Deg,i,t}$= Net change in carbon stocks as a result of degradation in the case of the project, within the project area, *i* stratum and t time; t $CO_2$-e.

$\Delta C_{P,DistPA,i,t}$ = Net change in carbon stocks as a result of natural disturbances in the case of the project, within the project area, *i* stratum and t time; t $CO_2$-e.

$GHG_{P-E,i,t}$= GHG emissions as a result of deforestation and degradation in the case of the project, within the project area, i stratum, t time; t $CO_2$-e.

$\Delta C_{P,Enh,i,t}$= Net change in carbon stocks as a result of the growth of the forest and carbon sequestration during the project for areas that are expected to be deforested in the baseline, I stratum and t time; t$CO_2$-e.

$i$= 1, 2, 3,...M stratum.
$t$= 1, 2, 3,… t* years since the implementation of the REDD project.

Table 9. Net GHG emissions within the project area under the "with project" scenario

| Period | Net changes in the carbon stocks due to deforestation ($tCO_2$-e) $\Delta C_{P,DefPA,i,t}$ | Net changes in the carbon stocks due to degradation ($tCO_2$-e) $\Delta C_{P,Deg,i,t}$ | Net changes in the carbon stocks due to natural disturbances ($tCO_2$-e) $\Delta C_{P,DistPA,i,t}$ | GHG emissions due to project activities ($tCO_2$-e) $GHG_{P-E,i,t}$ | Net changes in the carbon stocks due to forest growth and carbon sequestration ($tCO_2$-e) $\Delta C_{P,Enh,i,t}$ | GHG emissions within the project area ($tCO_2$-e) $\Delta C_P$ |
|---|---|---|---|---|---|---|
| January – June 2019 | 4,526.29 | 6,834.98 | 0 | 17.35 | 0 | 11,361.27 |
| July – December 2019 | 3,605.02 | 6,834.98 | 0 | 168.20 | 0 | 10,439.99 |

Emissions produced due to forest degradation were 13,669.95 for the period January – December 2019 in the project area. For further details, is reached annex 3 of the section 3.1.2, where is described the degradation monitoring according to the methodology.

Areas under natural disturbances have not been registered during the monitoring period January – December 2019, so this factor is equal to zero; further details are in step 2, "Monitoring of areas under natural disturbances" and maps the natural disturbances of districts Tambopata and Inambari for period January – December 2019.

The emissions of fires is 185.55 tCO2-e, these are considered insignificant for representing less than 5% of the net benefits of the project for the period January – December 2019, so they have not been considered in the final calculation (see "REDD project emissions (period 2019).xls" spreadsheet and "Equations 1-2" and "significance" worksheets).

Increases of carbon are omitted conservatively, according to the specifications in the project description.

The sum total of net GHG emissions within the project area is 21,801.26 tCO2 result of deforestation in the project area.

For the leakage belt the net greenhouse gas emissions in the project case is equal to the sum of stock changes due to deforestation in the leakage belt:

$$\Delta C_{P,LB} = \sum_{t=1}^{t} \sum_{i=1}^{M} \Delta C_{P,DefLB,i,t} \qquad \textbf{(M-MON Equation 2)}$$

Where:

$\Delta C_{P,LB}$= Net GHG emissions in the leakage belt in the case of the project; t $CO_2$-e.

$\Delta C_{P,DefLB,i,t}$= Net change in carbon stocks as a result of deforestation in the case of the project, in the leakage belt, *i* stratum and t time; t CO2-e.

$i$= 1, 2, 3,…M strata in the "with project" scenario.
$t$= 1, 2, 3,… t* years since the implementation of the REDD project.

Table 10. Net GHG emissions in the leakage belt in the case of the project

| Period | Net GHG emissions in the leakage belt ($tCO_2$-e) $\Delta C_{P,LB}$ |
|---|---|
| January – June 2019 | 865,052.65 |
| July – December 2019 | 229,286.45 |

Calculations are detailed in the "REDD project emissions (period January-Dec2019).xls" spreadsheet and "Equations 1-2-M-MON" worksheet

### 3.2.3 Leakage

**Emissions calculation due to deforestation displacement from the project area to the leakage belt**

$$\Delta C_{LK-ASU-LB} = \Delta C_{P,LB} - \Delta C_{BSL,LK,unplanned} \qquad \textbf{(LK-ASU Equation 1)}$$

Where:

$\Delta C_{LK-ASU-LB}$= Net $CO_2$ emissions due to unplanned deforestation displaced from the project area to the leakage belt; t $CO_2$-e.
$\Delta C_{P,LB}$= Net GHG emissions within the leakage belt in the "with project" scenario; $tCO_2$-e.
$\Delta C_{BSL,LK,unplanned}$= Net $CO_2$ emissions in the baseline scenario due to unplanned deforestation in the leakage belt; t $CO_2$-e.

Table 11. Net $CO_2$ emissions due to unplanned deforestation displaced from the project area to the leakage belt

| Years | Net emissions within the leakage belt ($tCO_2$-e) $\Delta C_{P,LB}$ | Net emissions in the reference scenario due to deforestation in the leakage belt ($tCO_2$-e) $\Delta C_{BSL,LK,unplanned}$ | Net due to unplanned deforestation displaced from the project area to the leakage belt ($tCO_2$-e) $\Delta C_{LK-ASU-LB}$ |
|---|---|---|---|
| January – June 2019 | 865,052.65 | 1,721,165.4 | -856,112.74 |
| July – December 2019 | 229,286.45 | 1,602,530.8 | -1,373,244.34 |

If ΔCLK-ASU-LB is <0 then ΔCLK-ASU-LB will be established as 0 (to prevent a positive leak).

| | |
|---|---|
| $\Delta C_{LK-ASU-LB}$ | 0 |

Calculations are detailed in the "REDD project emissions (period January-Dec2019).xls" spreadsheet and "LK-ASU ecuación 1" worksheet.

**Ex-post estimate of the total deforested area due to immigrant agents**

Ex post, the ratio of the total area deforested by immigrant agents in the "with project" scenario will be determined from the same ratio calculated with baseline data. It is assumed that the proportional area deforested by immigrant agents in baseline and "with project" scenarios remains the same.

$$A_{LK-IMM,T} = PROP_{IMM} * A_{BSL,PA,unplanned,t}$$ **(LK-ASU Equation 7)**

Where:

$A_{LK-IMM,T}$= Total deforested area due to immigrant agents in the baseline and "with project" scenarios in t time; ha.

$PROP_{IMM}$= Ratio of the deforested area due to immigrant agents in the leakage belt and project area; ratio.

$A_{BSL,PA,unplanned,t}$= Expected area for unplanned deforestation baseline in the project area on t time; ha.

$t$= 1, 2, 3…t* years since the implementation of the REDD VCS project.

Table 12. Total deforested area due to immigrant agents in the reference scenario and "with project" scenario.

| Years | Ratio of deforested area due to immigrant agents in the leakage belt and project area $PROP_{IMM}$ | Expected area for unplanned deforestation baseline in the project area (ha) $A_{BSL,PA,unplanned,t}$ | Total deforested area due to immigrant agents in the baseline and "with project" scenarios (ha) $A_{LK-IMM,T}$ |
|---|---|---|---|
| January – June 2019 | 0.187 | 925.25 | 173.02 |
| July – December 2019 | 0.187 | 961.75 | 179.85 |

Calculations are detailed in the "REDD project emissions (period January-Dec2019).xls" spreadsheet and "LK-ASU Equation 7" worksheet.

**Calculation of the deforested area due to immigrants in the project area and leakage belt**

$$A_{LK-ACT-IMM,t} = PROP_{IMM} * (\sum_{i=1}^{M} A_{DefPA,i,t} + A_{DefLB,i,t}) \quad \textbf{(LK-ASU Equation 8)}$$

Where:

$A_{LK-ACT-IMM,t}$= Deforested area due to immigrants in the project area and leakage belt under the "with project" scenario in t time; ha.

$PROP_{IMM}$= Ratio of deforested area due to immigrants in the project area and leakage belt; ratio.

$A_{DefPA,i,t}$= Deforested area registered for the project area under the "with project" scenario in I stratum and t time; ha.

$A_{DefLB,i,t}$= Deforested area registered for the leakage belt under the "with project" scenario in i stratum and t time; ha.

$i$= 1, 2, 3,…M stratum for the "with project" scenario.

$t$= 1, 2, 3…t* years since the implementation of the REDD VCS project.

Table 13. Deforested area due to immigrants in the project area and leakage belt

| Years | Ratio of deforested area due to immigrants in the project area and leakage belt $PROP_{IMM}$ | Deforested area registered for the project area (ha)[14] $A_{DefPA,i,t}$ | Deforested area registered for the leakage belt (ha)[15] $A_{DefLB,i,t}$ | Deforested area due to immigrants in the project area and leakage belt (ha) $A_{LK-ACT-IMM,t}$ |
|---|---|---|---|---|
| January – June 2019 | 0.187 | 9.95 | 1,855.73 | **348.88** |
| July – December 2019 | 0.187 | 9.55 | 513.63 | **97.83** |

[14] Source: Appendix 3
[15] Source: Appendix 3

Calculations are detailed in the "REDD project emissions (period January-Dec2019).xls" spreadsheet and "LK-ASU Equation 8" worksheet.

**Calculation of the deforested area due to immigrants outside of the project area and leakage belt**

$$A_{LK-OLB,t} = A_{LK-IMM,t} - A_{LK-ACT-IMM,t}$$ **(LK-ASU Equation 9)**

Where:

$A_{LK-OLB,t}$= Deforested area due to immigrants outside of the project area and leakage belt under the "with project" scenario in t time; ha.

$A_{LK-IMM,t}$= Total deforested area due to immigrant agents in the baseline and "with project" scenarios in t time; ha.

$A_{LK-ACT-IMM,t}$ = Deforested area due to immigrants in the project area and leakage belt under the "with project" scenario in t time; ha

*t = 1, 2, 3 …t** years since the implementation of the REDD VCS project

Table 14. Deforested area due to immigrants outside of the project area and leakage belt

| Period | Total deforested area due to immigrants in the baseline and "with project" scenarios (ha) $A_{LK-IMM,t}$ | Deforested area due to immigrants in the project area and leakage belt under the "with project" scenario (ha) $A_{LK-ACT-IMM,t}$ | Deforested area due to immigrants outside of the project area and leakage belt (ha) $A_{LK-OLB,t}$ |
|---|---|---|---|
| January – June 2019 | 173.02 | 348.88 | **-175.86** |
| July – December 2019 | 179.85 | 97.83 | **82.01** |

**Determining if there have been leaks outside of the leakage belt**

If: $A_{LK-OLB,t} \leq 0 \rightarrow$ there have been no leaks outside of the leakage belt.
If: $A_{LK-OLB,t} > 0 \rightarrow$ there have been leaks outside of the leakage belt.

If there have been no leaks outside of the leakage belt:

$$\Delta C_{LK-ASU,OLB} = 0$$ **(LK-ASU Equation 10)**

Where:

$\Delta C_{LK-ASU,OLB}$ =Sum of the changes in carbon stocks and GHG emissions due to unplanned deforestation displacement outside of the leakage belt; t $CO_2$-e.

Calculations are detailed in the "REDD project emissions (period January-Dec2019).xls" spreadsheet and "LK-ASU Equation 9 y 10" worksheet.

**Emissions from Leakage prevention activities**

Not applicable because not activities were implemented leakage prevention, emitting emissions from biomass burning and fertilizer usage.

**Total leakage estimate due to displacement of unplanned deforestation (LK-ASU STEP 6)**

$$\Delta C_{LK-AS,unplanned} = \Delta C_{LK-ASU-LB} + \Delta C_{LK-ASU-OLB} + GHG_{LK,E}$$ **(LK-ASU Equation 13)**

$\Delta C_{LK-AS,unplanned}$ = Net GHG emissions due to leaks for displacement of activities for projects preventing unplanned deforestation; t CO2-e

$\Delta C_{LK-ASU-LB}$= Net $CO_2$ emissions due to unplanned deforestation displaced from the project area to the leakage belt: t CO2-e.

$\Delta c_{LK-ASU-OLB}$ = Net $CO_2$ emissions due to unplanned deforestation displaced outside of the leakage belt; t CO2-e.

$GHG_{LK,E}$= GHG emissions from leaks of activities to prevent deforestation; t CO2-e.

Table 15. Net GHG emissions due to leaks for displacement of activities.

| Period | Emissions due to deforestation displacement from the project area to the leakage belt $\Delta C_{LK-ASU-LB}$ | Emissions due to deforestation outside of the leakage belt $\Delta C_{LK-ASU-OLB}$ | GHG emissions from activities that prevent deforestation (*) $GHG_{LK,E}$ | Net GHG emissions due to leaks related to displacement of activities (t $CO_2$-e) $\Delta C_{LK-AS,unplanned}$ |
|---|---|---|---|---|
| January – June 2019 | 0 | 0 | 0 | **0** |
| July – December 2019 | 0 | 0 | 0 | **0** |

(*) As the activities of the project will not produce significant emissions, this parameter is equal to zero.

Calculations are detailed in the "REDD project emissions (period January-Dec2019).xls" spreadsheet and "LK-ASU Equation 13 "" worksheet.

**Calculation of net emissions due to leaks**

$$\Delta C_{LK} = \Delta C_{LK-AS-planned} + \Delta C_{LK-AS-unplanned} + \Delta C_{LK-AS,des\,rad-FW/C} + \Delta C_{LK-ME}$$ **(REDD-MF Equation 3)**

$\Delta C_{LK}$= Net GHG emissions due to leaks; t CO2-e

$\Delta C_{LK-AS-planned}$= Net GHG emissions due to leaks from displacement of activities for projects preventing planned deforestation; t CO2-e (from LK-ASP) Note: this parameter is equal to zero for not presenting planned deforestation (Not apply).

$\Delta C_{LK-AS-unplanned}$= Net GHG emissions due to leaks from displacement of activities for projects preventing unplanned deforestation; t CO2-e (from LK-ASU).

$\Delta C_{LK-AS,degrad-FW/C}$ = Net GHG emissions due to leaks from displacement of activities for degradation caused by fuel wood extraction; t CO2-e (from LK-DFW). Note: this parameter is equal to zero for not presenting a significant firewood and coal extraction

$\Delta C_{LK-ME}$= Net GHG emissions due to market effect leaks; t CO2-e (from LK-ME). Note: As these leaks have been considered not significant in the PD, this parameter is equal to zero.

**Table 16. Net GHG emissions due to leaks**

| Period | Emissions due to leaks for AUD projects $\Delta C_{LK-AS-unplanned}$ | Emissions due to degradation leaks (coal and firewood extraction) $\Delta C_{LK-AS,degrad-FW/C}$ | Emissions due to market effect leaks (*) $\Delta C_{LK-ME}$ | Net GHG emissions due to leaks ($tCO_2$-e) $\Delta C_{LK}$ |
|---|---|---|---|---|
| January – June 2019 | 0 | - | 0 | 0 |
| July – December 2019 | 0 | - | 0 | 0 |

(*) Considered zero according to the justification given in the Project Description

Emissions produced due to leaks have been considered equal to zero, according to the procedure of the methodology (calculations are detailed in the "REDD project emissions (period January-Dec2019.xls" spreadsheet and "REDD-MF Equation 3" worksheet).

### 3.2.4 Net GHG Emission Reductions and Removals

$$C_{REDD,t} = \Delta C_{BSL} - \Delta C_P - \Delta C_{LK}$$ **(REDD-MF Equation 1)**

$C_{REDD,t}$= Net total GHG emissions reduction in t time; tCO2-e

$\Delta C_{BSL}$= Net GHG emissions in the baseline scenario; t CO2-e

$\Delta C_P$= Net GHG emissions within the project area in the "with project" scenario; tCO2-e (from M-MON)

$\Delta C_{LK}$= Net GHG emissions due to leaks; t CO2-e

Table 17. Net GHG Emission Reductions and Removals for July 2017 – December 2018 vintage

| Year | Baseline emissions or removals ($tCO_2e$) | Project emissions or removals ($tCO_2e$) | Leakage emissions ($tCO_2e$) | Net GHG emission reductions or removals ($tCO_2e$) |
|---|---|---|---|---|
| January – June 2019 | 334,650.8 | 11,361 | - | 323,290 |
| July – December 2019 | 418,538.4 | 10,440 | - | 408,098 |
| **Total** | | **21,801** | **-** | 731,388 |

The amount of Voluntary Carbon Units (VCUs) can be seen in Table 31. According to the AFOLU Non-permanence Risk Tool (VCS Version 3) has been subtracted a 13% to the total net emissions reductions generated, which is the credits reservation for non-permanence risk. The calculation of buffer credits can be found in the See anexx 13.

Table 18. Voluntary Carbon Units

| **Year** | **Net GHG emissions reduction ($tCO_2$-e)** | **AFOLU pooled buffer account (13%)** | **Voluntary Carbon Units** |
|---|---|---|---|
| January – June 2019 | 323,289.5 | 42,028 | 281,262 |
| July – December 2019 | 408,098.4 | 53,053 | 355,046 |
| **Total** | **731,387.9** | **95,080** | **636,308** |

### 3.3 Optional Criterion: Climate Change Adaptation Benefits

#### 3.3.1 Activities and/or Processes Implemented for Adaptation (GL1.4)

La implementación de sistemas agroforestales continúa siendo una de las alternativas promovidas como mecanismo de adaptación al cambio climático. Es así que, como parte de la implementación de actividades productivas sostenibles para productores y/o comunidades nativas que se asientan en la Zona de Amortiguamiento de la RNTAMB; se continuó con las labores de implementación de las parcelas agroforestales con base en el cultivo de cacao chuncho orgánico para exportación, así como con el fortalecimiento de la Cooperativa Agraria de Servicios Múltiples Tambopata Candamo.

Si bien es cierto aún no se ha logrado obtener la certificación orgánica del cacao, se han realizado importantes avances que contribuyen de manera significativa para su obtención, como es la conformación del Sistema de Control Interno (SIC), cuya finalidad es socializar claramente las reglas y normas en las que se basa el programa orgánico/comercio justo de la cooperativa.
Asimismo, se emitieron informes de alerta temprana sobre el hallazgo o avistamiento de indicios de actividades no permitidas dentro de las ANP (tala ilegal). Por otro lado, AIDER ha apoyado las acciones referentes al monitoreo de la actividad de minería ilegal, a través de la entrega de 03 informes de monitoreo de la actividad minera ilegal al interior de la RNTAMB a la Jefatura del ANP, procedentes del sistema de alerta temprana de geoinformación (SAT-GI) para ANP elaborado por AIDER.

Other activities carried out were the implementation of activities to contribute to the communities strengthening, the activities were made according the needs of each community, and most of them were support their activities, making workshops or meetings for information (Annex 4).

# 4 COMMUNITY

## 4.1 Net Positive Community Impacts

### 4.1.1 Community Impacts (CM1.1)

The activities implemented for the period January 2019 - December 2019 are described below:

a) Association of agricultural producers

It has been supported in the preparation and approval by the administrative and supervisory councils of COOPASER and the Annual Training Plan of the Education Committee 2019-2020, as well as in the preparation of the organization and management diagnosis of the same.

A quick visit was also made to 50 producers to assess the current situation of parcel management and implementation and knowledge on the subject. As a result, trainings have been scheduled in the different sectors on capacity development and fair trade promotion.

In the different activities carried out, the participation of women has been promoted as a transversal that contributes to the development of the communities and affects the performance of the economic activities of the families.

b) Chestnut families

Training was provided to chestnut growers from the two ANPs regarding the study of the effect of forest degradation on the chestnut reproduction system. Support in the process for obtaining organic certification from ASCART partners has also been committed.

c) Native Communities

There are hunting and fishing records made by the native communities in the two ANPs. They have also been trained in strengthening the participatory management of the two ANPs, attending different meetings in both Puerto Maldonado and Puno.

The support to the communities has continued with the provision of fuel, accommodation, and cash to participate in meetings and other activities in Puerto Maldonado. In this same context, Sonene has been supported with a printer, so that they can draft and print documents in their community and, in this way, facilitate the procedures with authorities and regional offices.

The Palma Real artisans committee has also been supported, with the aim of strengthening and facilitating the implementation process of a cultural maloka at the Sandoval checkpoint of the Tambopata National Reserve, where they will be able to expose their cultural elements and commercialize their products. crafts.

Sonene and Palma Real already have their updated life plans. Infierno is still in the process of preparing this management document, for which workshops and meetings are being held in

the Community. In this process, participatory diagnoses of the Sonene and Palma Real communities were prepared.

d) Tour operators

There are no reports for this period.

### 4.1.2 Net Positive Community Well-Being Impacts (CM1.1)

The impacts of the activities carried out during the verification period have been in favor of the beneficiary populations and communities of the project, while responding to the objectives of the standard.

In this sense, activities related to the strengthening of resource governance, organizational strengthening, the development of sustainable productive activities, and increased control and surveillance will generate positive impacts on actors inside and outside the project site.

### 4.1.3 Protection of High Conservation Values (CM1.2)

Work is being done based on what is described for this section in the previous verification report.

## 4.2 Offsite Stakeholder Impacts

### 4.2.1 Mitigation of Negative Impacts on Other Stakeholders (CM2.2)

Mitigating negative impacts on off-site actors is primarily based on strengthening resource governance, organizational strengthening, and implementing sustainable productive activities.

### 4.2.2 Net Impacts on Other Stakeholders (CM2.3)

Positive impacts are evident for the benefit of other actors, in addition to the beneficiary CCNNs:

- Visit 50 producers to assess the current situation of parcel management and implementation and knowledge on the subject. Trainings have been scheduled in the different sectors on the topic of Capacity Development and Fair Trade Promotion.

- As part of the activities for organizational strengthening, the COOPASER team has been carrying out different activities on issues of capacity building through technical assistance to producers, development of workshops on technical issues and organizational strengthening.

- 50 Comprehensive Sustainable Farm Plans were prepared. These documents serve as a planning tool, which identifies and summarizes the activities that should be developed in a comprehensive and sustainable farm in order to guide, guide and improve the production system, land use, plantations and the environment for the farmer.

- Terrestrial mammal monitoring activities were carried out in agroforestry systems of the RNTAMB Buffer Zone through the use of trap cameras, these trap cameras were installed in sector 1,2 and 3 of the plots of the COOPASER partner producers This activity was led by the team from the biological monitoring area. The results have been socialized with some sectors, such as Loero and Jorge Chávez, through videos and puppets, as part of environmental education.

- The follow-up commitments continue to be fulfilled, providing technical assistance developing technical capacities in the main tasks that cocoa production and the agroforestry system demand, but with the personalized and direct strategy to the plots of the owners, producer partners of COOPASER.

## 4.3 Community Impact Monitoring

### 4.3.1 Community Monitoring Plan Development (CM3.3)

The community monitoring plan was prepared and approved in the validation of the PDD and is currently being implemented in all verifications. The results of this plan are found in the next section.

### 4.3.2 Community Monitoring Plan Results (CM3.1, CM3.2, GL2.5)

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| **Governance** | # of boards of directors improve and strengthen their relationships among their representatives and with local authorities. | AIDER | biannual | Palma Real, Infierno, Sonene | Management committees, report of meetings and agreements. | 1 | • The support for the organizational strengthening of the communities is permanent.<br>• The support to the Community of Palma Real is permanent, through fuel and cash to carry out negotiations with the authorities. This year it was also supported with the transfer of a team of doctors to the community (Annex SSEE 09 - I Quarterly Report 2019).<br>• Likewise, support continued with fuel and sea water for the transfer of their assets to the community (Annex SSEE 15 - Apoyo_CN-PalmaReal).<br>• Support was provided to the native Sonene community through the delivery of: Cash, loans from a truck to transfer materials for the community health post, fuel and lubricant, and the delivery of a printer so that they can carry out negotiations with the representatives The Municipality and Regional Government are also coordinating the updating of their Life Plan. (Annex SSEE 08 - I Quarterly Report 2019).<br>• Support was also provided in fuel, oil for the monitoring of the communal vigilantes of the CN Sonene, cement (construction of hygienic services) and food baskets in the framework of Organizational strengthening (Annex SSEE 14 - II Quarterly Report 2019).<br>• Also, a meeting was held with the native community Infierno, on March 19, with the aim of resuming activities that were pending such as updating the life plan and community monitoring of fauna (Annex SSEE 14 - I Report Quarterly 2019). |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | | | | • Participatory diagnoses and life plans of the Sonene and Palma Real communities were prepared. The Infierno Life Plan is still in development. |
| | | | | COOPASER | Report of meetings and agreements. | 7 | • The Technical Staff is made up of a team leader, 3 experienced agroforestry extensionists, knowledge of the system and the scope of the project, who are in charge of 81 producers on average. Strengthening the technical area with a person in charge of Quality Control and certifications for differentiated markets and a person in charge of the social area in charge of institutional strengthening of COOPASER (Annex SSEE 02 - I Quarterly 2019).<br>• Preparation and approval by the COOPASER administrative and supervisory councils of the Annual Training Plan of the Education Committee 2019-2020 (Annex SSEE 02 - I Quarterly Report 2019-).<br>• Quick visit to 50 producers to assess the current situation of parcel management and implementation and knowledge on the subject. Trainings have been scheduled in the different sectors on the subject of Capacity Development and Fair Trade Promotion (Annex SSEE 01 - I Quarterly Report 2019-).<br>• The result of the Organizational and financial diagnosis the actions were started:<br>1. The preparation and approval by the COOPASER administrative and supervisory councils of the Training Plan of the Education Committee 2019-2010 (Annex SSEE 01).<br>2. Associativity: 75 producers have been identified among skilled, unfit, passive, observed and in pre-approval, in order to motivate them to regain their |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | | | | status as a skilled partner (Annex SSEE 01).<br>3. Board of Directors: Corporate Governance was implemented, where democratic decisions are made in order to improve governance (Annex SSEE 01).<br>• The cooperative held meetings of ordinary and extraordinary session of the administrative council and in the general assembly of COOPASER. (PUN_Q1_2019_Annex_02_Minutes_COOPASER_meetings_2 minutes CA 10-01-2019).<br>• The Organizational and financial diagnosis was carried out to help determine the state of the COOPASER management system at the end of 2018 (2nd quarter-annual-report-2019-MB_240719).<br>• The project has been working with a total of 339 producers organized in a multi-service agricultural cooperative called "Tambopata - Candamo", known as COOPASER, with 287 members duly registered and 52 members in the process of registration (Annex SSEE 01 - Agroforestry Quarterly Report). |
| | # of boards of directors participate in organizational strengthening workshops. | AIDER | Biannual | Palma Real, Infierno, Sonene | Review of reports of activities carried out | 3 | • AIDER, in order to support the implementation of rural community tourism in the native community of Palma Real, has been providing logistical support and attending to requests for travel between the community and Puerto Maldonado (Annex SSEE 10).<br>• FENAMAD was supported in logistics issues and coordination for its activities; Mainly the support was given for the purchase of fuel for its activities (Annex SSEE 12). Reason why, FENAMAD sent a letter of thanks for the support provided. (Annex SSEE 13 - Apoyo_agracimiento_FENAMAD). |
| | | | | COOPASER | Review of | 10 | • Currently, the activities of: i) Organizational strengthening of |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | | reports of workshops and project activities | | the Tambopata Candamo Cooperative, through capacity building and leadership for the members of the cooperative in order to achieve the empowerment of their roles within it; ii) Build the value chain and route to the market for export cocoa and other products of the Cooperative, identifying clients and points of commercialization of cocoa with preferential prices as a result of organic and fair trade certification has been implemented by the same Cooperative, since the contract with the company ECOTIERRA was concluded.<br><br>• The result of the Organizational and financial diagnosis the actions were started:<br><br>1. The preparation and approval by the COOPASER administrative and supervisory councils of the Training Plan of the Education Committee 2019-2010 (Annex SSEE 01).<br><br>2. Associativity: 75 producers have been identified among skilled, unfit, passive, observed and in pre-approval, in order to motivate them to regain their status as a skilled partner (Annex SSEE 01).<br><br>3. Board of Directors: Corporate Governance was implemented, where democratic decisions are made in order to improve governance (Annex SSEE 01).<br><br>• The Annual Training Plan of the Education Committee 2019-2020, trainings were carried out, aimed at COOPASER members, as a strategy used they were divided into 3 modules. The I module: Organic certification: Its standards, the II module: Fair Trade and Organizational strengthening, the III module: Implementation of organic standards in the field of cocoa production and cultivation (Annex SSEE 01).<br><br>• Strengthening of local organizations for participatory |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | | | | management of the RNTAMB and PNBS, the first and second support are focused on the operation of the management committees of the RTAMB and the PNBS, supported by financing the purchase of goods, payment for services and / or financial reimbursements to carry out the interest group meetings and scheduled assemblies (Annex SSEE 6).<br>• The third is related to strengthening the capacities of organizations, for which reason dissemination work, strategies and actions with which it is hoped to improve the organization of the institutions will be supported; As a fourth action, support will be given to strengthening the capacities of native communities within the ZA of the two ANPs, support consisting of the loan of equipment, tools, payment of administrative expenses, advice for the good management of their resources (Annex SSEE 12) .<br>• The fourth action is the promotion of rural community tourism and strengthening the artisan committee in the native community of Palma Real (Annex SSEE 9).<br>• Likewise, capacity building was carried out in 2 modules, each one developed on different dates (Annex SSEE 02). Module 1 "Preparation of inputs for organic production and fair trade criteria" was attended by 84 people; This module was developed on the dates: April 10, 11, 16, 17, and May 9 (Annex SSEE 03). While module 2 "Neuro facilitators of the DCU approach - Quality of person and family (organizational strengthening)" had 182 participants; This module was developed on the dates: June 17, 18, 19, 20 and 25 (Annex SSEE 04). |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | # of workshops to prepare and implement the Life Plan. | AIDER | Biannual | Infierno, Palma Real, Sonene | Workshop for the elaboration and implementation of the Life Plan | 4 | • The members of the community, in order to strengthen their community, requested the support of AIDER for updating the Life Plan of their community and for monitoring wildlife; for which meetings were held to coordinate these activities. (SSEE Annex 14).<br>• Work meetings continue to incorporate more information into the document of the Life Plan of the Infierno native community.<br>• On May 6, a coordination meeting was held with FENAMAD and community managers with the aim of discussing: Updating the community's Life Plan, reviewing the community's statute and the internal regulations of the community. (Annex SSEE 16 - 2nd Quarterly Report_AIDER).<br>• Also, 2 coordination meetings were held with the representatives of the native community of Infierno (Annex SSEE 17). The first was carried out on April 1, where the topics of the Community Life Plan and the monitoring of fauna in the community were discussed. Regarding the Life Plan, the progress of this document was presented to those present.<br>• The second meeting was held on April 22, where work continued on the Life Plan document (Annex SSEE 17 - 2nd Quarterly_AIDER Report).<br>• The life plans of the Sonene and Palma Real communities were elaborated and socialized. |
| | # of boards of directors receive training in document filing methodology. | AIDER | Biannual | Palma Real, Infierno, Sonene | Review of training course reports on project activities | 2 | • Promotion of sustainable productive initiatives with local populations.<br>• AIDER, in order to support the implementation of rural community tourism in the native community of Palma Real, |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | | | | has been providing logistical support and attending to requests for travel between the community and Puerto Maldonado (Annex SSEE 10 - - I Quarterly Report 2019-)<br>• Likewise, a meeting was held on February 18 at the Regional Government offices, where representatives of FENAMAD and the native community of Palma Real, asked the governor of Madre de Dios to attend to the health and education needs of the communities. native of Palma Real and Sonene. In this meeting some agreements were reached such as: FENAMAD will organize a field trip with different representatives of organizations and institutions, the governor promised to coordinate pre-made classrooms with the aim of not compromising the start of the school year, as well as that the technicians The regional government will participate in the field trip to both communities (Annex SSEE 07 - - I Quarterly Report 2019-). |
| | | | | COOPASER | Review of training course reports on project activities | 4 | • Training of plant personnel in the use of formats: (The staff will carry out and explain the monitoring of cocoa through the formats and correct coding of lots and / or sale of dry cocoa). (Annex SSEE 01).<br>• Update of the collection and processing in formats: The update of the collected and processed cocoa of 2019 was carried out in the corresponding formats (Annex SSEE 01).<br>• In the area of certifications, they carried out the preparation and implementation of control formats (records, procedures and instructions) for the collection and primary processing of cocoa, to start a process of transition to organic production for the Technical Regulation of Organic Production ( RTPO Peru), which is necessary to achieve an organic certification (USA, European Union, Peru) and requested when a Fair |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | | | | Trade commercialization is carried out (Annex SSEE 01).<br>• The formats prepared and implemented are:<br>**1.** Implementation of traceability: Formats have been developed for the documentary monitoring in the collection and primary processing:<br>a) Registration of reception of cocoa in baba.<br>b) Cocoa fermentation control record.<br>c) Cocoa drying log.<br>d) Kardex from the cocoa warehouse<br>**2.** Traceability procedure and instructions<br>**3.** Batch Coding Instructions<br>**4.** Methodological script for training in organic certification.<br>• Likewise, plant personnel were trained in the use and handling of the formats, as a result they can carry out and explain the monitoring of cocoa through the formats and correct coding of outgoing and / or sale lots of dry cocoa. The staff were trained to obtain cocoa samples and to artificially dry the samples with laboratory equipment (Annex SSEE 02 - Report II quarter COOPASER). |
| | # of boards of directors are duly registered in Public Registries. | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Meeting with the Board of Directors | 0 | • The application of the communal statute has contributed to the decision-making process in the Palma Real Community. The registration of the new boards of directors of Infierno, Palma Real and Sonene has been encouraged and facilitated. |

<table>
<tr><th colspan="8">Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD</th></tr>
<tr><td colspan="8">Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD</td></tr>
<tr><th>Component</th><th>Indicator</th><th>Responsable</th><th>frequency</th><th>Places of action and / or sampling</th><th>Methodology</th><th>January 2019- December 2019</th><th>Observation</th></tr>
<tr><td rowspan="2"></td><td></td><td></td><td></td><td>COOPASER</td><td>Meeting with the Board of Directors</td><td>1</td><td>• The project has been working with a total of 339 producers organized in a multi-service agricultural cooperative called “Tambopata - Candamo”, known as COOPASER, with 287 members duly registered and 52 members are in the process of registration (Annex SSEE. 01 ).<br>• The sessions of the administration and supervision councils have been developed as agreed, taking place the last week of each month (Annex SSEE 02 - II Quarterly Report COOPASER).
<table>
<tr><th>N°</th><th>board of directors</th><th>supervisory council</th></tr>
<tr><td>Sessions</td><td>3</td><td>3</td></tr>
<tr><td>Agreements</td><td>11</td><td>7</td></tr>
</table></td></tr>
<tr><td># of boards of directors make decisions in a participatory and democratic way.</td><td>AIDER</td><td>Biannual</td><td>Palma Real, Infierno, Sonene</td><td>Participatory workshop with the assembly</td><td>0</td><td>• A meeting was held on February 18 at the Regional Government offices, where the representatives of FENAMAD and the native community of Palma Real, asked the governor of Madre de Dios to attend to the health and education needs of the native communities of Palma Real and Sonene. In this meeting some agreements were reached such as: FENAMAD will organize a field trip with different representatives of organizations and institutions, the governor promised to coordinate pre-made classrooms with the aim of not compromising the start of the school year, as well as that the technicians The regional government will participate in the field trip to both communities (Annex SSEE 07).<br>• A coordination meeting was held between AIDER, FENAMAD and the Director of the Palma Real Community. The president of the CN Palma Real made his concerns and suggestions regarding the current management that FENAMAD has been carrying out, also indicated and thanked the support that</td></tr>
</table>

<table>
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<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td></td><td></td><td></td><td>AIDER has been making towards the community, and also mentioned that both institutions can support in the Life Plan Update (Annex SSEE 16).</td></tr>
<tr><td>COOPASER</td><td>Participatory workshop with the assembly</td><td>1</td><td>• The cooperative held meetings of ordinary and extraordinary session of the administrative council and in the general assembly of COOPASER. (PUN_Q1_2019_Annex_02_Minutes_COOPASER_meetings_2 minutes CA 10-01-2019).<br>• The elections of leaders were carried out, in this case for the renewal of the thirds of the leaders. The President urges the councils and committees to the respective installation. After the recess and the result of the installation, the councils and committees were formed as follows (Annex SSEE 24 - Act election of leaders COOPASER 2019):<br>CONSEJO DE ADMINISTRACIÓN:<br>CARGOS | NOMBRES Y APELLIDOS<br>PRESIDENTE | ODEÓN CIRILO SANCHEZ CRUZ<br>VICEPRESIDENTE | AURELIO QUISPE RAYO<br>SECRETARIO | LINA PALOMINO SANTOS<br>SUPLENTE | PEDRO VILLA FUENTES<br>CONSEJO DE VIGILANCIA:<br>CARGOS | NOMBRES Y APELLIDOS<br>PRESIDENTE | JUAN JOSE RUIZ CHULLA<br>VICEPRESIDENTE | VICENTE BENIGNO HERRERA SANGAMA<br>SECRETARIO | LUIS ALBERTO QUICAÑO PARIONA</td></tr>
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COMITÉ DE EDUCACIÓN:
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<tr><td>CARGOS</td><td>NOMBRES Y APELLIDOS</td></tr>
<tr><td>PRESIDENTE</td><td>AURELIO QUISPE RAYO</td></tr>
<tr><td>VICEPRESIDENTE</td><td>WILLIAM CHIPANA CURIÑAUPA</td></tr>
<tr><td>SECRETARIO</td><td>JULIO ELBERT PAREJA YAÑEZ</td></tr>
</table>
COMITÉ ELECTORAL:
<table>
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<tr><td>VICEPRESIDENTE</td><td>YOEL MAQUERA CHURA</td></tr>
<tr><td>SECRETARIO</td><td>JONATHAN FRITZ DEL AGUILA UGARTE</td></tr>
</table>
Such information is found in the 2019 Directors Election Act.<br>
• Board of Directors: Corporate Governance was implemented, where democratic decisions are made in order to improve governance (Annex SSEE 01).<br>
• The Corporate Governance team approved the following agreements: (Annex SSEE 01).<br>
- Approval of the COOPASER 2019-2020 Operational Plan.<br>
- Approval of the Work Plan of the Education Committee.<br>
- Approval of the internal regulations of the surveillance committee.<br>
- Approval of the internal regulations of the education committee.<br>
- Approval and Integration of 18 new partners.<br>
- Approval of statute modifications (pending discussion
</td></tr>
</table>

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
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| | | | | | | | in general assembly).<br>- Collection plan 2019-2020.<br>• AIDER has approved the COOPASER's request to guide its course, and has allowed the hiring of a manager, an organic certification manager, administrative assistant. Likewise, the technical staff under their care has passed, granting them financing for the payment of the equipment (I Quarterly Report 2019)<br>• COOPASER, has been in charge of the cocoa collection mechanism, for this they have chosen as a strategy to collect cocoa according to what it has called or mainly on Wednesdays and Fridays (I Quarterly Report 2019-). |
| | # of boards of directors receive business training. | AIDER | Biannual | **COOPASER** | Meeting with boards of directors, reviewing project reports | 3 | • Preparation and approval by the COOPASER administrative and supervisory councils of the Annual Training Plan of the Education Committee 2019-2020 (Annex SSEE 02).<br>• A total of 339 producers are working on the project, of which 326 are skilled partners within COOPASER and the rest are in the process of incorporation (Annex SSEE 01).<br>• Quick visit to 50 producers to assess the current situation of parcel management and implementation and knowledge on the subject. Trainings have been scheduled in the different sectors on the topic of Capacity Development and Fair Trade Promotion (I Quarterly Report 2019-).<br>• The Production area is made up of a group leader, plus 3 area managers and 2 support technicians, his active participation in technical assistance, grafting control, distribution of supplies or tools and collection, has been very important during the quarter (Annex SSEE 02). |

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| | | | | | | | • In the commercial part, the commercial goal of exporting 7 lots with stamps equivalent to 175 Tm has been proposed, being 50 Tm organic and fair trade stamps, and 215 Tm fair trade stamp (Annex SSEE 01).<br>• Currently, the activities of: i) Organizational strengthening of the Tambopata Candamo Cooperative, through capacity building and leadership for the members of the cooperative in order to achieve the empowerment of their roles within it; ii) Build the value chain and route to the market for export cocoa and other products of the Cooperative, identifying clients and points of commercialization of cocoa with preferential prices as a result of organic and fair trade certification has been implemented by the same Cooperative, since the contract with the company ECOTIERRA was concluded. |
| | # of boards of directors incorporate women into their governance team. | AIDER | Biannual | Infierno, Palma Real, Sonene | Workshop with the board of directors | 2 | • Infierno and Palma Real.<br>• The Board of Directors of the CN Infierno, elected in December, is made up of 05 women and 02 men. The presidency was assumed by a woman. |
| | | | | COOPASER | Workshop with the board of directors | 1 | • Of the total members, 288 are active members of COOPASER, of which 211 are men and 77 are women.<br>• The directors elected by the council and committee are 14 partners, among them there is a woman who is part of the team (Annex SSEE 24 - Act election of leaders COOPASER 2019). |
| | # of assemblies make democratic decisions about the development of their life plans. | AIDER | Biannual | Infierno, Palma Real, Sonene | Participatory workshops | 3 | • The members of the community, in order to strengthen their community, requested the support of AIDER for updating the Life Plan of their community and for monitoring wildlife; for which meetings were held to coordinate these activities. |

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| | | | | | | | Likewise, a meeting was held with the native community of Hell, on March 19, with the aim of resuming activities that were pending such as, updating the life plan and the community fauna monitoring (Annex SSEE 14 - I Quarterly Report 2019).<br>• Subsequently, two workshops were held in order to find out the information that the community had and to collect information for the Life Plan and to carry out training on wildlife monitoring issues. Likewise, a meeting was held with the native community Infierno, on March 19, with the aim of resuming pending activities such as updating the life plan and community monitoring of fauna (Annex SSEE 14 - I Quarterly Report 2019). |
| | # of assemblies are organizationally strengthened. | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Participatory workshops | 1 | • Support has been provided to communities for organizational strengthening, with the aim that native communities continue to be empowered and strengthened as a sustainable community.<br>• The native Sonene community was supported through the delivery of: fuel and lubricant and food. (Annex SSEE 14)<br>• The support to the Community of Palma Real is permanent, through fuel and / or cash to carry out negotiations with the authorities. (SSEE Annex 15)<br>• Also, on May 6, a coordination meeting was held with FENAMAD and community managers with the aim of discussing: Updating the community's Life Plan, reviewing the community's statute and internal regulations of the community, a document that will serve as a management tool and be a sustainable community (Annex SSEE 16). |
| | | | | **COOPASER** | Particpatory | 1 | • There are 339 producers organized in a multiple agricultural |

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| | | | | | workshop | | cooperative called "Tambopata - Candamo" known as COOPASER, with 287 members duly registered and 52 members in the process of registration, the report does not exclude inactive members (Annex SSEE. 01 - 2nd_Report_Trimestral AIDER).<br>• Regarding the organizational strengthening of COOPASER, the work implemented, framed in the execution of the project "Reduction of Deforestation and Promotion of Sustainable Development in Madre de Dios", continued technical assistance to partners by the technical team of COOPASER, as well as training planning for the following quarters (Annex SSEE 1 and 2).<br>• The project has been working with a total of 339 producers organized in a multi-service agricultural cooperative called "Tambopata - Candamo", known as COOPASER, with 287 members duly registered and 52 members are in the process of registration (Annex SSEE. 01 - 2nd_ Quarterly Report AIDER).<br>• The incorporation of 4 partners to the COOPASER Tambopata Candamo has been approved, the same ones that were evaluated by technical personnel and the full Board of Directors (Annex SSEE. 01 - 2nd_Report_Trimestral AIDER).<br>• The share capital of the cooperative that it had at the end of the first quarter has been increased by 20% (Annex SSEE. 01 (Annex SSEE. 01_2nd_ Quarterly Report AIDER).<br>• COOPASER, as part of its activities to be carried out, technical assistance has been limited, 168 technical visits have been made to partners in the fields of COOPASER, by the team.<br>• As part of the activities for organizational strengthening, the |

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| | | | | | | | COOPASER team has been carrying out different activities on issues of capacity building through technical assistance to producers, development of workshops on technical issues and organizational strengthening. (Annex SSEE 02, 03 and 04– 2do_Informe_ Quarterly AIDER).<br>• Likewise, the inauguration of the primary benefit plant of the COOPASER Tambopata candamo, is a strength that they have as a cooperative (Annex SSEE 02 - Report II quarter COOPASER). |
| | # of assemblies democratically decide on the incursion into new productive activities. | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Participatory workshop | 1 | • Promotion of rural community tourism and strengthening the artisan committee in the native community of Palma Real, which has been managed through the implementation of activities that are in the tourism strategy of the Community of Palma Real (Informe_2do_trimestre_2019). |
| | | | | **COOPASER** | Participatory workshop | 3 | • Fair Trade Certification: Training has been carried out in the different sectors on Fair Trade, Organic Certification and an organizational workshop on community development. 152 producers were trained (Annex SSEE 02 - Report II quarter COOPASER).<br>• 50 Plans for Sustainable Integral Farms were prepared. These documents serve as a planning tool, which identifies and summarizes the activities that should be developed in a comprehensive and sustainable farm in order to guide, guide and improve the production system, land use, plantations and the environment for the farmer. Information is available from 50 partners and these plans are being delivered to the partner producers that have been identified (Annex SSEE 3 - I Quarterly Report 2019).<br>• Terrestrial mammal monitoring activities were carried out in agroforestry systems of the RNTAMB Buffer Zone through the |

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| | | | | | | | use of trap cameras, these trap cameras were installed in sector 1,2 and 3 of the plots of the COOPASER partner producers. This activity was led by the team from the biological monitoring area Annex SSEE 06 - First_Report_CT-SAF-2019 / I Quarterly Report 2019). |
| | # of boards of directors update statutes of their communities. | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Meeting with the board of directors and review of your document | 1 | • Infierno is reviewing its statutes.<br>• • Palma Real is reviewing its statutes. |
| | | | | **COOPASER** | Meeting with the board of directors and review of your document | 1 | • The cooperative is reviewing its statutes. |
| | # of boards of directors promote the development or revision of the life plan of their communities | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Meeting with the board of directors and review of your document | 1 | • Sonene already has an updated Life Plan.<br>• Infierno is developing and reviewing it and then implementing it.<br>• Palma Real already has an updated Life Plan. |
| | # of committees are created to improve the management of the productive activities of the community | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Review of community documents | 1 | • Infierno is wanting to implement a committee of community forest monitors.<br>• Palma Real is implementing forest oversight in its community. |
| | # of boards of directors participate in coordination meetings in the Management Committee of the RNTAMB and the Management Committee of the PNBS | AIDER | Biannual | **Infierno, Palma Real, Sonene.** | Meeting with the RNTAMB Management Committee | 3 | • The PNBS Management Committee was supported in carrying out its activities in order to ensure its functioning and operability. With the support provided, on May 16 and 17, the meeting of the Management Committee of the Bahuaja Sonene National Park, and of interest groups in the city of Sandia, Puno, was held in the auditorium of the Provincial Municipality of Sandia, with the aim of giving the scope of the |

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| | | | | | | | activities that the PNBS CoG has been carrying out, the process of updating the master plan and its priority activities. (Annex SSEE 10 - 2nd Quarterly Report AIDER).<br>• In the same way, the RNTAMB management committee was supported to carry out its activities to ensure its operation and operability. Due to the support given, the President of the Management Committee, Mr. Víctor Zambrano, sent us the report of the activities carried out by the Committee during the quarter (Annex SSEE 11 - 2nd Quarterly AIDER Report).<br>• AIDER purchased a GPS for the Bahuaja Sonene National Park, as part of the commitment made, within the framework of the Partial Administration contract between AIDER and the Bahuaja Sonene National Park (Annex SSEE 09 - Acquisition of GPS / 2nd AIDER Quarterly Report).<br>• The Meeting of the Management Committee of the Bahuaja Sonene National Park (PNBS) was held on May 16 and 17, in which the following conclusions were reached:<br>- The PNBS leadership shows a greater threat from illicit crops and mining in the ZA and in the ANP itself in the area of Puno.<br>- In 2020, actions to eradicate illicit crops will begin in the Colorado Peasant Community.<br>- The update of the Master Plan is in the previous phase.<br>(Annex SSEE 10-Reporte_reunión_del_CdG_PNBS). |

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| | | | | **COOPASER** | Meeting with the RNTAMB Management Committee | 3 | • Environmental education workshops, held on June 03 at the I.E. Dos de Mayo, the I.E. Pastora and the I.E. Lord of Miracles. Specialists from the RNTAMB, AIDER, ACCA and the Provincial Municipality of Tambopata-Educa participated. (Annex SSEE 19 - 2nd Quarterly Report AIDER).<br>• The workshops were held with the aim of promoting and raising awareness among primary school environmental promoters in the conservation and respect for all living beings on the planet we live on.<br>• During Environment week, the AIDER technical team participated in different activities promoted by the Provincial Municipality of Tambopata. On June 1 the cleaning and tree planting session was carried out (Annex SSEE 20 - 2nd Quarterly Report AIDER).<br>• On April 11, the ordinary meeting of the Municipal Environmental Commission - CAM was held, where specialists from different institutions such as CINCIA, MINAM, ACCA participated; SUNASS, UNAMAD, UNSAC, DRA, DIREPRO, UGEL, SERNANP, Municipality of Tambopata, AIDER, PNAP, GOREMAD, among others. The objective of the meeting was to activate the CAM with local actors in order to develop Local Environmental Management activities. (Annex SSEE 21).<br>• On April 17, the coordination meeting between SERNANP, AIDER, CINCIA and the Municipality of Tambopata was held. This meeting was held with the aim of coordinating support to the RNTAMB by AIDER and CINCIA for activities for Biodiversity month and Environment month. (Annex SSEE 22 - 2nd AIDER Quarterly Report).<br>• It is important and necessary to communicate and disseminate, to the actors involved in the REDD + project, |

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| | | | | | | | information about the project, as well as the relationship between the activities carried out in their localities and the partial AC. Therefore, as part of the activities within the framework of the contract and the REDD + project, these actions are being disseminated in the populations settled within both ANP and their respective buffer zones.<br>• In this sense, AIDER has disseminated, through various means, the relevant achievements and actions that occurred during the second quarter of the year; These media were via website, press releases, social networks, booklets, among others. (Annex SSEE 23 - - 2nd Quarterly Report AIDER). |
| **Economic** | # of committees receive training in resource management | AIDER | Biannual | **Infierno, Palma Real, Sonene.** | Participation in training workshops and review of reports of project activities | 0 | It has not been reported for this period |
| | | | | **COOPASER** | Participation in training workshops and review of reports of project activities | 6 | • In the production, the follow-up commitments continue to be fulfilled, providing technical assistance developing technical capacities in the main tasks that cocoa and the agroforestry system demand, but with the personalized and direct strategy to the plots of Coopaser's producer-owner owners, achieving 192 visits (Annex SSEE 1 - 1 Quarterly Report 2019).<br>• Workshops were held on topics: Organic certification: Its standards, Fair Trade and Organizational strengthening and Implementation of organic standards in cocoa production and cultivation fields (Annex SSEE 1 - I Quarterly Report 2019).<br>• For the 2nd quarter, technical assistance has reached 168 |

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| | | | | | | | partner producers, focusing the guidelines on training and harvest pruning (Annex SSEE 01 - Quarterly Agroforestry Report / 2nd Quarterly Report 2019). |
| | # of committees participate in workshops on product processing | AIDER | Biannual | **Infierno, Palma Real, Sonene.** | Review of project reports | 0 | It has not been reported for this period |
| | | | | **COOPASER** | Review of project reports | 6 | • Workshops were held in: Preparation of inputs for organic production; Fair trade criteria (Annex SSEE 02 - Report II quarter COOPASER / 2nd Quarterly Report 2019).<br>• The Production area is made up of a group leader, plus 3 area managers and 2 support technicians, his active participation in technical assistance, grafting control, distribution of supplies or tools and collection, has been very important during the quarter (Annex SSEE 02 - Report II quarter COOPASER / 2nd Quarterly Report 2019).<br>• Quality Control is very important during the process, therefore, temperatures are constantly being monitored during fermentation to achieve a good fermentation (Annex SSEE 02 - Report II quarter COOPASER / 2nd Quarterly Report 2019). |
| | # of committees participate in workshops on market research | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Review of project reports | 0 | It has not been reported for this period |

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| | | | | **COOPASER** | Review of project reports | 1 | • In the matter of Collection, according to the table of Mass Balance, 73,048 kilos of baba cocoa have been collected, which is estimated at 40,682 kilos of dry cocoa, raw material that has allowed us to prepare the amount of 25,566.90 kilos for the export of the first container to deliver to ICAM SPA, leaving a stock of 15,115.1 kilos for the next container, said stock is in different stages of the post-harvest process (fermented, aired, dried and stored). This will mark the history of the cooperative and the region because it will reach foreign markets (Annex SSEE 02 - Quarterly Report II COOPASER). |
| | # of family producers have benefited from new sustainable productive activities. | AIDER | Biannual | **COOPASER** | Review of project activity reports and visit to plots | 339 | • 339 families of farmers benefited by the project, organized in a multiple agricultural cooperative called "Tambopata - Candamo" known as COOPASER, with 287 members duly registered and 52 members in the process of registration, the report does not exclude inactive members (Annex SSEE 01 - 2nd_Report_Quarterly AIDER). |
| | # of family producers are trained in the processes of a production chain | AIDER | Biannual | **COOPASER** | Meeting with boards of directors, review of report of workshops on project activities | 1 | • Promotion of sustainable productive initiatives with local populations: AIDER, in order to support the implementation of rural community tourism in the native community of Palma Real, has been providing logistical support and meeting requests for travel between the community and Puerto Maldonado (Annex SSEE 10 - - I Quarterly Report 2019-).<br>• 339 families of farmers benefited by the project, organized in a multiple agricultural cooperative called "Tambopata - Candamo" known as COOPASER, with 287 members duly registered and 52 members in the process of registration, the report does not exclude inactive members (Annex SSEE 01 - 2nd_Report_Quarterly AIDER). |

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| | # of producer families receive new income from sustainable productive activities | AIDER | Bianual | **Infierno, Palma Real, Sonene** | Workshop with Boards of Directors | 1 | • In the COOPASER beneficiation plant, 6 fermentors were implemented in three divisions with a capacity of 500Kg each, thus increasing our capacity in the fermentation area (Annex SSEE 02 - 2nd_Report_Quarterly AIDER).<br>• More stretchers were implemented to avoid direct contact of the dry product with the soil and thus reduce the absorption of moisture from the dry grain in the warehouse (Annex SSEE 02 - 2nd_Report_Quarterly AIDER).<br>• Promotion of sustainable productive initiatives with local populations: AIDER, in order to support the implementation of rural community tourism in the native community of Palma Real, has been providing logistical support and meeting requests for travel between the community and Puerto Maldonado (Annex SSEE 10 - I Quarterly Report 2019-). |
| | | | | **COOPASER** | Workshop with Boards of Directors | 1 | There is still no report of income from agroforestry activities (cocoa). |
| | # of boards of directors receive training on new technologies | AIDER | Biannual | **COOPASER** | Workshop with associations | 2 | • Regarding production, the monitoring commitments continue to be fulfilled, providing technical assistance, developing technical capacities in the main tasks required by cocoa and the agroforestry system. The strategy used is personalized and direct interventions to the plots of the COOPASER producing partner owners, achieving 192 visits (Annex SSEE 01).<br>• From the cultivation of cocoa, we registered 965.89 hectares plus 110,264 hectares adopted and grafted, we have 173,877 hectares left to graft, which are in process.<br>• The surface of 1,304.85 hectares of cocoa has been planted in a definitive field, of which 116.5 hectares have been lost due to external factors such as droughts and burning of grasslands |

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| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | | | | by neighbors or third parties, to date 1192.1 hectares in the process of growth and development vegetative at different stages of production. |
| | # of chestnut families have been trained to give added value to their raw materials | AIDER | Biannual | **ASCART** | Review of project activity reports | 0 | There is a commitment to start the fair trade training process from the second quarter of 2020. |
| | # of boards of directors receive training on sustainable alternative productive activities | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Review of project activity reports | 0 | It has not been reported for this period |
| | | | | **COOPASER** | Review of project activity reports | 1 | • 50 cooperative producer members benefited from 50 farm plans, today called Sustainable Integral Farms. These documents serve as a planning tool, which identifies and summarizes the activities that should be developed in a comprehensive and sustainable farm in order to guide, guide and improve the production system, land use, plantations and the environment for the farmer. Information is available from 50 partners who have been delivering their sustainable integrated farm plans (Annex SSEE 3 - I Quarterly Report 2019). |
| | # of tourism companies committed to training families that have initiatives related to tourism | AIDER | Biannual | **Bajo y medio Tambopata** | Meeting with the person in charge of tourism in the Landscapes project | 0 | It has not been reported for this period |
| | # of initiatives receive better income for the promotion of tourism activity within the project area | AIDER | Biannual | **Bajo y medio Tambopata, Infierno** | Meeting with the person in charge of tourism in the Landscapes project | 0 | It has not been reported for this period |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| **Environmental** | # of committees participate in workshops on climate change awareness | AIDER | Biannual | **Infierno, Palma Real, Sonene,** | Participation in workshops and review of project reports | 5 | • This has been done as a cross-cutting theme in all the activities and assemblies they carry out, including the committees of the three communities.<br>• Palma Real: wood, fishing. Sonene: wood and fishing. |
| | # of boards of directors participate in REDD + training workshops | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Review of reports of workshops carried out by project activities | 0 | It has not been reported for this period |
| | | | | **COOPASER** | Revisión de los informes de talleres realizados por las actividades del proyecto | 0 | It has not been reported for this period |
| | # of assemblies aware of climate change and its consequences | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Participatory workshop | 3 | • Since 2013, work has been done with the assemblies and the topic of climate change has been studied in depth. |
| | | | | **COOPASER** | Participatory workshop | 1 | • Since 2014, work has been done with the assembly and the topic of climate change has been studied in depth. |
| | # of boards implement burn control in their communities | AIDER | Biannual | **Infierno, Palma Real, Sonene** | Meeting with the Board of Directors | 0 | It has not been reported for this period |
| | | | | **COOPASER** | Meeting with the Board of Directors | 1 | • A burn prevention and management manual has been distributed to members. |
| | % of families committed to the sustainable management of Brazil nuts | AIDER | Annual | **Palma Real, Sonene, Loero, Jorge Chávez, Nueva América,** | Participatory workshop | 20 | • Work is being done to raise awareness about the development of this activity and its importance at the regional, national and global levels. 20% of the population has |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | **Las Mercedes, etc.** | | | chestnut as a main economic activity. |
| **Gender** | # of boards of directors promote the development of sustainable productive activities in their communities, within the framework of gender equality | AIDER | Annual | **Infierno, Palma Real, Sonene,** | Meeting with the board of directors and review of the report on productive activities | 3 | • Three communities |
| | | | | **COOPASER** | Meeting with the board of directors and review of the report on productive activities | 0 | • COOPASER |
| | # of committees are made up of men and women | AIDER | Annual | **Infierno, Palma Real, Sonene** | Meeting with the committees | 3 | • Infierno, Palma Real, Sonene. |
| | | | | **COOPASER** | Meeting with the committees | 1 | • COOPASER |
| | # of women officially recognized as leaders in their communities | AIDER | Annual | **Infierno, Palma Real, Sonene** | Participation in workshops and review of reports of project activities | 7 | • Nina and Alicia (Palma Real)<br>• 5 directives in Infierno |
| | | | | **COOPASER** | Participation in workshops and review of reports of project activities | 1 | • They include a woman on the COOPASER board. |
| | % of women are aware of the importance of women's contribution in the context of climate change | AIDER | Annual | **Infierno, Palma Real, Sonene** | Participatory workshops | 0 | It has not been reported for this period |
| | | | | **COOPASER** | Participatory | 0 | It has not been reported for this period |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | | | | | workshops | | |
| | # of women participate in decisions for benefit distribution | AIDER | Annual | **COOPASER** | Workshops with the assembly | 0 | • There is no benefit report yet. But you are already becoming aware of the benefit distribution processes at COOPASER. |
| | # of women perform roles that were previously recognized as only for men | AIDER | Annual | **Infierno, Palma Real, Sonene** | Workshop with the women of the community | 5 | • In Infierno, 05 women assumed the responsibility of being part of the Board of Directors of their Community. |
| | | | | **COOPASER** | Workshops where women producers from the cooperative participate | 0 | It has not been reported for this period |
| **Social** | % of population with access to basic services | AIDER | Annual | **Infierno, Palma Real, Sonene** | Surveys, meetings | 50 | • The Palma Real Community has managed to have drinking water and build a small dam. |
| | # of communities with enough water for everyone | AIDER | Annual | **Infierno, Palma Real, Sonene** | Surveys, meetings | 1 | • Infierno, Sonene and Palma Real do not have this service and the water they consume has not been treated. COOPASER members have their plots scattered and most of them do not have potable water. |
| | # of communities have water fit for human consumption | AIDER | Annual | **Infierno, Palma Real, Sonene** | Surveys, meetings | 1 | • Native community of Infierno |
| | Decrease of diseases and parasites caused by water consumption | AIDER | Annual | **Infierno, Palma Real, Sonene** | Surveys, meetings | 0 | It has not been reported for this period |
| | % of the population with access to basic education | AIDER | Annual | **Infierno, Palma Real, Sonene** | Surveys, meetings | 95 | • The levels are maintained, because there has been no project that contributes to improving access to the educational system, apart from pregnancy problems (mainly) that forces girls and boys to stop studying to dedicate themselves to work. (Diagnosis of the Sonene, Palma Real and Infierno Communities). |
| | % of the population improves their health | AIDER | Annual | **Infierno, Palma Real, Sonene** | Surveys, meetings | 0 | • This indicator is under evaluation, since the project has no major incidence. |

| Monitoring matrix of social impacts in the REDD + project area of the RNTAMB and the PNBS - MDD | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Monitoring Objective: collect and generate information to permanently guide management and decision-making actions by the AIDER coordination, relevant to meeting the net positive effects proposed in the PDD** | | | | | | | |
| **Component** | **Indicator** | **Responsable** | **frequency** | **Places of action and / or sampling** | **Methodology** | **January 2019- December 2019** | **Observation** |
| | # of families have improved their homes | AIDER | Annual | **Infierno, Palma Real, Sonene** | Surveys, meetings | 0 | • This indicator is being evaluated. It should be done every 5 years, according to the income and results of the project. |

Evidence of the results of the social impact monitoring plan can be seen in Annex 5.

### 4.3.3 Dissemination of Monitoring Plan and Results (CM3.3)

The results of the Community Monitoring Plan will be socialized in the project communities from May-July 2020, so the results of this process will be reported in the next monitoring report.

## 4.4 Optional Criterion: Exceptional Community Benefits

The project is not seeking Gold Level for exceptional community benefits.
In the PDD was applied only to the gold level criteria of climate and biodiversity.

# 5 BIODIVERSITY

## 5.1 Net Positive Biodiversity Impacts

### 5.1.1 Biodiversity Changes (B1.1)

**Table 19.** Results of the camera trap in the agroforestry plots

| **Change in biodiversity** | **Monitored change** | | **Justification of the change** | |
|---|---|---|---|---|
| **Fauna** | **Positive** | **Negative** | **Factor that contributed to the change** | **Method** |
| Nasua nasua (Achuni) | Appearance of the species in the agroforestry plots. | None | Recovered areas with agroforestry systems that serve as habitat or passage site towards adjoining PNAs (biological microcorridor). | Camera trap |
| Dasyprocta punctate (Añuje) | Appearance of the species in the agroforestry plots, dispersal of Bertholletia excelsa seeds in the plots. | None | | Camera trap |
| Didelphis marsupialis (Intuto) | Appearance of the species in the agroforestry plots. | It does not have an impact on the production of cocoa and associated fruit species, but it does have an impact on the death of farmyard animals. | | Camera trap |
| Ortalis guttata (Manacaraco) | Appearance of the species in the agroforestry plots. | None | | Camera trap |
| Eira Barbara (Manco) | Appearance of the species in the agroforestry plots. | None | | Camera trap |
| Cuniculus paca (Picuro) | Appearance of the species in the agroforestry plots. | None | | Camera trap |
| Puma concolor (Puma) | Appearance of the species in the agroforestry plots. | None but it impacts on the livestock of some farmers a | Use of the area as a transit site to neighboring ANPs (biological microcorridor). | Camera trap |
| Tayassu tajacu (Sajino) | Appearance of the species in the agroforestry plots. | Affects annual crops (cassava) | Use of the area as a habitat or site of passage to adjacent ANPs (biological microcorridor). | Camera trap |
| Mazama americana (Venado) | Appearance of the species in the agroforestry plots. | None | | Camera trap |
| Crypturellus soui (Perdiz chica) | Appearance of the species in the agroforestry plots. | None | | Camera trap |
| Tayassu pecari (Huangana) | Appearance of the species in the agroforestry plots. | Affects annual crops (cassava) | | Camera trap |
| Dasypus novemcinctus (Carachupa o | Appearance of the species in the agroforestry plots. | None | | Camera trap |

| Change in biodiversity | Monitored change | | Justification of the change | |
|---|---|---|---|---|
| **Fauna** | **Positive** | **Negative** | **Factor that contributed to the change** | **Method** |
| armadillo) | | | | |
| Sylvilagus brasiliensis (Liebre amazónica) | Appearance of the species in the agroforestry plots. | None | | Camera trap |
| Tamandua tetradactyla (Tamandua/oso bandera) | Appearance of the species in the agroforestry plots. | None | | Camera trap |
| Leopardus pardalis (Tigrillo) | Appearance of the species in the agroforestry plots. | None | | Camera trap |
| Panthera onca (jaguar) | Appearance of the species in the agroforestry plots. | None in the production but it does impact on livestock and small animals | Use of the area as a transit site to neighboring ANPs (biological microcorridor) | Trap cameras and jaguar-human conflict reports. |

### 5.1.2 High Conservation Value Protection (B1.2)

The project activity maintains the High Conservation Values in the area of the project, so that the creation objectives of the ANP are met. Through the 4 project strategies that are:

1) Conservation agreements: Offering concrete and periodic benefits to local people in exchange for real conservation commitments.

2) Promotion of productive activities: Allocating financial resources, technical and commercial assistance for the promotion of sustainable productive initiatives (Agroforestry, aquaculture, low impact gold production, sustainable forest management, processing and commercialization of Brazil nuts and management and / or conservation of palm trees) among the families of the hamlets and communities settled in the Buffer Zone.

3) Surveillance and control: Improving existing control posts, building new control posts, providing technical support to community monitoring committees, as well as conducting workshops / training courses for park rangers (Annex 6).

4) Forest governance: Making inter-institutional agreements and competencies that allow better governance of the resources in the project area, as well as providing advice to SERNANP, Management Committees, regional forest authority and local governments in the fulfillment of their functions of promotion and supervision of sustainable forest management.

Likewise, there are 3 cases in which the management of High Conservation Values is involved:

a) Tourism: It is the objective of the ANP and the project to avoid the deterioration of landscapes and species, which are the attractions and the reason that the project area has a tourist influx.

The project contributes to implement the management documents of the tourist activity, determining its impacts, to then monitor the changes and determine acceptable limits, carrying out an adaptive management of this activity, one of the activities carried out is the care of the Chuncho clay lick in which AIDER actively participates together with SERNANP and with the technical advice of the Guacamayo project. (Annex 7)

b) Harvesting of Brazil nuts: Since 2009 there is a management plan that provides guidelines for proper management, determining the impacts resulting from Brazil nut harvesting activities; Likewise, points have been identified for monitoring by means of sampling plots and there are data sheets to estimate hunting during the harvest period, and regarding the research activity there is an agreement with researchers who lead the SUSTAIN project in order to know the status of the species, natural regeneration and its phenology within the ANP and in its buffer zone. These activities contribute to the maintenance of ecosystems and fauna present in the chestnut groves of the ANP. (Annex 8)

c) Pampas del Heath: a vigorous natural succession is reported, perhaps accelerated by the management carried out by indigenous people from the native communities of Palma Real and, mainly, from Sonene. Ecosystem quality indicators will be determined through the monitoring of areas, dispersal species, among others, that will subsequently allow us to propose a management system to ensure the integrity and permanence of the pampas.

For all the above, the project does not generate negative impacts on the High Conservation Values, which is why the National Service for Natural Protected Areas (SERNANP) developed the "Ally for Conservation" brand, which was awarded to COOPASER, so that can be used in the products that its partners (farmers) sell (Annex 9).

### 5.1.3 Invasive Species (B1.3)

The non-native species that the project has installed in the agroforestry plots are the following:

- Kudzu (Pueraria phaseoloides): It is a species used as a cover crop, green manure, erosion control and as a forage plant according to studies carried out in Ecuador, the species has the capacity to fix 207 Kg of N ha / year; This means that it fixes the atmospheric nitrogen with what the legume benefits, and therefore the crop (Romero-Rojas 2009). This species plays an important role in the soil nutrient cycle, which benefits the crops (Fujisaka *et al.*, 2000). For this reason, P. phaseoloides is considered a suitable plant to improve the productivity of small farmers' crops by using this plant in crop rotation in order to increase soil fertility, mainly in soils compacted by livestock for control of weeds and grasses. The antecedents of this species in crops of the region were considered and no type of damage or affection to the native flora was registered.

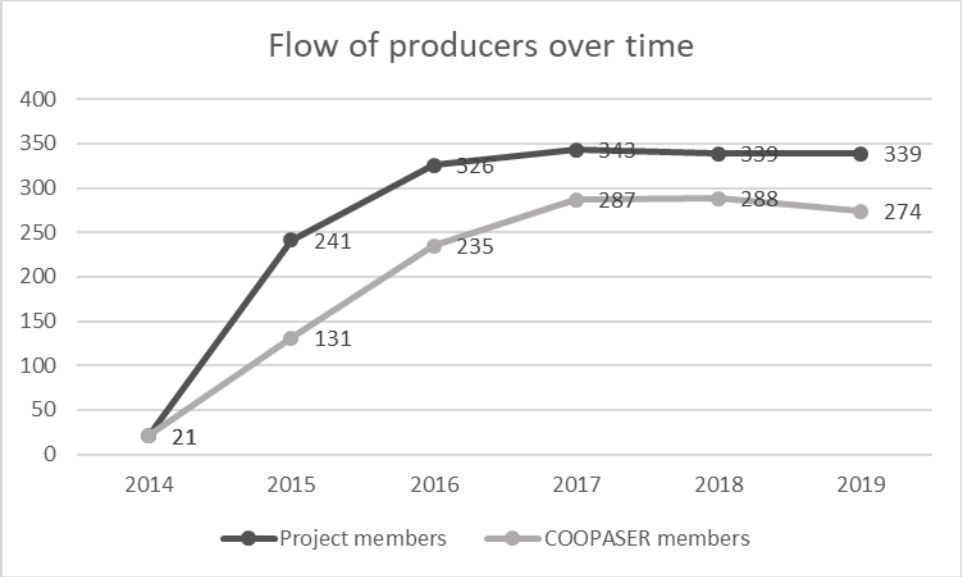
- Mucuna (Styzolobium deeringianum): It has the potential to fix atmospheric nitrogen through a symbiotic relationship with the Rhizobium bacteria present in the roots of the plant, in a usable form that is stored in the leaves, branches and seeds. This nitrogen can be used by crops that are planted in association with mucuna, for this reason it is called compost beans. The mucuna has been reported to contribute around 150 kg of N ha / year to the soil. In addition, the large amount of organic matter it produces makes the soil looser and deeper. Its large production of foliage covers the soil and keeps it moist, thus keeping water available longer for crops, a very useful aspect, especially in areas of low precipitation and high temperatures. The soils of the Amazon rainforest generally present two major problems, their low fertility and the abundance of many weeds that compete with crops, which is why many think that fire is the only way to eliminate weeds and prepare the soil for a future sowing, which is wrong because the soil is left

bare without any protection, one of the ways to help nature in the solution of these two problems is the application of green mulches and fertilizers such as this species. The antecedents of this species in crops of the region were considered and no type of damage or affection to the native flora was registered.

- Fruit species such as pineapple (Ananas comosus) and citrus (Citrus jambhiri Lush, Citrus maxima and Citrus sinensis): These species are already adapted to the Madre de Dios environment and are not invasive, they have a market and their management is known; These species are perfectly adapted to agroforestry systems in the Amazon, so no adverse effects are anticipated. Likewise, the use of these fruit species in agroforestry plots of small producers, which are also the antithesis of monoculture, is conducive, thus reducing risks such as pests and diseases.

Therefore, it follows that none of the aforementioned species used in the project affect the native flora of the ANP or the buffer zone, based on the antecedents before the implementation of the project and during the first four years of the project, since there is no negative record of these species in agroforestry plots and on the contrary it should be noted that these species provide both ecological and economic benefits to farmers.

On the other hand, it is worth mentioning that in the project there are a total of 339 producers working; the difference between the number of registered partners and producers in the project is due to the fact that they are regularizing their documentation to date. In the graph, you can see the growth in the number of partners per year.




In the reporting period, the following population centers have been working within the Buffer Zone and Influence Zone.

**Table 12.** Populated centers within the project with Agroforestry Systems with cocoa.

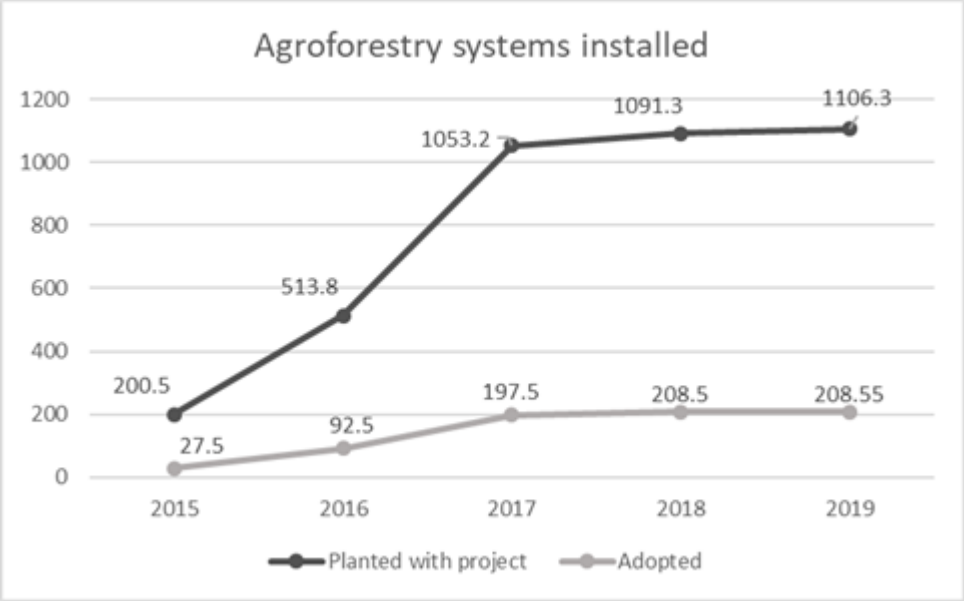
| Sector 1 | Sector 2 |
|---|---|
| Alto Loero | Alto Cachuela |
| Bajo Madre | Alto Chorrillos |
| de Dios | Bajo Cachuela |
| Bajo Tambopata | Cachuela |
| Chonta | Castañal |
| Infierno | Centro Cachuela |
| Isuyama | Centro Pastora |
| Jorge Chávez | El Prado |
| La Torre | Fitzcarrald |
| Loero | Monte Sinaí |
| Nueva América | Rompe Olas |
| Nuevo Sol Naciente | Tres Estrellas |
| Tres Chimbadas | Túpac Amaru |
| | Unión Chonta |

| Sector 3 | Sector 4 |
|---|---|
| Aguas Negras | Aguas Blancas |
| Huantupac | Baltimore |
| Las Mercedes | Florida Baja |
| Los Cedros | Manantiales |
| San Bernardo | Nueva Esperanza |
| Tahuantinsuyo | Santo Domingo |
| Víctor Raúl | Tahuantinsuyo |

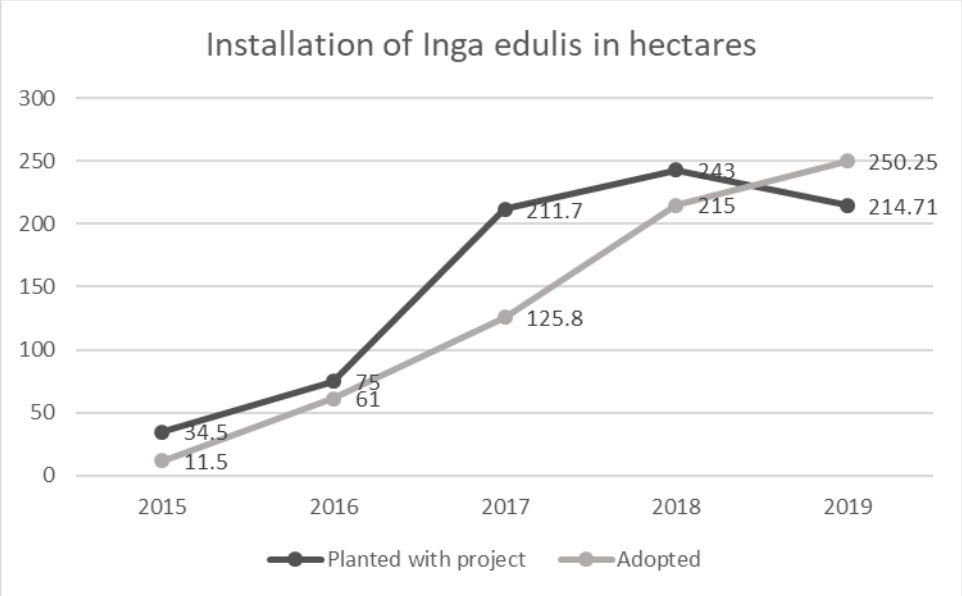
| Sector 5 | Sector 6 |
|---|---|
| Florida Alta | El Progreso |
| Quispicanchis | Paraíso |
| Vírgenes del Sol | San Juan |
| | Unión Progreso |
| | Yanaoca |

| Sector 1A | |
|---|---|
| La Novia | Micaela |
| Alto | Bastidas |
| Loboyoc | Monterrey |
| Bajo | Nuevo Pacarán |
| Loboyoc | Planchón |
| Bajo Madre de Dios | Primero de Mayo |
| Bello | San Francisco |
| Horizonte | Santa Teresa |
| El Triunfo | Shiringayoc |
| Las Piedras | Sudadero |
| Madama | San Isidro |
| Mavila | |

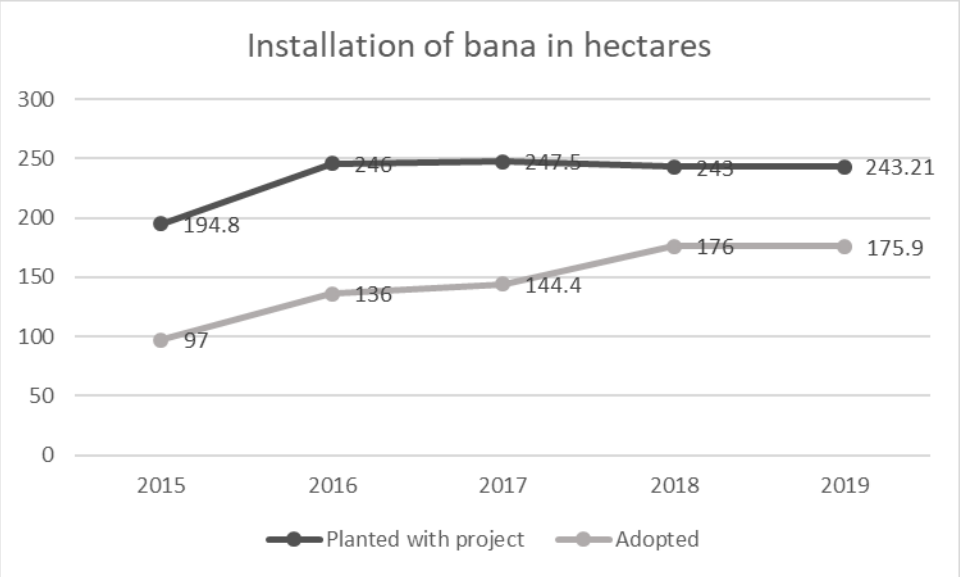
Regarding the coverages worked on, the project is flexible in terms of the first coverage available to the producer, we still working basically with the crops of papaya, banana, yucca, palo beans, as a temporary shade.




Regarding the sowing of guava (*Inga edulis*), the plantation progress is shown in the following graph.




For those who did not have a cover as a temporary shade, they were given banana shoots, with the commitment of returning triple the amount received to be able to give to other producers. In that understanding, the flow of banana installation has been the following.




Each farmer plans their activities in their "Plan of integral farms" an agroforestry model (SAF) (See Annex 2 of the corresponding section), where they associate for the different strata, timber and non-timber forest species. It is important to clarify that to date not all partners have a plan, they continue to be developed for the other partners in the following years.

**Table 13.** Species used in the period 2017 - 2019

**Timber forest species**

| Common name | Scientific name |
|---|---|
| Caoba | Swietenia macrophylla |
| Cedro | Cedrela odorata |
| Tornillo | Cedrelinga catenaeformis |
| Pashaco blanco | Schizolobium amazonicum |
| Moena | Ocotea sp |
| Amasisa | Erytrina sp |
| Laurel | Nectandra rediculata |

**Non-timber forest species-NTFP**

| Common name | Scientific name |
|---|---|
| Castaña | Bertholletia excelsa |
| Copoazu | Theobroma grandiflorum |
| Naranja | Citrus sinensis, |
| Amasisa | Erytrina sp |
| Cacao chuncho | Theobroma cacao L. |
| Limón rugoso | Citrus x jambhiri Lush |
| Guaba/pacay | Inga edulis |

**Agricultural crops**

| Common name | Scientific name |
|---|---|
| Shaina | Colubrina glandulosa Perkins. |
| Yuca | Manihot esculenta |

| | |
|---|---|
| Plátano | Musa paradisiaca |
| Piña | Ananas ananas |
| Frejol de palo | Cajanus cajan |

**Coverages**

| Common name | Scientific name |
|---|---|
| Mucuna | Styzolobium deeringianum |
| Kudzu | Pueraria phaseoloides |

Regarding the progress of installation of forest species, it has been as follows

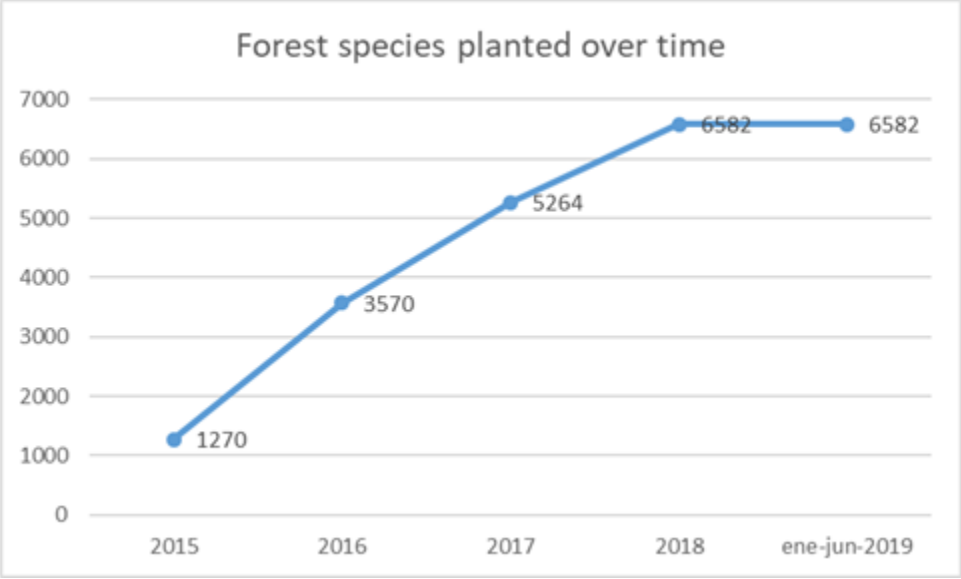



Figure 6. The photos bellow show both scenes A: Before the project B: After the project





### 5.1.4 Impacts of Non-native Species (B1.4)

| | |
|---|---|
| Species | Kudzu - *Pueraria phaseoloides* |
| Justification of Use | Is already adapted to the environment of Madre de Dios and are not invasive, it have a market and its management is known; this specie adapt perfectly to the agroforestry systems in the Amazon, for which no adverse effects are expected. Likewise, the fact of use it in agroforestry plots of small producers, which are also the antithesis of monoculture, reduces the risk of pests and diseases.<br><br>This specie serves as a cover crop, provides organic matter to the soil, fixed nitrogen in the soil, prevents soil erosion, and helps control weeds and grasses such as brachiaria |
| Adverse Effect | Fan the fire when there are burns making it jump barriers such |

| | |
|---|---|
| | as trails or live fences. |

| | |
|---|---|
| Species | Mucuna - *Styzolobium deeringianum* |
| Justification of Use | Is already adapted to the environment of Madre de Dios and are not invasive, it have a market and its management is known; this specie adapt perfectly to the agroforestry systems in the Amazon, for which no adverse effects are expected. Likewise, the fact of use it in agroforestry plots of small producers, which are also the antithesis of monoculture, reduces the risk of pests and diseases.<br><br>This specie serves as a cover crop, provides organic matter to the soil, fixed nitrogen in the soil, prevents soil erosion, and helps control weeds and grasses such as brachiaria |
| Adverse Effect | There were no adverse effects on agroforestry plots or in the region. |

| | |
|---|---|
| Species | Citrus<br>*Citrus jambhiri* Lush, *Citrus máxima* y *Citrus sinensis* (limón rugoso, toronja y naranja) |
| Justification of Use | Is already adapted to the environment of Madre de Dios and are not invasive, it have a market and its management is known; this specie adapt perfectly to the agroforestry systems in the Amazon, for which no adverse effects are expected. Likewise, the fact of use it in agroforestry plots of small producers, which are also the antithesis of monoculture, reduces the risk of pests and diseases.<br><br>In addition, it generates income for farmers and serves as food for the families of farmers in the project.<br><br>Sirve de alimento a la familias de agricultores del proyecto |
| Adverse Effect | There were no adverse effects on agroforestry plots or in the region. |

| | |
|---|---|
| Species | *Ananas comosus* (Piña) |
| Justification of Use | Generates income for farmers and serves as food for the families of farmers in the project. |

| | |
|---|---|
| | Serves as food for the farmer families of the project |
| Adverse Effect | There were no adverse effects on agroforestry plots or in the region. |

### 5.1.5 GMO Exclusion (B1.5)

The objective of the REDD + project is to reduce deforestation and forest degradation, not involving forest or other plantations as a mean to generate verifiable GHG removals. Likewise, the activities proposed by the project are based on the management of local biodiversity (timber and non-timber forest management) and on already validated production systems (agroforestry and aquaculture), not considering the use of Genetically Modified Organisms under any circumstances. It would be counterproductive to violate the Moratorium Law (Law N ° 29811) promulgated on December 9, 2011, which establishes a moratorium on the entry and production of Living Modified Organisms in the national territory for a period of 10 years (2021).

## 5.2 Offsite Biodiversity Impacts

### 5.2.1 Negative Offsite Biodiversity Impact Mitigation (B2.2)

Within the framework of the REDD + strategy, two activities are carried out, these seek to minimize the pressure of resource within both PNAs and in their buffer zones, which are:

(1) Sustainable economic activities: In the buffer zone, the project "Reducing deforestation and promoting sustainable development in Madre de Dios" has been implemented, the project has installed 1304.85 hectares of agroforestry systems with fine aroma cocoa, recovering areas that they had been seriously degraded by migratory agriculture and livestock to transform them into biological micro-corridors that attract the surrounding fauna that serves as seed dispersers for the recovery of forest species in the area. At the same time, the 274 farmers who are part of the project have created their own agrarian cooperative (COOPERATIVA AGRARIA DE SERVICIOS MÚLTIPLES - COOPASER) which signed a conservation agreement with SERNANP because these lands recovered with agroforestry systems serve as a barrier live in front of the constant threat of being invaded by people who carry out illegal activities such as mining, logging, among others, thus avoiding the passage of these threats to the Tambopata National Reserve.

(2) Strengthening of the control and surveillance system: SERNANP has been supported with the hiring of park rangers and with the maintenance and implementation of surveillance and control (PVC) posts within the Tambopata National Reserve and the Bahuaja Sonene National Park for a better patrolling work by park rangers against certain illegal activities that could occur within the ANP (Annex 10)

Both activities implemented and executed by AIDER help to maintain biological diversity within the ANP and in its buffer zone, however, outside our area of action, conservation strategies are scarce, allowing deforestation, fragmentation, hunting, mining and other activities affect natural habitats and in turn the

biodiversity they harbor. For all these reasons, we can say that the work carried out by the project has a positive impact on the maintenance of biodiversity in controlled areas.

### 5.2.2 Net Offsite Biodiversity Benefits (B2.3)

During the development of the project Reducing deforestation and promoting sustainable development in Madre de Dios, 1304.85 hectares of agroforestry systems have been implemented to recover soils that were used to carry out two unfriendly activities such as livestock and extensive agriculture / monoculture, to the Once these areas recovered under the SAF with fine aroma cocoa, they have created microclimates, thus protecting the soil from direct sunlight, also allowing small species (mammals / rodents) and birds to remain in the area, using it as habitat, thus expanding the scope of use of the surrounding fauna and using the plots with SAF as biological micro-corridors, being of great relevance due to its proximity to the Tambopata National Reserve, the 1304.85 hectares of agroforestry plots installed from km 01 to km 93 in the section of the road Puerto Maldonado - Cusco and from km. 01 - 80 on the section of the Puerto Maldonado - Iberia highway serve as a living barrier against the latent threat of invasion by illegal miners, preventing them from entering the Tambopata National Reserve.

The production of organic cocoa contributes to the adaptation of climate change by avoiding desertification, protecting small bodies of water, regulating the climate and providing food to farmers, in this sense, farmers have been empowered through specific training (Annex 11 ) In each sector of the project developing their capacities for the sustainable management of their agroforestry plots, during 2019 12 training modules have been carried out in different sectors of the project area with the following topics:

- Preparation of inputs for organic production
- Fair trade criteria
- Organizational strengthening and neurofacilitators for worker managers and members of the cooperative.
- Soil analysis and cost structure in agriculture.
- Importance of forest species and background fertilization.
- Organic certification and environmental criteria for fair trade.

In ANPs, by patrolling park rangers as part of the control and surveillance system, early alerts are made to reduce risks and threats so that SERNANP can take measures to avoid or mitigate the probable causes of these, such as climate change, illegal mining, illegal hunting.

### 5.3 Biodiversity Impact Monitoring

#### 5.3.1 Biodiversity Monitoring Plan Development (B3.3)

Not applicable

#### 5.3.2 Biodiversity Monitoring Results (B3.1, B3.2)

Due to the Partial Administration Contract that AIDER has in the Project area, there is an Integral Comprehensive Monitoring System (SMI) that contemplates the biodiversity monitoring plan (Jaguar, River wolf, Maquisapa, Huangana, large macaws, among others) and human activities present in the ANP (hunting, fishing, tourism, mining, among others). It is a management document of the Tambopata National Reserve and the Bahuaja Sonene National Park, within the framework of the Administration Contract, and is part of the agreement between AIDER and Wildlife Conservation Society (WCS). This System was approved by the SERNANP by Resolution of the head of the Tambopata National Reserve No. 009-2013-SERNANP-JEF. Review (SMI-AIDER-2013 and Resolution No. 009-2013-SERNANP-JEF), finally we have a reference document to implement the actions of the CA: http://www.tambopata-bahuaja.info/publicaciones.html

En el año 2019 se inició el proceso de actualizar el SMI, según cada plan maestro de cada ANP, elementos ambientales e indicadores.

Based on this system, the biodiversity monitoring plan has been prepared, which is published on the CCB website: http://www.climate-standards.org/?s=tambopata so that it can be reviewed by everyone that is interested

While it is true that the results presented in this report correspond to the comprehensive monitoring system of the RNTAMB and the PNBS in the period of 2018, this includes all the information referred to in the monitoring plan published on the website, as well as additional information which is considered important for long-term biodiversity monitoring. It should also be noted that the comprehensive monitoring system is a dynamic model and is adapting to the expected results and needs of the ANP, so that activities are implemented or modified to respond to a greater number of indicators depending on, as It has been mentioned above, the objectives of the RNTAMB and the PNBS. In this sense, some indicators of the monitoring plan will be modified to the extent that they are considered to respond better to the objectives expected in the project, in accordance with the comprehensive monitoring system.

Para la elaboración del SMI 2019 se viene redactando y analizando datos, el mismo que será presentando la tercera semana de julio 2020.

For the 2019 period, monitoring activities were implemented according to the Comprehensive Monitoring System-SMI: a) Monitoring of biological diversity of species under conservation and b) Monitoring of the impact of economic activities (Annex 12).

**Table 14.** Conservation objects and indicators during the period January – December 2019

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| Jaguar (*Panthera onca*) | # of individuals sighted and evidence found per year | 23 | 50 | 5 | 12 | 17 | 30 | 47 | SERNANP | Direct count in routine patrols |
| | | - | - | - | - | 6 | 33 | 36 | Tour operators / guides | Wildlife sighting success sheet by guides |
| | | 10 | 29 | 30 | 28 | 59 | 42 | 33 | AIDER | Lineal transects |
| | Abundance: # of ind. sighted/km | 0.003 | 0.001 | 0.002 | 0.052 | 0.02* | 0.01 | 0.01 | AIDER | Lineal transects – relative abundance |
| | Density: # of jaguares/100km$^2$ | - | - | - | - | 19±25 ind/100km2 (long-term study) | | | AIDER/RFE/SD | Trap cameras |
| | Distribution área | 9/9 | 9/9 | 9/9 | 7/9 | 9/9* | 9/9 | 9/9 | RNTAMB/AIDER | Patrols and lineal transects |
| Giant otter (Pteronura brasiliensis) | Distribution: # of wáter bodies with giant otters | 5(de 9) | 7 (de 9) | 7(de 13) | 11(de 13) | 6(from13)* | 11 (from 13) | 6 (13) | SZF supported by AIDER | Giant otter population census |
| | # of sighted individuals per lake per year | Sandoval 8 | Sandoval: 6 | Sandoval: 7 | Sandoval: 6 | Sandoval: 9 | Sandoval:8 | Sandoval: 7 | SZF supported by AIDER | Counting directly |
| | | Sachavacayoc 0 | Tres Chimbadas: 5 | Tres Chimbadas: 2 | Tres Chimbadas: 6 | Tres Chimbadas: 8 | Tres Chimbadas:5 | Tres Chimbadas: 6 | | |
| | | | Cocococha: 7 | Cocococha: 5 | Cocococha: 7 | Cocococha: 6 | Río Chuncho: 8 | Río Palma Real: 2 | | |
| | | Tres Chimbadas 7 | | | | | Cocococha:9 | Cocococha: 10 | | |
| | | Cocococha 9 | | | | | Rio la Torre: 4 | Río la Torre: 0 | | |
| | # of evidence pf presence per year per lake | Cocococha 7 | Sandoval: 16 | Sandoval: 12 | - | Sandoval: 9 | Sandoval: 10 | Sandoval: 7 | SZF supported by AIDER | Counting directly |
| | | Tres Chimbadas 5 | Tres Chimbadas: 8 | Tres Chimbadas: 2 Cocococha: 11 | | Tres Chimbadas: 8 Cocococha: 6 | Tres Chimbadas: 5 Cocococha: 9 | Tres Chimbadas: 6 Cocococha: 10 | | |
| | | Sandoval 3 | Cocococha: 11 | | | Heath: 36 | Heath: 36 | Heath: AD | | |
| | # of cubs per yaer per lake | Sandoval 0 | Sandoval: 0 | Not reported | Not reported | Sandoval: 2 | Sandoval: 2 | Sandoval: 2 | SZF supported by AIDER | Counting directly |
| | | Tres Chimbadas 0 | Tres Chimbadas: 0 | | | Tres Chimbadas: 0 | Tres Chimbadas: 0 | Tres Chimbadas: 0 | | |
| | | Cocococha 0 | Cocococha: 0 | | | Cocococha: 3 | Río Chuncho: 3 | Río Chuncho: 3 | | |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Heath: AD | Cocococha: 2 | Cocococha: 2 | | |
| | | | | | | | Heath: 02 | Heath: AD | | |
| | # of individuals in groups sighted in Sandoval Lake | 8 | 6 | 7 | 6 | 9 | 8 | 7 | SZF supported by AIDER | Counting directly |
| | # sightings (groups, individuals and signs) in patrols | 22 | 33 | 6 | 5+ | 28 | AD | 19 | RNTAMB | Patrols - Counting directly |
| Spider monkey (Ateles chamek) | # of sampling locations with sighting of maquisapa/year | 0 | 2 (8) | 3 (9) | 2 (7) | 7 (9) | 8(11) | 2(11) | RNTAMB/AIDER | Routine patrols and lineal transects |
| | # of maquisapa groups sighted | 0 | 0 | 3 | 1 | 4 | 8(11) | 1 | RNTAMB | Patrols – Counting directly of groups |
| | # of individuals by average groups per year | 0 | 0 | 7.3 | 3 | 5.5 | 3.5 | 9 | RNTAMB | Patrols – Counting directly of individuals |
| | Abundance: # of groups sighted/km of transect sampled per year | 0 | 0.006 | 0.03 | 0.004 | 0.05 | 0.004 | 0.03 | AIDER | Lineal transects – Relative abundance |
| | | - | - | - | - | 0.45±0.57 | AD | AD | AIDER | Lineal transects – Relative abundance (Ind/10km) |
| | Abundance: # average individuals/group | 0 | 3.5 | 4.3 | 3 | 5.6 | 3.1 | 9 | AIDER | Lineal transects – Relative abundance |
| | Density: # of individuals / $km^2$ per location per year | - | - | - | - | - | - | Does not apply ( detections are <10-40 registers) | AIDER | Lineal transects – Distance software |
| Harpy Eagle and Crested Eagle (Harpia harpyja & Morphnus guianensis). | # of harpy eagle nests found per year | - | - | - | - | - | - | - | RNTAMB, Brasil nuts, others | Directly count of nests (actives and inactives) |
| | # of sightings of Harpy Eagle and Crested Eagle individuals per | 5 | 6 | 1 | 3* | 5 | 5 | 7 | RNTAMB | Patrols – Counting directly - Tourist guides |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| | year | 1 | 1 | 2 | 2 | 1 | 2 | 3 | AIDER | Lineal transects |
| Guacamayos (*Primolius couloni, Ara ararauna, A. macao y A. chloropterus*) | Distribution area: # of localities with sightings of macaws (P. couloni and A. spp.) | - | 8 (de 8) | 9 (de 9) | 8 (de 8) | PRCO (5/10)<br>ARAR (10/10)<br>ARCH (10/10)<br>ARMA (10/10) | PRCO (6/16)<br>ARAR (16/16)<br>ARCH (16/16)<br>ARMA (16/16) | PRCO (8/16)<br>ARAR (16/16)<br>ARCH (16/16)<br>ARMA (16/16) | AIDER | Lineal transects |
| | Average # of individuals sighted in key licks per year | - | P. couloni: 3.36 | P. couloni: 2.02 | *P. couloni: 0 | **Chuncho**: ARCH= 46.8, ARAR= 37.4, ARMA= 51.7, PRCO=2.1 | **Chuncho:** ARCH= 139.4, ARAR= 116.2, ARMA= 108.1, PRCO=4.5 | **Chuncho:** ARCH= 49.9, ARAR= 30.4, ARMA= 47.1, PRCO=1.6 | Clay lick monitoring CA* / Macaw project | Counting directly including largest macaws (*Ara)* |
| | | - | A. ararauna: 3.23 | A. ararauna: 3.48 | A. ararauna: 11 | **Heath**: ARCH= 105.4, ARAR= 1.2, ARMA= 0.2 PRCO= 0 | **Heath**: ARCH= 113.9, ARAR= 1.3, ARMA= 0, PRCO= 0 | **Heath**: ARCH= 100.8, ARAR= 1, ARMA= 0, PRCO= 0 | | |
| | | - | A. chloropterus: 3.23 | A. chloropterus: 3.84 | A. chloropterus: 66.25 | **Sandoval**: ARCH= 0, ARAR= 53.1 ARMA= 1.2, PRCO= 0 | **Sandoval:** ARCH=0.3, ARAR= 66.4, ARMA= 2, PRCO= 0 | **Sandoval:** ARCH=0, ARAR= 31.7, ARMA= 1.4, PRCO= 0 | | |
| | | - | A. macao: 3.3 | A. macao: 3.94 | A. macao: 8.83 | **Colorado Claylick: Pending to report.** | **Colorado claylick:** Pending to report. | **Colorado claylick:** Pending to report. | | |
| | # of individuals sighted per year | - | A. ararauna: 2247 | A. ararauna: 366 | A. ararauna: 132 | ARAR: 625 | ARAR: 1051 ( Pr: 4.7) | ARAR: 1073 ( Pr: 2.2 ) | CA-AIDER SERNANP | Patrols – Counting directly |
| | | - | A. macao: 670 | A. macao: 114 | A. macao: 106 | ARCH: 399 | ARCH: 515 (Pr: 3.5) | ARCH: 977 (Pr: 2 ) | | |
| | | - | A. chloropterus: 1341 | A. chloropterus:116 | A. chloropterus:795 P. | ARMA:294 | ARMA:436 (Pr: 4.1) | ARMA:527 (Pr: 1.1 ) | | |
| | | - | P. couloni: 22 | P. couloni: 30 | couloni: 0 | PRCO: 0 | PRCO: 29 (Pr: 0.9) | PRCO: 68 (Pr: 0.1 ) | | |
| | Annual registration of the presence of macaws (P. couloni) | - | 180 | - | - | PRCO: 18 ind/5 registers | PRCO: 30 ind/9 registers. ARAS (largest macaws): 1634 ind/22 regiters. | PRCO: 364 ind/42 registers. ARAS (largest macaws)5408 ind/346 regiters. | Operators located within the RNTAMB (at least) RFE, Sandoval, Explorer´s Inn | Presence registration. Including other Ara |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | and Inkaterra. | |
| | Abundance: average # of individuals per point per year | - | Similar to average # of individuals sighted in key clay licks per year | Similar to average # of individuals sighted in key clay licks per year | Similar to average # of individuals sighted in key clay licks per year | Similar to average # of individuals sighted in key clay licks per year | ARAR = 3.5, ARCH = 0.7, ARMA = 1.3, PRCO = 0.2 No data available for Colorado claylick | ARAR = 2.8, ARCH = 0.7, ARMA = 1.4, PRCO = 0.1 No data available for Colorado claylick | AIDER Macaw project | For 2018, the abundance index is shown in 10 km traveled, with a confidence interval of 95%. Linear transects. |
| Alluvial, hilly and terrace forests | Degradation: # tons of carbon released by degradation | 2012 - 2013 (0 tons co2 -e) | 2013-2014 (0 tons co2 -e) | 2014-2015 (0 tons co2 -e) | 2015-2016 (6842 tons co2 -e) | 2016-2017 (6842 tons co2 -e) | 2016-2017 (6842 tons co2 -e) | 2018-2019 (6842 tons co2 -e) | AIDER | Remote sensing and field validation |
| | # of hectares deforested annually by forest type | **2012-13 mixed swamp: 0 floodplain alluvial: 0 strong high hill: 0 soft high hill: 0 Strong low hill: 0 soft low hill high terrace: 0 low terrace: 0 strong dissected terrace: 0 soft dissected terrace: 4.44 Total: 4.44** | **2013 - 14 mixed aguajal: 0 floodplain alluvial: 0 strong high hill: 0 soft high hill: 0 Strong low hill: 0 soft low hill high terrace: 0 low terrace: 0 strong dissected terrace: 0 soft dissected terrace: 5.2 Total: 5.2** | **2014-15 mixed aguajal: 0 floodplain alluvial: 0 strong high hill: 0 soft high hill: 0 Strong low hill: 0 soft low hill high terrace: 0 low terrace: 0.2 strong dissected terrace: 0.3 soft dissected terrace: 19.5 Total: 32**.3 | **2015 -16 Mixed aguajal: 0.07 Low terrace 347.5 Soft dissected terrace: 23.9 High terrace: 1.02 Strong dissected terrace: 1.10 Tropical savanna: 0.37 Flood floodplain: 99.6 Gaps: 9.7 Rivers: 75.5 Agricultural activity / Secondary forest: 12.5 Total: 571.18** | **2016-2017 Mixed aguajal: 0.0 Low terrace: 54.06 Soft dissected terrace: 1.24 High terrace: 0.0 Strong dissected terrace: 0.0 tropical savanna: 0.0 Flood alluvial: 48.42 Lagoons: 0.0 Rivers: 15.92 Agricultural activity / Secu Forest *: 0.21 Total: 119.85** | **2017-2018 Mixed aguajal: 0.0 Low terrace: 64.67 Soft dissected terrace: 29.89 High terrace: 0.0 Strong dissected terrace: 6.22 tropical savanna: 0.0 Flood alluvial: 43.76 Lagoons: 0.0 Rivers: 51.72 Agricultural activity / Dry forest *: 1 , 36 Total: 197.62** | 2019 Aguajal mixto: 0.0 Terraza baja: 6.967 Terraza disectada suave: 9.679 Terraza alta: 0.810 Terraza disectada fuerte: 0.0 Sabana tropical: 0.0 Aluvial inundable: 3.772 Lagunas: 0.354 Ríos: 0.574 Actividad agropecuaria/Bosque secu*: 0.515 Total: 22.67 | AIDER | Remote sensing and field validation |
| Brazil nut forest | # of dead trees reported per year within the terraced forest | | - | - | - | 56 | 128 | - | RNTAMB Brazil nut gatherers | Direct observations and reports to park rangers |
| | # of Brazil nut trees killed per year | | - | - | - | 26 | - | 38 | a. RNTAMB b. Brazil nut gatherers (ASCART 1 y 2) | a. Inspection, every time there is a complaint. b. Report to park ranger |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| Pampas del Heath | Annual surface: # ha of pampas. | 4332.42 | 4261.86 | 4226.56 | 5374.09 | 4459.39 | 5,373.30 | 5391,69 | AIDER | Remote sensing and GIS. |
| | # of hot spots from fires per year. | 4 | 0 | 0 | - | 22 | 6 | 7 | AIDER | Remote sensing and GIS. |
| | # of ha of pampas traced back per year. | -1209.87 | -70.56 | 198.83 | 859.09 | -65.76 | 119.28 | 18.39 | AIDER | Remote sensing and GIS. |
| Clay licks | # Claylicks in activity affected by some human action (tourism, agriculture, land use, etc) | 4 (Chuncho, Heath, Sandoval y Colorado) | 4 (Chuncho, Heath, Sandoval y Colorado) | 4 (Chuncho, Heath, Sandoval y Colorado) | 4 (Chuncho, Heath, Sandoval y Colorado) | 4 (Chuncho, Heath, Sandoval y Colorado) | 4 (Chuncho, Heath, Sandoval y Colorado) | 4 (Chuncho, Heath, Sandoval y Colorado) | AIDER with support of Macaw project | Direct observation - Characterization of each clay lick. |
| | Average # of individuals sighted in key clay licks per year | - | Wealth: 21 Individuals: 134 Simpson_1-D: 0.8604 Shannon_H: 2.442 | Wealth: 21 Individuals:150 Simpson_1-D: 0.8889 Shannon_H: 2.577 | Wealth: 21 Individuals:9195 Simpson_1-D: 0.882 Shannon_H: 2.377 | **Wealth:** Chuncho:18 Heath:22 Sandoval:14 Total: 24 **Individuals:** Chuncho: 93.87 Heath: 140.72 Sandoval: 105.76 Total: 336 **Simpson_1-D:** Chuncho: 0.88 Heath: 0.85 Sandoval:0.56 Total: 0.88 **Shannon_H:** Chuncho: 2.30 Heath: 2.21 Sandoval: 1.3 Total: 2.48 | **Wealth:** Chuncho:16 Heath:19 Sandoval:15 Total: 23 **Individuals Average:** Chuncho: 378.5 Heath: 425.7 Sandoval: 263.9 Total: 347 **Simpson_1-D:** Chuncho: 0.85 Heath: 0.85 Sandoval:0.66 Total: 0.90 **Shannon_H:** Chuncho: 2.13 Heath: 2.14 Sandoval: 1.54 Total: 2.55 | **Wealth:** Chuncho:19 Heath:17 Sandoval:14 Total: 23 **Individuals Average:** Chuncho: 348.6 Heath: 472 Sandoval: 156 Total: 325.5 **Simpson_1-D:** Chuncho: 0.77 Heath: 0.86 Sandoval:0.68 Total: 0.88 **Shannon_H:** Chuncho: 1.87 Heath: 2.15 Sandoval: 1.62 Total: 2.41 | CA-AIDER* / Macaw project (Colorado clay lick data is not included) | Direct counting of large Ara in clay licks and record of other birds present in the area. |
| | Presence / absence of mammals in key clay licks annually | Maquisapa, Coto mono, Venado colorado, Añuje, | Not reported | Not reported | Tapir at chuncho clay lick. | Tapir at chuncho clay lick. | Not reported | Capybara, coto mono at Chuncho clay lick | Macaw project | Mammal presence record, noting sighted species |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Puercoespin Ronsoco, Huangana | | | | | | | | |
| | Presence / absence of human activities in clay licks found per year | Chuncho: Turism | Chuncho: Turism | Chuncho: Turism | Chuncho: Turism | Chuncho: Turism | Chuncho: Turism | Chuncho: Turism | AIDER with supported by Macaw project, RNTAMB | Record of presence of human activity, noting type of activity |
| | | Heath: Turism | Heath: Turism | Heath: Turism | Heath: Turism | Heath: Turism | Heath: Turism | Heath: Turism | | |
| | | Sandoval: Turism | Sandoval: Turism | Sandoval: Turism | Sandoval: Turism | Sandoval: Turism | Sandoval: Turism | Sandoval: Turism | | |
| | | Colorado: Turism | Colorado: Turism | Colorado: Turism | Colorado: Turism | Colorado: Turism | Colorado: Turism | Colorado: Turism | | |
| Brazil nut | # of dead Brazil nut trees per year | - | - | - | - | 26 | 129 | 38 | RNTAMB & Brazil nut gatherers | a. Inspection, every time there is a complaint. b.Report to the park ranger |
| | # of seedlings (10cm - 10m tall) of chestnut per ha | - | - | 10 | - | 95* | 16 (PPC) 89 (Gatherers report) | 23 (PPC); 19 (Gatherers report) | AIDER Gatherers | Permament samples- PPC Harvest report (Gatherers) |
| | Annual Brazil nut production reported in the PCV | 244860 kg. | 334568 kg / | 346688 kg / | 117580 kg / | 25670.0 kg/peeled | 135250 kg/peeled | 54280 kg/peeled | RNTAMB | Registered at PVC |
| | | | 4460.91 barrica | 4622.5 barrica | 5879 barrica | 1283.5 barricas | 6762.5 barricas | 2714 barricas | | |
| | Abundance: # of individuals of añuje sighted for each km walked by locality per year | San Antonio: 0.07 | San Antonio: 0 | San Antonio: 0.02 | San Antonio:0.15 | Jorge Chávez:0.22 | AD | Total: 0.058 | AIDER | Lineal transects - Relative abundance |
| | | Huisene: 0.28 | Huisene: 0.13 | Huisene: 0.05 | Huisene:0.24 | Huisene:0.23 | AD | AD | | |
| | | Briolo: 0.19 | Briolo: 0.13 | Briolo: 0.06 | Sandoval:0.24 | Sandoval 0.20 | AD | AD | | |
| | | Sandoval: 0.22 | Sandoval: 0.09 | Sandoval: 0.05 | Briolo:0.17 Jorge Chávez:0.77 | San Antonio 0.13 | AD | AD | | |
| | | Jorge Chávez: 0.04 | Jorge Chávez: No se evaluó | Jorge Chávez: 0.03 | | Briolo 0.10 | AD | AD | | |
| | Density: # of individuals per km2 per location per year added | 39.659 ind/km$^2$ | 5.2573 ind/km$^2$ | 19.673 ind/km$^2$ | 13.202 ind/km$^2$ | 8.9 ind/km$^2$ | AD | AD | AIDER | Linear Transects - Distance |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| White lipped peccary(Tayassu pecari) | # of herds sighted per year | 29 | 34 | 15 | 17 | 11 | 2 | 2 | RNTAMB/AIDER | Patrols / Lineal transects - Direct count |
| | | - | - | - | - | - | 13 | 4 | RNTAMB/guides | Wildlife sighting success sheet by guides |
| | # of sampling locations with sighting of peccaries per year | 9 (de 9) | 8 (de 8) | 9 (de 9) | 8 (de 9) | 1 (de 10) | 8 (de 13) | 7(de 13) | AIDER | Lineal Transects / Sighting success sheet for guide / patrols. |
| | Abundance: # of groups sighted per km of sampled transect per year | 0.09 groups/km | 0.02 groups/km | 0.02 groups/km | - | 0.001 groups/km | 0.008 groups/km | AD | AIDER | Lineal transects |
| | Abundance: # of individuals sighted per km of sampled transect per year | 0.39 ind./km | 0.44 ind./km | 0.38 ind./km | 0.083 ind/km | 0.05 ind/km | AD | 0.011 ind/km | AIDER | Lineal transects |
| | # of individuals per group | - | 26.75 ind. /group | 23.5 ind. /group | - | 26 ind/group | 19.6 ind/group | 9 ind/group | AIDER | Lineal transects |
| | Density: # of individuals per km2 per location per year | - | - | 169.19 ind/km$^2$ | NA | NA | Does not apply, shows detections <20 records | Does not apply, shows detections <20 records | AIDER | Lineal transects – Distance software |
| | # of huanganas hunted per year | 87 | 37 | 21 | 211 | 13 | 7 | 0 | RNTAMB | Hunting and fishing log from PVC |
| | | | | | | | | 14 | RNTAMB | Harvest report (Brazil nut trees) |
| Wetlands, rivers and aguajales | # bodies of water with the presence of giant otters | 5 (from 9) | 7 from 9 | 7 from 13 | 11(from 13) | 6(from 13)* | 11 (from 13) | 6 (from 13) | SZF with AIDER support | Population census |
| | # of individuals (adults and offspring) sighted per year per lake | - | Sandoval: 6 Tres Chimbadas: 5 Cococha: 7 | Sandoval: 7 Tres Chimbadas: 2 Cococha: 5 | Sandoval: 6 Tres Chimbadas: 6 Cococha: 7 | Sandoval: 6 Tres Chimbadas: 6 Cococha: 7 | Sandoval: 6 Tres Chimbadas: 6 Cococha: 7 | Sandoval: 7 Tres Chimbadas: 6 Cococha: 10 | SZF supported by AIDER | Counting directly |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| Actividad agropecuaria | Estimation of the level (mild, severe, death) of diseases in domestic animals | - | mild | mild | mild | mild | mild | mild | To be defioned | Visual evaluation, interviews. |
| | # of hot spots by fires per year | 4 | 0 | 20 | 53 | 57 | 24 | 57 | AIDER | Remote sensing and GIS |
| | # of Brazil nut individuals in production affected by burning or logging for agricultural purposes | - | - | - | - | - | - | - | a. RNTAMB b.Brazil nut gatherers (ASCART 1 y 2) | Inspection, every time there is a complaint |
| | # head of cattle per property within the RNTAMB (average) | - | 36.4 | 36.4 | 36.4 | 49.6 | 56.7 | 56.7 | AIDER | Interviews with cattle owners |
| | # of farms with cattle inside the RNTAMB | - | 14 | 14 | 14 | 14 | 10 | 10+ | AIDER | Interviews with cattle owners |
| Illegal logging | # of hectares deforested annually by forest type | - | - | - | - | See chart 20 (SMI, 2017) | See chart. 18 (SMI 2018) | AD | AIDER | |
| | Degradation: # tons of carbon released by degradation | - | - | - | - | See chart 20 (SMI, 2017) | See chart. 18 (SMI 2018) | 2016-2017 (6842 tons CO2 -e) | AIDER | |
| | # of illegal logging records in patrols per year | 31 | 67 | 32 | 68 | 57 | 36 | 16 | RNTAMB | Inspection during patrols |
| | # of interventions carried out per year | 4 | Not registered | Not registered | - | 20+ | 5 | 3 | RNTAMB | Intervention of illegal activities (logging) during patrols |
| | # of board feet of illegally wood logged per year | 19585 | 15600 | 35300 | 25976 | 50737.7 | 15500 | 427 | RNTAMB | Record: # illegally cut board feet found in patrols and interventions |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| | # of illegal forest access roads in the year | 9 | 20 | 2 | 04 RNTAMB; 01 PNBS. | 4+ | 5 | 1 | RNTAMB & AIDER | Inspection during patrols (logging). |
| Mining | # ha of mining activity in key areas per year (Management partial Contract) | 0 | 0.36 | 84.51 | 281.32 | 937.89 | 223.96 | 6.967 | AIDER | Remote sensing and GIS. Same method of analysis for deforestation |
| | # of mining concessions formalized / year | 0 | 0 | 0 | - | 0 | 0 | 0 | AIDER & RNTAMB | Registration of concessions in the field |
| | Surface (ha) of mining concessions in the area of the CA | 3641.32 | - | - | 2038.65 | 0 | 0 | 0 | AIDER | Remote sensing and GIS |
| | # of illegal forest access roads found in the year | 4 | 0 | 1 | - | 4(*) | 4 | 2 | RNTAMB & AIDER | Inspection during patrols (mining) |
| | # of miners using the different gold extraction methods in the ZA | - | - | - | - | - | Activity is not allowed | Activity is not allowed | RNTAMB | Routine and special patrols and review of patrol reports |
| Hunting and fishing | Fish size by species (measured in PVC) | No data taken | No data taken | No data taken | No data taken | No data taken | No data taken | No data taken | RNTAMB | Park rangers measure fish at checkpoints and record the number of individuals and species |
| | # of individuals hunted and or fish / species by commoner | - | See report SMI 2014 | See charts 30 y 31 | See chart 29 y 30 | Chart. 37-38 & Fig. 53-54 (SMI 2017) | Fig. 71 & 72 (SMI 2018) | Fig. 1 (Annex 5) | RNTAMB | Record in PVC occurrence notebook |
| | Hunting index by locality | - | San Antonio: 19.5 | San Antonio: 3 | - | - | - | - | RNTAMB | Record in PVC occurrence notebook |
| | | | Huisene: 11.5 | Huisene: 4 | | | | | | |
| | | | Briolo: 5.5 | Briolo: 4 | | | | | | |
| | | | La Torre: 7 | La Torre: 3 | | | | | | |
| | | | Malinowski: 2 | Malinowski: 3 | | | | | | |

| Conservation object | Indicator | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | Responsable | Methodology |
|---|---|---|---|---|---|---|---|---|---|---|
| | # of disturbed taricaya nests around the communities of Palma Real, Heath and Sonene | - | No data | 14 nests | - | 5 (High Tambopata area) | 5 | AD | RNTAMB | Census during special patrols and PCV record of occurrences |
| Wildlife-human conflict | # of wildlife-human conflict incidents | - | 57 | | 3[1] | 7 | Not reported | 3 | AIDER | Community member surveys in selected communities |
| Turism | % of lodges authorized by DIRCETUR | - | 100% | 100% | 100% | 100% | 100% | 100% | RNTAMB | Interviews and supervision of lodges |
| | % of operators sanctioned or observed for not complying with measures to minimize and mitigate their impacts | - | 0% | 0% | 0% | 0% | 0% | 0% | RNTAMB | Interviews and supervision of lodges |
| | % of lodges that have solid waste and effluent management systems in place | - | 100% | 100% | 100% | 100% | 100% | 100% | RNTAMB | Interviews and supervision of lodges |
| | % of compliance with management instruments | - | 100% | 100% | 100% | 100% | 100% | 100% | RNTAMB | Supervision of the touristic activity at clay licks and lakes |
| | # of individuals sighted by lake per year | Reported in the SMI-2016. | | | | See chart 16 (SMI 2017) | Annex LR | Annex 2 | SZF supporting by AIDER | Counting directly |
| | # clay licks in activity affected by some human action (tourism, agriculture, land use, etc) | Reported in the SMI-2016. | | | | None | None | None | AIDER supporting by Macaw project | Direct observation - Characterization of each clay lick. |

[1] A change in the indicator is reported as Brazil nut peeled by kilogram, and for the other years it was in kg with peel.

AD= Analyzing data, to be presented at SMI 2019 (July)

### 5.3.3 Monitoring Plan and Results Dissemination (B3.3)

For the next year 2019, the following activities were carried out in the component of biodiversity and monitoring of human activities:

- VIII Symposium on Biological Research and Monitoring in Natural Protected Areas and Conservation Corridors, Madre de Dios: Within the framework of the activities programmed for the XIX Anniversary of the Tambopata National Reserve, the eighth edition of the Biological research and monitoring Symposium took place on September 25, 26 and 27 of this year in the central auditorium of the National Amazonian University of Madre de Dios - UNAMAD. The event had four themes: 1) Biological monitoring 2) Brazil nut 3) Ecotourism and applied research, and 4) Mining, the event had 363 atendees among university students and professionals from different disciplines who were interested in knowing results of Research that is being carried out within Protected areas and biological corridors at regional and national level.

- Strategy Forum on Biological Diversity of the Madre de Dios Region: Activity developed on September 27, in the main auditorium of UNAMAD, led by the Regional Management of Natural Resources and Environmental Management-GRRNGMA of the Regional Government of Madre de Dios-GOREMAD, AIDER / SERNANP, FZS, ACCA, MINAM and other institutions participated in this activity. Lic. Julio Loayza, who facilitated, also participated in the GRRNGMA, as well as presentations on the progress of the NGOs that feed the Biological diversity strategy.

- I Symposium "Knowing the conservation status of the jaguar (Panthera onca) in Madre de Dios": Event held in the city of Puerto Maldonado, on December 6, the event proposal and its challenges implemented a new effort for the conservation of the jaguar and the management of its ecological corridors, to achieve greater well-being for the Tambopata National Reserve, its buffer zone and the human communities in Madre de Dios. Thus strengthening the objectives of the Jaguar 2030 Plan: sustainable development, conflict reduction and landscape connectivity, in regional situations with contribution to the country

## 6 ADDITIONAL PROJECT IMPLEMENTATION INFORMATION

There is no additional information

## 7 EXCEPTIONAL BIODIVERSITY BENEFITS

In the RNTAMB wildlife-human conflict of the species Jaguar (Panthera onca), river wolf (Pteronura brasiliensis), maquisapa (Ateles chamek) and huangana (Tayassu pecari) are species that in the past have suffered hunting pressure . That is why these species are behavioral sensitive to human presence. Within the RNTAMB and the PNBS, the presence of these species is permanently monitored, with a control and surveillance program established by the SERNANP and there are monitoring programs to

monitor their populations. All this within the framework of the Administration Contract on the components of research and biological monitoring conducted by AIDER on these protected areas.

Below, the data obtained for these species is presented during the framework of the comprehensive monitoring system:

Vulnerable Species (VU) - presence of at least 30 individuals or 10 pairs
Categorized fauna species are listed in the project area according to their state of conservation at the national level, collated with CITES sources, Red List (IUCN), Suppression Decree 04-2014-MINAGRI and Red Book of the Endangered Wild Fauna of Peru (SERFOR 2018).

| Common name | Scientific name | Class | ANP | | Presence in the project | Master plan | Conservation state | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | RNTAMB | PNBS | | | IUCN (Red List) | CITES | DS 014-2014-Perú | Others | |
| **Object of conservation species** | | | | | | | | | | | |
| Jaguar | *Panthera onca* | Mammals | X | X | X | PM PNBS 2015-2019 / PM RNTAMB 2019-2023 | NT | I | NT | | Excluded in the new master plan |
| Maquisapa | *Ateles chameck* | Mammals | | X | X | PM PNBS 2015-2019 | EN | II | EN | | |
| Nutria | *Lontra longicaudis* | Mammals | | X | X | PM PNBS 2015-2019 | NT | I | | | |
| Lobo de rio | *Pteronura brasiliensis* | Mammals | X | X | X | | EN | I | EN | EN (libro rojo) | |
| Guacamayo boliviano | *Ara ararauna* | Birds | X | | X | | LC | II | | | |
| Guacamayo escarlata | *Ara macao* | Birds | X | | X | | LC | I | NT | NT (libro rojo) | |
| Guacamayo peruano | *Ara chloropterus* | Birds | X | | X | | LC | II | NT | NT (libro rojo) | |
| Águila arpía | *Harpia harpyja* | Birds | X | X | X | SMI RNTAMB Y PNBS | NT | I | | VU (libro rojo) | |
| Guacamayo cabeza azul | *Primolius couloni* | Birds | X | X | X | SMI RNTAMB Y PNBS | VU | I | | VU (libro rojo) | |
| Ciervo de los pantanos | *Blastocerus dichotomus* | Mammals | | X | X | | | | | | |
| Lobo de crin | *Chrysocyon brachyurus* | Mammals | | X | X | | | | | | |
| **Game species** | | | | | | | | | | | |
| Venado colorado | *Mazama americana* | Mammals | X | X | X | PM RNTAMB 2019-2023/ PM PNBS 2015-2019 | DD | | DD | DD (libro rojo) | |
| Sachavaca | *Tapirus terrestris* | Mammals | X | | X | PM RNTAMB 2019-2023 | VU | II | NT | NT (libro rojo) | |
| Pava | *Penelope jacquacu* | Mammals | X | | X | PM RNTAMB 2019-2023 | LC | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Huangana | *Tayassu pecari* | Mamífero | X | X | X | PM RNTAMB 2019-2023/ PM PNBS 2015-2019/ SMI RNTAMB Y PNBS | VU | II | NT | NT (libro rojo) | |
| Picuro | *Cuniculus paca* | Mamífero | | X | X | PM PNBS 2015-2019 | LC | III/w | | | |
| Sajino | *Tayassu tajacu* | Mamífero | | X | X | PM PNBS 2015-2019 | LC | II | | | |
| **Use of eggs, fishes, etc** | | | | | | | | | | | |
| Taricaya | *Podocnemis unifilis* | Reptil | | X | X | PM PNBS 2015-2019 | VU | II | | | |
| Paco | *Piaractus brachypomus* | Peces | X | X | X | PM RNTAMB 2019-2023/ PM PNBS 2015-2019 | | | | | |
| Doncella | *Pseudoplatystoma punctifer* | Peces | X | | X | PM RNTAMB 2019-2023 | | | | | |
| Boquichico | *Prochilodus nigricans* | Peces | X | | X | PM RNTAMB 2019-2023 | | | | | |
| Sabalo | *Acestrocephalus falcatus* | Peces | X | | X | PM RNTAMB 2019-2023 | | | | | |
| Zungaro | *Zungaro zungaro* | Peces | | X | X | PM PNBS 2015-2019 | | | | | |
| **Species of interest for the CA and ANP (jaguar dams and others)** | | | | | | | | | | | |
| Achuñe | *Nasua nasua* | Mamífero | | | X | | LC | | | | |
| Manco | *Eira barbara* | Mamífero | | | X | | LC | III/w | | | |
| Puma | *Puma concolor* | Mamífero | | | X | | LC | II | NT | NT (libro rojo) | |
| Mapache | *Procyon cancrivorus* | Mamifero | | | X | | LC | | | | |
| Chozna | *Potos flavus* | Mamifero | | | X | | LC | III/w | | | |
| Armadillo | *Dasypus novemcinctus* | Mamifero | | | X | | LC | | | | |
| Oso bandera | *Myrmecophaga tridactyla* | Mamifero | | | X | | VU | II | | VU (libro rojo) | |
| Armadillo peludo | *Cabassous unicinctus* | Mamifero | | | X | | LC | | | | |
| Tamandua | *Tamandua tetradactyla* | Mamifero | | | X | | LC | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Yungunturo | *Priodontes maximus* | Mamifero | | | X | | VU | I | | VU (libro rojo) | |
| P. de dos dedos | *Choloepus didactylus* | Mamifero | | | X | | LC | | | | |
| Serafin | *Cyclopes didactylus* | Mamifero | | | X | | LC | | | | |
| Coto | *Alouatta sara* | Mamifero | | | X | | LC | | | | |
| Martin negro | *Sapajus macrocephalus* | Mamifero | | | X | | LC | II | | | |
| Martin blanco | *Cebus cuscinus* | Mamifero | | | X | | NT | II | | | |
| P. de tres dedos | *Bradypus variegatus* | Mamifero | | | X | | LC | II | | | |
| Pichico | *Leontocebus weddellii* | Mamifero | | | X | | | | | | |
| Musmuqui | *Aotus nigriceps* | Mamifero | | | X | | LC | II | | | |
| Fraile | *Saimiri boliviensis* | Mamifero | | | X | | LC | II | | | |
| Tocon | *Plecturocebus toppini* | Mamifero | | | X | | | II | | | |
| Ocelote | *Leopardus pardalis* | Mamifero | | | X | | LC | I | | | |
| Yaguaroundi | *Puma yagouaroundi* | Mamifero | | | X | | | | | | |
| Huamburusho | *Leopardus wiedii* | Mamifero | | | X | | NT | I | DD | DD (libro rojo) | |
| Perro de monte | *Speothos venaticus* | Mamifero | | | X | | NT | I | | | |
| Perro de orejas cortas | *Atelocynus microtis* | Mamifero | | | X | | NT | | | VU (libro rojo) | |
| Venado cenizo | *Mazama nemorivaga* | Mamifero | | | X | | LC | | | | |
| Ardilla roja | *Sciurus spadiceus* | Mamifero | | | X | | LC | | | | |
| Ardilla gris | *Sciurus ignitus* | Mamifero | | | X | | LC | | DD | DD (libro rojo) | |
| Picuromama | *Dinomys branickii* | Mamifero | | | X | | LC | | | VU (libro rojo) | |
| Añuje | *Dasyprocta punctata* | Mamifero | | | X | | LC | | | | |
| Ronsoco | *Hydrochaeris hydrochaeris* | Mamifero | | | X | | LC | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Punchana | *Myoprocta-pratti* | Mamifero | | | X | | LC | | | | |
| Erizo | *Coendou bicolor* | Mamifero | | | X | | LC | | | | |
| Mono choro | *Lagothrix lagotricha* | Mamifero | | | X | | VU | | EN | EN | |
| Murciélago de orejas amarillas | *Vampyressa melissa* | mamifero | | | X** | | VU | | VU | | |
| Motelo | *Geochelone denticulata* | Reptil | | | X | | VU | | VU | | |
| **Bioindicator birds species** | | | | | | | | | | | |
| Ganso del orinoco | *Neochen jubata* | Aves | | | | | NT | | | VU (libro rojo) | |
| Pato de monte | *Cairina moschata* | Aves | | | X | | LC | III/w | | | |
| Pava campanilla | *Pipile cumanensis* | Aves | | | X | | LC | | NT | NT (listo rojo) | |
| Paujil | *Mitu tuberosum* | Aves | | | X | | LC | | NT | NT (listo rojo) | |
| Paujil de sira | *Pauxi unicornis* | Aves | | | X | | CR | | CR | CR (listo rojo) | |
| Condor de la selva | *Sarcoramphus papa* | Aves | | | X | | LC | III | | | |
| Aguila espizaetus | *Spizaetus tyrannus* | Aves | | | X | | LC | II | | | |
| Aguila crestada | *Morphnus guianensis* | Aves | | | X | | NT | II | | VU (libro rojo) | |
| Trompetero | *Psophia leucoptera* | Aves | | | X | | NT | | | | |
| Chirricle | *Pionites leucogaster* | Aves | | | X | | EN | II | | | |
| Aurora pequeña | *Amazona ochrocephala* | Aves | | | X | | LC | | | | |
| Aurora arinosa | *Amazona farinosa* | Aves | | | X | | NT | II | | | |
| Maracana | *Ortapcittaca manilata* | Aves | | | X | | | | | | |
| Guacamayo militar | *Ara militaris* | Aves | | | X | | VU | | | VU | |
| Guacamayo de frente castaña | *Ara severus* | Aves | | | X*** | | LC | II | | | |
| **Flora** | | | | | | | | | | | |
| Tornillo | *Cedrelinga* | Plantas | | X | X | PM PNBS | LC | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *cateniformis* | | | | | 2015-2019 | | | | | |
| Aguaje | *Mauritia flexuosa* | Plantas | X | | X | | | | | | |
| Ungurahui | *Oenocarpus bataua* | Plantas | X | | X | | | | | | |
| Tamshi | *Heteropsis linearis* | Plantas | X | | X | | | | | | |
| Palmiche | *Geonoma deversa* | Plantas | X | | X | | | | | | |
| Castaña | *Bertholletia excelsa* | Plantas | X | X | X | PM PNBS 2015-2019 / SMI RNTAMB Y PNBS | VU | | | | |

(1) https://www.serfor.gob.pe/wp-content/uploads/2016/09/DS-N004-Especies-amenazadas-de-fauna-silvestre.pdf
(2) https://www.serfor.gob.pe/wp-content/uploads/2018/10/Libro-Rojo.pdf
*There are records of three Tinamus species; T. major, T. tao and T. sp. This undetermined species is probably T. osgoodi.
**Species distributed only up to Pilcopata in Manu National Park (Zamora, 2014 pers. Comm.)
***Species restricted to the eastern slopes of the Andes and isolated mountain chains between 600 and 1500 meters above sea level. (Schulenberg et. Al. 2010).

Appendix :

Annex 1: FREL submission Peru modified
Annex 2: REDD nesting
Annex 3: Data and parameters monitored
Annex 4: Activity report
Annex 5: Results of monitoring social impacts
Annex 6: Ranger contract
Annex 7: Clay lick monitoring report
Annex 8: Chestnut Protocol
Annex 9: SERNNAP trademark license
Annex 10: Implementation of Control Posts
Annex 11: COOPASER workshop
Annex 12: Results of biological monitoring
Annex 13: Risk report