



**Verified Carbon  
Standard**

## MONITORING REPORT TITLE



Document Prepared by



|                          |                                                                                                                                                                                                                                                                                                |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project Title</b>     | MADRE DE DIOS AMAZON REDD PROJECT                                                                                                                                                                                                                                                              |
| <b>Version</b>           | 02                                                                                                                                                                                                                                                                                             |
| <b>Report ID</b>         | Madre de Dios Amazon REDD Project Monitoring Report Vintage 2020                                                                                                                                                                                                                               |
| <b>Date of Issue</b>     | 17 AUGUST.2021 <b>V2.00</b>                                                                                                                                                                                                                                                                    |
| <b>Project ID</b>        | 844                                                                                                                                                                                                                                                                                            |
| <b>Monitoring Period</b> | 01-01-2020 to 31-12-2020                                                                                                                                                                                                                                                                       |
| <b>Prepared By</b>       | Greenoxx NGO, Maderacre S.A.C. and Maderyja S.A.C.                                                                                                                                                                                                                                             |
| <b>Contact</b>           | Silvia Gomez Caviglia, Alejandro Ji<br>Email: <a href="mailto:silvia@greenoxx.com">silvia@greenoxx.com</a> , <a href="mailto:ej0328@gmail.com">ej0328@gmail.com</a><br>Phone: +598 (99)133065; +(51)986143311 ; (511)4462227<br>Carretera Iñapari Iberia Km 5 Iñapari Tahuamanu- Madre de Dios |

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# 1 PROJECT DETAILS

## 1.1 Summary Description of the Implementation Status of the Project

The Madre de Dios Amazon REDD Project is a project whose proposed activity is to avoid unplanned deforestation of forests that are managed sustainably by the certified timber concessions “Maderera Rio Acre SAC” and “Maderera Rio Yaverija SAC”, in the department of Madre de Dios, southeastern Peru, in the Peruvian Amazon.

Both companies have signed concession contracts with the Peruvian Government, renewable for 40 years (for a total of 80 years of contract); in May 2002 for an area of 98,932.0 hectares (49,376.0 Maderacre and 49,556.0 Maderyja). These contracts explicitly give legal rights over both areas under concession, and all the environmental services included in them. There are no current or future land-use conflicts, nor are there people living within the concession boundaries. According to the Final Verification Report of the Project under CCBA performed by SCS, Maderyja and Maderacre have exclusive rights to environmental services within the project area, including forest carbon.

The project area is located within 30 km of the South Inter-Oceanic Highway (IOH), linking Brazil with the Peruvian ports, in the Amazon region that belongs to the Vilcabamba - Amboró Corridor, one of the world’s biodiversity hotspots. The presence of the IOH is a major risk. Until its paving, Madre de Dios was an isolated region, more integrated with Brazil than with the rest of the country. To get to the nearest city, Cuzco, people had to travel two to three days, which has been reduced to only about 14 hours. This facilitates the immigration of new settlers, mainly from rural Andean areas, and the establishment of economic activities not compatible with the forest that are consequently practiced, such as slash-and-burn agriculture, cattle ranching in poor pastures, etc. Deforestation and forest degradation are the result of these activities.

In this sense, it is necessary to consolidate the sustainable management of the area, as is the case of concessions for harvesting of timber and non-timber resources, private conservation areas and protected natural areas.

The project aims to reduce land pressure in the project area and its buffer zone, to ensure sustainable forest management of both timber concessions, and to improve the living conditions of local communities through implementation of an avoided deforestation project to help generate more resources for the management of the area.

The project started on January 1st, 2009, when the validation process was completed under the Climate, Community and Biodiversity Project Design Standards (CCB), thus ensuring social and environmental sustainability of the proposal. This was reinforced by the obtention of the Gold Level of the standard. As a complement, the project was also validated under the Verified Carbon Standard (VCS) on September 20, 2012, subsequently completing the

verification of 2009-2012 on 21 May 2013, and afterwards achieving the verification of vintages 2013, 2014, 2015, 2016, 2017 , 2018 and, 2019.

Up to 2019, the accumulated avoided emissions have been 9'367,760.937 t CO<sub>2</sub>-e and the annual avoid emissions have been 833 007.60t CO<sub>2</sub>-e, and to 2020 the accumulated avoided emissions have been **10'251,890 t CO<sub>2</sub>-e** and the annual avoid emissions have been **884, 129 CO<sub>2</sub>-e**. This 2020 period, there was no use of wood, and therefore there was no construction of infrastructure such as roads, patios, etc.

## 1.2 Sectoral Scope and Project Type

According to VCS categories, the Madre de Dios Amazon REDD Project falls under the sectoral scope 14 Agriculture, Forestry and Other Land Use, and according to the VCS AFOLU Requirements it falls under the definition of Reduced Emissions from Deforestation and Degradation (REDD), specifically under Avoiding Unplanned Deforestation and Degradation (AUDD). This means the project is proposing activities to reduce net GHG emissions by stopping deforestation and/or degradation of degraded to mature forests that would have occurred in any forest configuration, as a result of socio-economic forces that promote alternative uses of forest land and because of the inability of institutions to control these activities, etc. In addition, the project occurs in a frontier configuration regarding as the deforestation/degradation is caused by the expansion of roads and other infrastructure into forest lands, which improves forest access and leads to an increase of encroachment by human populations, to do subsistence farming and fuel wood gathering on previously inaccessible forest lands.

In addition to this and as required by the REDD-MF Module of the applied REDD Methodology Modules, the following decision tree was used to identify the type of VCS-eligible REDD project activity:

| Is the forest land expected to be converted to non-forest land in the baseline case? |                                 |                                                                                                       |                                                                                                     |
|--------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| YES <sup>8</sup>                                                                     |                                 | NO                                                                                                    |                                                                                                     |
| Is the land legally authorized and documented to be converted to non-forest?         |                                 | Is the forest expected to degrade by fuelwood extraction or charcoal production, in the baseline case |                                                                                                     |
| YES <sup>9</sup>                                                                     | NO                              | YES                                                                                                   | NO                                                                                                  |
| Avoided planned deforestation                                                        | Avoided unplanned deforestation | Avoided forest degradation                                                                            | Proposed project is not a VCS REDD <sup>10</sup> activity currently covered by the module framework |

This project is not a grouped project

### 1.3 Project Proponent

|                   |                                                                      |
|-------------------|----------------------------------------------------------------------|
| Organization name | Maderera Río Acre S.A.C (MADERACRE)                                  |
| Contact person    | José Luis Canchaya Toledo                                            |
| Title             | Business Manager                                                     |
| Address           | Av. León Velarde S/N, Iñapari, Madre de Dios                         |
| Telephone         | +51 982798119                                                        |
| Email             | <a href="mailto:jcanchaya@maderacre.com">jcanchaya@maderacre.com</a> |

|                   |                                                                |
|-------------------|----------------------------------------------------------------|
| Organization name | Maderera Río Yaverija S.A.C. (MADERYJA)                        |
| Contact person    | Alejandro Ji                                                   |
| Title             | Coordinador                                                    |
| Address           | Carretera Iñapari Iberia Km 5 Iñapari Tahuamanu- Madre de Dios |
| Telephone         | +51 986143311                                                  |
| Email             | <a href="mailto:ej0328@gmail.com">ej0328@gmail.com</a>         |

|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| Organization name | GREENOXX                                                     |
| Contact person    | Silvia Gómez Caviglia                                        |
| Title             | Executive Vice-President                                     |
| Address           | Costa Rica 1661 Of 7                                         |
| Telephone         | +598 2604 08 69                                              |
| Email             | <a href="mailto:silvia@greenoxx.com">silvia@greenoxx.com</a> |

#### 1.4 Other Entities Involved in the Project

N/A. There are not other Entities involved in the project

#### 1.5 Project Start Date

The project activities started to be implemented on 1st January 2009. By the end of March 2008, an agreement was signed between Greenoxx NGO and both concessions to implement the REDD Project. The project started to be effectively implemented in 2009, with the design of social plans, biodiversity studies, specific modeling and monitoring activities required for the achievement of validation according to the CCB Standard (Climate, Community and Biodiversity).

Said validation was obtained by the end of 2009, with Gold Level qualification. This date coincides also with the completion of the pavement of the Inter Oceanic Highway, a fact that completely changed the dynamic of deforestation in the area, In terms of impact, the Inter Oceanic Highway has greatly intensified the risk of deforestation and therefore the measures that project proponents have to implement to be able to combat said risk.

#### 1.6 Project Crediting Period

- Crediting period start date: 1 January 2009.
- Crediting period end date: 31 December 2046.
- Project crediting period: 38 years.

#### 1.7 Project Location

The project is located in the hydrographic basin of the Acre River, Iñapari district, Tahuamanu province in the Madre de Dios department, South East of Peru, in the Peruvian Amazon, in the boundary with Bolivia and Brazil.

The area is located 28 km to the side of the new inter-oceanic road that joins Brazil with the Peruvian ports, in the region that belongs to the Vilcabamba-Amboró Conservation Corridor in the Peruvian Amazon, one of the world biodiversity hotspots.

The following pictures show the location of the Madre de Dios Amazon REDD Project.



Fig. 1: General location of the Madre de Dios Amazon REDD Project

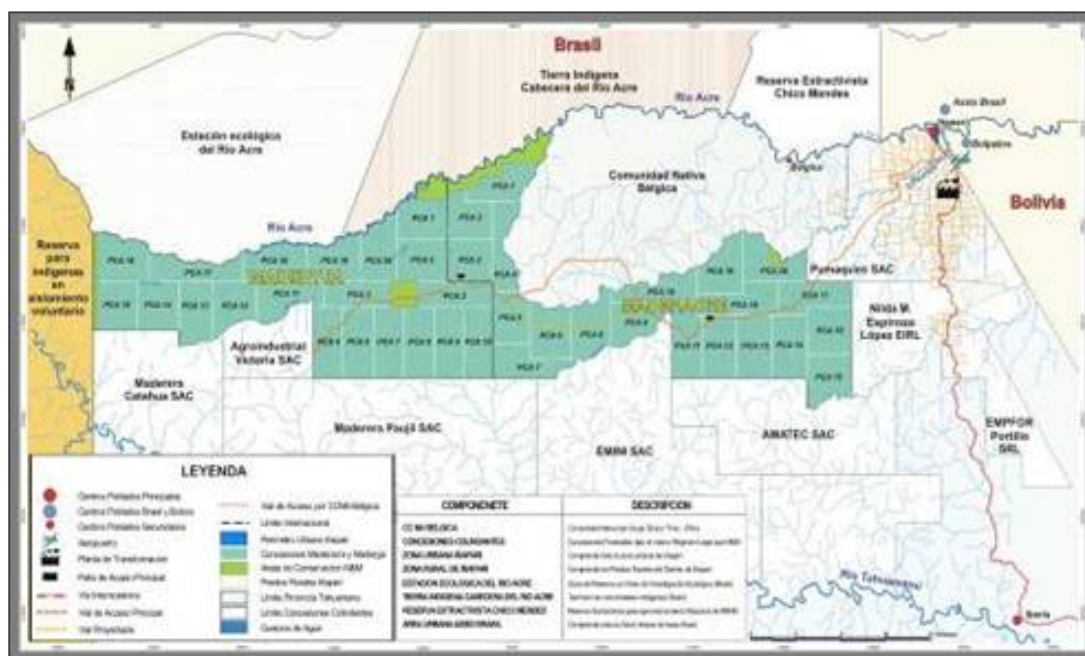


Fig. 2: Location of the Madre de Dios Amazon REDD Project and its boundaries

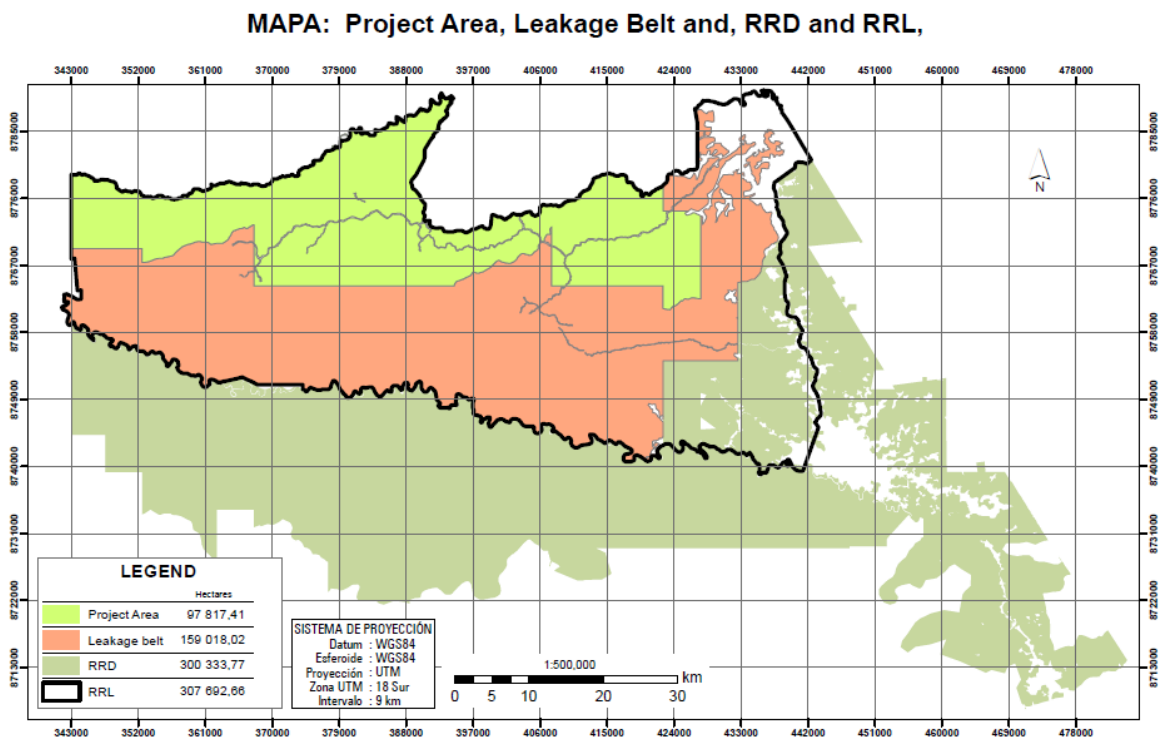


Fig. 3: Map of the Project Boundaries

In the following table, the GPS coordinates of each polygon vertex is presented:

Table 1.7-1: Polygon vertexes of the project area

| Vertex | East   | North   |
|--------|--------|---------|
| 1      | 438521 | 8787582 |
| 2      | 446766 | 8774269 |
| 3      | 432562 | 8764691 |
| 4      | 432562 | 8754249 |
| 5      | 422557 | 8754249 |
| 6      | 422557 | 8746086 |
| 7      | 420910 | 8740962 |
| 8      | 322540 | 8777024 |
| 9      | 323813 | 8783623 |
| 10     | 333038 | 8790865 |

### Total area of project, leakage belt and reference region:

Table 1.7- 2: Project Area, Leakage Belt and Reference Regions

| Type | TOTAL      |
|------|------------|
| PA   | 97,817.41  |
| LB   | 159,018.02 |
| RRL  | 307,692.66 |
| RRD  | 300,333.77 |

The determination of the regions detailed above was carried out taking into account the requirements of the BL-UP Module of the REDD Methodology Modules. See BL-UP module for a detailed description and explanation of the project area, leakage belt and project zone determination.

## 1.8 Title and Reference of Methodology

### Methodology Information:

- Approved VCS Methodology VM0007
- Methodology Framework Report (REDD-MF) Version 1.6

### Modules Information:

- Estimation of carbon stocks in the above- and belowground biomass in live tree and non-tree pools (CP-AB), v1.1
- Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation and avoiding unplanned wetland degradation (BL-UP), v3.3
- Estimation of emissions from activity shifting for avoided unplanned deforestation and avoiding unplanned wetland degradation (LK-ASU), v1.2
- Estimation of greenhouse gas emissions from biomass and peat burning (E-BPB), v1.2
- Estimation of emissions from fossil fuel combustion (E-FFC), v1.0
- Methods for monitoring of greenhouse gas emissions and removals (M-REDD), v2.2
- Methods for stratification of the project area (X-STR), v1.2
- Estimation of uncertainty for REDD project activities (X-UNC), v2.2

#### Tools Information:

- Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities (Approved VCS Tool VT001), v1.0
- AFOLU non-permanence risk tool, v4.0
- Tool for testing significance of GHG emissions in A/R CDM project activities (EB\_31), v1.0

### 1.9 Participation under other GHG Programs

N/A. The project has not participated in other GHG Programs

### 1.10 Other Forms of Credit

N/A. The project has not other forms of credit

### 1.11 Sustainable Development

The project will contribute to the governments objective of reducing deforestation. Through actions such as patrolling project areas, training or environmental education actions for the population. The year 2020, this different actions, included the friendly projects has have a progress. This can be seen in the item 3 of this report. This can be seen in the item 3 of this report.

In addition, it is part of the actions of the project concessions to follow the forest management rules of the Peruvian state and the rule imposed by the FSC, wich guarantees that the ecosystem is maintained and the biodiversity of the area is conserved. The work of monitoring biodiversity as part of the CCB standards and working wirh the communities contribute to maintain the customs of people who live in the forest and improve them with respect to forest maintenance.

## 2 SAFEGUARDS

### 2.1 No Net Harm

We do not identificate any potential negative environmental and socio-economic impacts. The impacts are positive.

## 2.2 Local Stakeholder Consultation

### Processes and results of the communication with the interested parties<sup>1</sup>

The Madre de Dios Amazon REDD Project carries out informative and participation instances within the project zone, both with the public and private sectors. These instances have been taking place since the start date of the project and have been recognized and legitimated within its social environment. During these instances, activities are reported and information is given regarding the sustainable management that is done in the project area, the forestry management standards applied, the conservation of biodiversity and the Madre de Dios Amazon REDD Project in general. The project counts with the following mechanisms of communication:

- **Consultive Committee:** there is a Consultive Committee (integrated by stakeholders that represent the main groups of local interest) with whom constant communication is maintained. At the same time, meetings take place twice a year minimum to share information on the project as well as the annual planning. The Consultive Committee is confirmed by the following participants: a representative from the Iñapari Mother's Club; a representative from the Belgium Native Community (Yine tribe); a representative from the Provincial Municipality of; a representative from La Colonia neighbourhood and a representative from the Educational Institute of Iñapari.
- **Citizen Participation Workshops:** they are understood as broader mechanisms which provide the citizens with the right to be informed and provide feedback so they can be informed, generate discussions and exchange opinions regarding the forestry operations within the project area. Its objective is to share information with stakeholders and groups of interest regarding the activities of the concessions and receive opinions, concerns and consultations. It is an open call and also to the main local institutions in the nearby areas to the project.
- **Socialization and participation at events:** as part of the communication and information transparency policies, the project establishes means of information to communicate the results of each harvest, the good practices in forest management and/or any other information of social interest. The following chart describes the participative activities:

### Local situation in the aftermath of SARS Pandemic CoV 2 (Covid - 19)

As is generally known, at the end of 2019 in the month of December, in Wuhan China became the epicenter of a pneumonia outbreak of unknown etiology. The causative agent was identified, a new coronavirus classified as SARS-CoV2 causing COVID-19 disease. On March 11, 2020, the World Health Organization declared this disease a pandemic.

The first confirmed case of the COVID-19 pandemic in Madre de Dios, the regional setting of the project, began on March 18, 2020, and arrived in the district of Iñapari on April 10, 2020, beginning a process of massive contagion. At the close of this report, 12,719 cases have been reported in the department of Madre de Dios, with 228 deaths. In the case of the district of Iñapari

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<sup>1</sup> The processes, methods of involvement of interested parties, participants are presented.

On March 15, the Peruvian Government decreed a "state of emergency" and "mandatory social isolation" (quarantine) nationwide, which would be in effect as of 00:00 hours on March 16 for a period of 15 days, which was extended until the end of June. The general quarantine was changed to a "targeted social isolation" where the department of Madre de Dios was one of the most restricted during the year 2020.

Iñapari is a small district with 01 health facility which does not meet the public health demands of its jurisdiction. On the other hand, the health crisis revealed Peru's precarious health system. In this sense, it is important to point out that the national and local context implied taking prompt decisions and making changes in social interactions with stakeholders. The main considerations of the social management of the project during 2020 are:

- Monthly donation according to the agreement with the CCNN of Belgium, where according to request, medicine was prioritized to treat symptoms of Covid-19.
- Donation of S/. 1000.00 for basic necessities for vulnerable people affected by the state of emergency to the Provincial Municipality of Tahuamanu.
- Immediate attention to the revision and repair of the water pump by the electrician of Maderacre, for the Housing Association Nuevo Iñapari, essential input to follow the COVID protocols.
- Donation of 20 masks and 2 lt of liquid gel to the Regional Forestry and Wildlife Management.
- Donation of S/. 6000.00 soles for emergency attention due to the COVID - 19 virus, for the President of the COVID Committee of the Province of Tahuamanu.
- Regular activities involving crowds of people had to be suspended indefinitely.
- Communications and information processes with the various stakeholders were carried out virtually (those that had virtual platforms) and/or physically for those that did not have access to a virtual platform.
- Staff training was conducted in small groups, taking into account the need to avoid overcrowding.

Table 2.2- 1: Communication activities with the interested parties

| Name of the activity                 | Date       | Procedure / Method                                                                                                                                                                        | Participants                                                                                                                                                                                          | Results                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| First Citizen Participation Workshop | 25/06/2020 | Considering the new circumstances unleashed by the COVID-19 pandemic, the social team considered it appropriate to generate an informative process through telephone, virtual and written | I.E.B.R. Secundaria "iñapari", la I.E. N° 53003 "Elena Bertha, I.E. N° 52056 – Noaya y el Consolidad Maderera Río Yaveryja, Municipalidad Provincial de Tahuamanu, Puesto de Salud Iñapari, Dirección | In spite of the conditions unleashed by the new COVID-19 situation, we were able to disseminate and inform about the project guidelines of the social responsibility management instruments and the project.<br>The document was delivered to 17 institutions, associations, neighborhoods, communities, among others throughout the District |

| Name of the activity                        | Date      | Procedure / Method                                                                                                                                                                                                                                                         | Participants                                                                                                                                                                                                                                                                                                                           | Results                                                                                                                                                                                                         |
|---------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                             |           | means in order to avoid the risk of contagion among those involved.<br>The process was initiated through telephone calls to ensure and warn the institutions and organizations about the modality of the informative process.                                              | Regional Forestal y de Fauna Silvestre, Policía Nacional del Perú, Oficina Agraria Iñapari, Agroindustria Forestal Santa Teresa, Canales Tahuamanu, Organismo Nacional de Sanidad Pesquera, Ministerio Publico, Comunidad Nativa de Bélgica, Asociación de Moradores La Colonia, Asociación Nuevo Iñapari y Club de Madres La Colonia. | of Iñapari; 04 of which were e-mails and 13 physical letters.                                                                                                                                                   |
| First Meeting with the Consultive Committee | 25/06/20  | Similarly, considering the new circumstances unleashed by the COVID19 pandemic, the social team considered it appropriate to generate an informative process through telephone, virtual and written means in order to avoid the risk of contagion among committee members. | <ul style="list-style-type: none"> <li>• Municipalidad Provincial de Tahuamanu</li> <li>• Barrio</li> <li>• “La Colonia”</li> <li>• Institución Educativa Elena Bertha.</li> <li>• Club de Madres</li> </ul>                                                                                                                           | Telephone communications were established to inform each member of the community of the security measures that the project had to follow in the midst of the quarantine established by the Peruvian government. |
| Public Social Summary                       | JULY 2020 | The dissemination of the social public summary was carried                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Main public institutions, private companies,</li> </ul>                                                                                                                                                                                                                                       | The Public Summary of Social Monitoring 2019 and Public Summary of Environmental and                                                                                                                            |

| Name of the activity                  | Date          | Procedure / Method                                                                                                                                                                                                                                                                                   | Participants                                                                                                                                                                                                                                                                                                                                                                                                                                       | Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       |               | out through the delivery of letters to different public and private institutions and representatives of the neighborhoods, communities and human settlements from June 25 to July 7, 2020.<br>from June 25 to July 07, 2020.                                                                         | human settlements and rural communities in the area of social influence of the project.                                                                                                                                                                                                                                                                                                                                                            | Forestry Monitoring 2019, documents that are also published on the website of <a href="http://maderacre.com/sostenibilidad">http://maderacre.com/sostenibilidad</a> were disseminated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Second Citizen Participation Workshop | December 2020 | With the measures established by the government and the guidelines considered for the informative and/or participatory processes, it was deemed convenient to continue with the preventive measures, thus the informative process was carried out through phone calls, physical letters and e-mails. | La I.E.B.R. Secundaria “iñapari” y la I.E. N° 53003 “Elena Bertha, I.E. N° 52056 – Noaya, el Consolidad Maderera Río Yaveryja y Consorcio Maderera Canales Tahuamanu, Municipalidad Provincial de Tahuamanu, Puesto de Salud Iñapari, Dirección Regional Forestal y de Fauna Silvestre, Policía Nacional del Perú, Oficina Agraria Iñapari, Servicio Nacional de Sanidad Agraria, Comunidad Nativa de Bélgica, Asociación de Moradores La Colonia, | The document was delivered to 14 institutions, associations, neighborhoods, communities, among others throughout the District of Iñapari; 04 of which were e-mails and 10 physical letters. The completion of the project's forestry operations for the year 2020 was announced. Information was provided on the sustainable forest management implemented by the company, with the results of the monitoring of operations in 2020, information was provided on Madre de Dios Amazon Redd Project, and Tahuamanu Amazon Redd Project, making known the main characteristics involved in this project and disseminating documents on social management. |

| Name of the activity                         | Date           | Procedure / Method                                                                                                                                                           | Participants                                                                                                                                                                                                           | Results                                                                                                                                      |
|----------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                                              |                |                                                                                                                                                                              | Asociación Nuevo Iñapari y Club de Madres La Colonia.<br>•                                                                                                                                                             |                                                                                                                                              |
| Second Meeting with the Consultive Committee | December /2020 | For the convening of the meeting, written dissemination through physical letters and e-mails to the members of the advisory committee, visits and telephone calls were used. | <ul style="list-style-type: none"> <li>• Municipalidad Provincial de Tahuamanu</li> <li>• Barrio</li> <li>• “La Colonia”</li> <li>• Institución Educativa Elena Bertha e Iñapari.</li> <li>• Club de Madres</li> </ul> | The members of the advisory committee were informed and telephone and electronic channels were made available for any input or consultation. |

Elaboración Propia

Each activity has a complete report prepared by the social area of the project, showing the means of verification of the implementation of these activities. The contributions received in the information and participation spaces did not merit changes in the project design so far. It is important to point out that although the year 2020 generated a context with less social interaction, the project maintained remote communication channels with the stakeholders through the telephone number 985 582 143 and the e-mails [responsabilidadsocial@maderacre.com](mailto:responsabilidadsocial@maderacre.com) and [milagrosreginanq@gmail.com](mailto:milagrosreginanq@gmail.com).

The Madre de Dios Amazon Redd Project establishes constructive relationships with stakeholders and nearby populations by participating in and promoting good practices in relation to forest management. In addition, it is aware of the reality with which it coexists, respecting the local culture that it has learned as part of the business exercise during the years of operation. Now that the world is going through a difficult process of global pandemic whose crisis reached Peru in March 2020, the importance of the companies and the project at the local level is confirmed. The Madre de Dios Amazon Redd Project prioritized social welfare and continued its activities despite the negative effects that the Peruvian economy suffered from the beginning of the pandemic.

#### Communication of the monitoring results<sup>2</sup>.

As mentioned above, two socializations were held on the results of social management and the project in general.

- The public environmental and social summary referring to the 2019 results where the main project indicators were shared with the project's stakeholders. The dissemination of the social public summary was done through the delivery of written and virtual media to the

different public and private institutions and representatives of the Neighborhoods, Communities and Human Settlements.

- b) Public Workshop, where the results of the operation and activities of the project are shared such as:
- The management tasks that the project develops and the monitoring procedures during operations.
  - The achievements of the project regarding its certifications and results of the audits, among which are the VCS and CCB Standards certifications are disseminated.
  - The advances in the implementation of the Environmentally Friendly Productive Projects are communicated, as well as the open call for new project contests. Local media is also used for communication.

## 2.3 AFOLU-Specific Safeguards

### Activities that mitigate risks

The different activities of the project do not represent risks to the population or to stakeholders. On the contrary, the activities of the project help to:

- Protect the forests in the area and nearby areas.
- They are an example of sustainable forestry management.
- They are sustainable activities and replicable in order to collaborate with the population livelihood and improves the forestry management in their areas.

The above are achieved through the following actions:

- Custody and Patrolling System: the project counts with a custody and patrolling plan in order to safeguard the forest areas against potential illegal activities or threatens to the sustainable forestry management.

The project implements an integral custody plan that includes the operation in 5 control posts strategically located in the access points, one is located in the project border and the other four in locations that permit an effective protection even to those areas adjacent to the project, incrementing their positive impact on the territory. Two people work permanently in each control post. They count with solar energy, communication equipment and boats for transport and river patrolling.

The custody plan also contemplates the signaling of the area with informative notices, maintenance of border and milestones and both terrestrial and river patrolling in the project area and the leakage belt.

This important protection effort contributes to the conservation of the forest area within the project area as well as in the nearby areas such as the Territorial Reserve Madre de Dios and the National Park Alto Purus, both areas are home to a great biodiversity and to indigenous tribes in voluntary isolation and initial contact.

At the same time, terrestrial and river patrolling look for sites where illegal activities may be occurring, such as illegal logging and invasion of the forest for deforestation. The workers responsible of patrolling have the capacity to detain those activities, they report to the project administration and the corresponding complaint is presented to the competent authorities.

- PRA Study (Diagnosis through stakeholders): This study looks for the existence of a potential degradation risk within the project area caused by the deforestation agents from nearby areas such as extraction of firewood, carbon production or illegal logging. The study is carried out every two years with an in-field identification of the potential degradation through a diagnosis with the participation of the stakeholders that live in the nearby areas as well as in the whole area of influence of the project. For this verification it is stated that the last PRA was in 2019, where for the year 2019 the result of this study confirmed that the Madre de Dios Amazon REDD Project area does not have a potential degradation. This study is carried out following the procedures indicated in the Monitoring Module of the VCS Standard.
- Satellite monitoring of deforestation is carried out in the project areas as well as in the leakage belt, the results of the satellite image interpretation are validated in the field through verification visits to the sampling points.
- Environmentally friendly projects: these are local initiatives that have objectives related to the objectives of the Madre de Dios Amazon Redd Project and are identified by the project; in other words, they have characteristics that make them benchmarks for good forest resource practices as they seek to protect, enhance and/or manage forests through sustainable economic or social activities. In this sense, the project seeks to promote, advise, facilitate and/or insert seed capital for their progress. In this sense, for 2020, the project prioritized support actions corresponding to social welfare related to public health and maintaining information with the beneficiaries. The face-to-face work for the execution of friendly projects was suspended from March to December 2020 in consideration of the Peruvian government's provisions such as following the mandatory quarantine, social immobilization and the remote work modality in force until June 2021<sup>3</sup>. During 2020, the following activities were carried out:
  - Remote informative activities such as the Participative Workshop, Socialization of Results and Committee.
  - Execution of agreements with the Iñapari Educational Center through educational videos.

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<sup>3</sup> Declaration of National State of Emergency and Quarantine declared by Supreme Decree N° 044-2020-PCM since March 15, 2020. The quarantine was extended until June 2020 due to its various modifications. The State of National Emergency is still in effect at the close of this report. For this purpose, the Peruvian State establishes the protocol for the implementation of measures to guarantee the exceptional exercise of the right to freedom of transit within the framework of the declared National State of Emergency (Ministerial Resolution No. 304-2020-IN). Likewise, it develops provisions for the Private Sector, on remote work provided for in Emergency Decree No. 026-2020, whose amendments have extended such modality of work until June 2021.

- Support in the public health of serious cases in Iñapari and in the Native Community of Bélgica.

### **Changes in property rights**

- There have been no changes in property rights and land use as to the interested parties. The project has generated no negative impacts on property rights of local groups of interest. Adjoining acts for the perimeter of the project are available which express the non-existence of controversies or conflicts related to border delimitation, as well as related to the respect of border by third parties.
- There is an agreement in place with the Belgium Native Community for the areas adjoining the indigenous community regarding the land use since 2010. There have been no controversies or negative impacts to property rights of the native community nor to other third parties or groups of interest during 2020 in the local environment. The relationship with the communities is amiable, respectful and with a total disposition for intercultural dialogue.

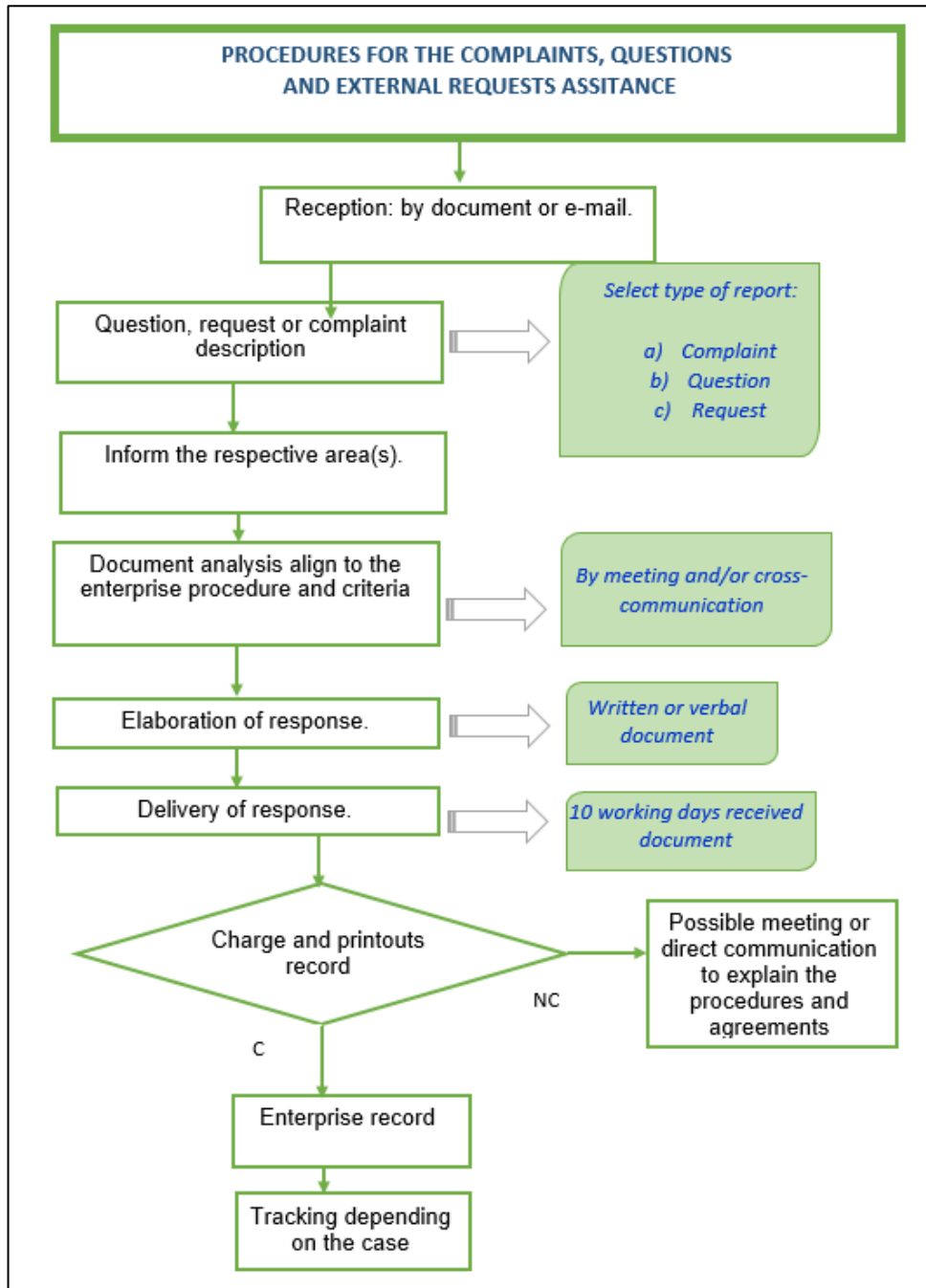
### **Direct communication processes. Monitoring**

Information related to the REDD project activities, as well as the results of monitoring are presented annually in the citizen participation meetings. These instances of information and communication take place twice a year (public workshops), at the start and closure of the year, as well as other dialogue instances with the interested parties. They are very useful to communicate the objectives and activities of the project for the current year, as well as to present the results of the monitoring, both the positive and negative impacts. The communication activities are shown in Table 1.

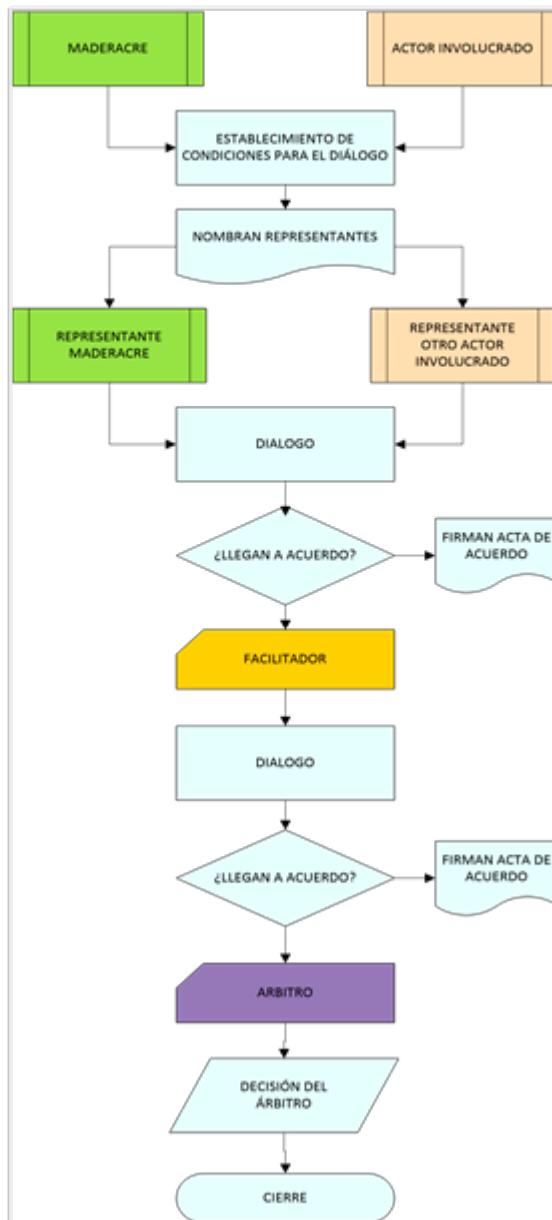
As shown before, these results are presented during participative communication instance with the interested parties:

### **Conflicts communication processes**

During the year 2020 there were no conflicts among the interested parties. It is important to mention that the project has a procedure to attend potential conflicts, as well as complaints and request. These procedures are shown below:



## FLOWCHART FOR THE CONSTRUCTIVE TRANSFORMATION AND ASSISTANCE OF POSSIBLE SOCIAL CONFLICTS



## 3 IMPLEMENTATION STATUS

### 3.1 Implementation Status of the Project Activity<sup>4</sup>

**Table 3.1-1 Activities carried out to attend Objective 1 of the project design**

| Outcome or Impact (objective 1)                                                                  | Achievements during the Monitoring Period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Socialization and dissemination of the project objectives                                        | <ul style="list-style-type: none"> <li>• Citizen Participation Workshop – distance mode. 06 Jun, 2020.</li> <li>• Consultive Committee Meeting, 25 Jun, 2020.</li> <li>• Citizen Participation Workshop – open call. December, 2020</li> <li>• Consultive Committee Meeting, December, 2020.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                               |
| Identification and selection of environmentally friendly projects                                | The project maintains the identification of stakeholders and organizations close of each concession and updates it constantly. It already counts with 06 initiatives related to the project, which are located in 5 locations of the social environment of the project. These locations are: Belgium Native Community; Villa Primavera rural community; Noaya rural community; Nueva Esperanza and Iñapari Cercado.                                                                                                                                                                                                                                                                                   |
| Profile design of the selected projects                                                          | The profile design of the environmentally friendly projects was carried out after the first contest. The profile design is one of the first activities. These profiles are conditioned to the changes in the proposal of each project every year.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Capacity and ability development and of members of associations related to the selected projects | The development of skills and capabilities during 2020 included informative activities through the project's information spaces.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Help with the implementation of approved projects                                                | <p>In order to implement the environmentally friendly projects, the following has been achieved to date:</p> <ul style="list-style-type: none"> <li>• Fondo de las Américas, of USD 20.000 for the project Children's Forest of the Villa Primavera Community, in collaboration with ANIA NGO.</li> <li>• Missions from professional voluntaries in design, administration and communication areas for an equivalent of USD 3,500 each mission.</li> <li>• Timber donations valued at USD 20 000 for the year 2020.</li> <li>• Agreements related to the social development area: <ul style="list-style-type: none"> <li>- Health Agreement with the Belgium Native Community.</li> </ul> </li> </ul> |

<sup>4</sup> There have been no activities that could affect the Project. There were no variations for this period in terms of a type of benefits, laws, regulations different from those in previous periods.

|                                                                     |                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                     | <ul style="list-style-type: none"> <li>- Education Agreement with the Belgium Native Community.</li> <li>- Support to the CLASS Health Post in Iñapari.</li> <li>- Agreement with the Educational Regional Direction and CEBA Dos de Mayo. Agreement with CEBA Dos de Mayo, Maderacre (as project proponent) and the Native Belgium Community.</li> </ul> |
| Search for financing and/ or co-financing for the approved profiles | For 2020, the agreements signed in 2019 will be maintained. The project was able to face the economic difficulties considering support in the social area of the project, according to its capacity.                                                                                                                                                      |
| Monitoring of the implemented projects                              | No on-site monitoring of the projects was carried out during 2020.                                                                                                                                                                                                                                                                                        |

From a social and environmental point of view, the following activities are carried out to monitor the risk of leakage and non-permanence<sup>5</sup>:

- Custody and patrolling system: the project counts with a custody and patrolling plan to safeguard the forest areas and the adjoining ones, from potential illegal activities or threatens to the sustainable forestry management.
- PRA Study: the study aims at identifying the existence of a potential degradation within the project area by deforestation agents in the nearby areas, due to activities such as extraction of firewood, production of carbon or illegal logging. During 2019 the result of the study was that there was no degradation potential for the Madre de Dios Amazon REDD Project area<sup>6</sup>. This PRA, is applied to this Report.
- A satellite monitoring of deforestation is carried out within the project area and the leakage belt. The results of the interpretation of the satellite images are validated in the field by means of verification visits to the sampling points<sup>7</sup>
- The Madre de Dios Amazon Redd Project has been adapting to the new circumstances due to the COVID-19 pandemic, considering the support to social welfare, despite the adjustments and modifications of the operation regarding the management of personnel, relationship of groups involved and communities. The project represents a relevant actor in the management and/or support in crisis situations at the local level.

<sup>5</sup> It was mentioned in point 2.3

<sup>6</sup> The PRA Report is available

<sup>7</sup> The Report is available for the period 2020

## 3.2 Deviations

### 3.2.1 Methodology Deviations

- a) The VCS Standard states that "The monitoring report describes all the data and information related to the monitoring of GHG emission reductions or removals. In the VCS Monitoring Report Template must use this and adhere to all instructional text within the template."

While employing "VM0007, REDD Methodology Modules (REDD-MF) version 1.2, during the validation, in order to obtain the Madre de Dios Amazon Redd Project validation, the methodology showed that the buffer allocation should be calculated using equation 4 in which the final function of the formula was:

VM0007, Version 1.2  
Sectoral Scope 14

$$Buffer_{UNPLANNED} = \left( \left( \Delta C_{BSL,unplanned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC,i,t} + N_2 O_{direct,i,t}) \right) - \left( \Delta C_{P,(Unplanned\ Deforestation\ Areas)} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC,i,t} + N_2 O_{direct,i,t}) \right) \right) * (1 - Buffer\%) \quad (5)$$

and in this occasion the team observed that was incorrect. The Madre de Dios Amazon REDD Project, during the validation and during all verifications audits used the following equation:

$$Buffer_{Unplanned} = \left( \left( \Delta C_{BSL,Unplanned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC,i,t} + N_2 O_{direct,i,t}) \right) - \left( \Delta C_{P,Unplanned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC,i,t} + N_2 O_{direct,i,t}) \right) \right) \times Buffer\% \quad (15)$$

this is the correct equation and this equation is showed in the version 1.6. The deviation relates only to the criteria and procedures for monitoring or measurement, and does not relate to any

other part of the methodology. This deviation does not impact negatively the conservativeness of the quantification of GHG emission reductions or removals, and relates only to the criteria and procedures for monitoring or measurement, and does not relate to any other part of the methodology.

- b) The other methodology deviations were applied from the guidance of the parameter (RRL, forest, t), since it has not been recalculated, as the methodology indicates. This deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions, since the parameter is not included in annual carbon calculations and therefore does not need to be monitored until baseline re-assessment. And it is related, only to the criteria and procedures for monitoring or measurement because it relates to measurement of baseline emissions, as carried out following the BL-UP module.

During this monitoring period, we don't enter to the field. **We don't make infrastructure.**

### 3.2.2 Project Description Deviations

A project description deviation has been applied. The PD document indicates that the interpretation would be done with ENVI 4.7. However, ERDAS was employed during this verification period. This interpretation work does not affect the final calculations, it does not increase or decrease them nor it affects the methodology calculation with respect to the baseline. On the contrary, interpretation has been consistent since 2012. It was decided to employ ERDAS since the technical team is very familiar with this software. It was used for the purpose of geometric and radiometric corrections, with the objective of assigning a system of coordinates to the images and improve their visual appearance in order to highlight elements and proceed to their interpretation. The team that carries out the interpretation work, employs a methodology based on visual interpretation of the elements of the landscape because it is a more certain and realistic interpretation and generates less errors than digital interpretation. Changes are registered through the observation of the elements of visual interpretation such as color, texture, tone, shape, size, spatial pattern, among others.

### 3.3 Grouped Projects

N/A. This project aren not a Grouped project

## 4 DATA AND PARAMETERS

### 4.1 Data and Parameters Available at Validation

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | Regional Forest / Non-forest Cover Benchmark Ma                                                                                                                                                                                                                                                                                                                                                         |
| Data unit                                                                                    | ha                                                                                                                                                                                                                                                                                                                                                                                                      |
| Description                                                                                  | Map that shows the stratification and location of forest and non-forest areas in the Reference Region RRD at the beginning of the accreditation.                                                                                                                                                                                                                                                        |
| Source of data                                                                               | Landsat satellite images.                                                                                                                                                                                                                                                                                                                                                                               |
| Value applied                                                                                | n/a                                                                                                                                                                                                                                                                                                                                                                                                     |
| Justification of choice of data or description of measurement methods and procedures applied | The Landsat images have an adequate resolution and they are an available tool to all public                                                                                                                                                                                                                                                                                                             |
| Purpose of Data                                                                              | Determination of baseline scenario                                                                                                                                                                                                                                                                                                                                                                      |
| Comments                                                                                     | <p>The stratification was based on the Ecological and Economic Zoning of the Region of Madre de Dios. It was developed by the IIAP in 2009 and the regional government uses it as its official source.</p> <p>Non-forest has been determined as beach and water bodies areas. In addition, there are other areas that are access roads (rivers, bridges, alternate roads, the Interoceanic Highway)</p> |

|                                                                                              |                                                                                                                                           |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | Project Forest Cover Benchmark Map.                                                                                                       |
| Data unit                                                                                    | Ha                                                                                                                                        |
| Description                                                                                  | Map that shows the stratification and location of forest areas in the Project area at the beginning of the accreditation (100% forested). |
| Source of data                                                                               | Landsat-8 satellite image. Sensor OLI.                                                                                                    |
| Value applied                                                                                | Look al the File.01 memoria_M&M.junio.2021.pdf                                                                                            |
| Justification of choice of data or description of measurement methods and procedures applied | The Landsat images have the adequate resolution and they are an available tool to all public.                                             |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Purpose of Data | <p>The stratification was based on the Ecological and Economic Zoning of the Region of Madre de Dios. It was developed by the IIAP in 2009 and the regional government uses it as its official source.</p> <p>Non-forest has been determined as beach and water bodies areas. In addition, there are other areas that are access roads (rivers, bridges, alternate roads, the Interoceanic Highway). To date there is no other use but forest usage.</p> |
| Comments        | Used in equations 3 y 8                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | Leakage Belt Forest Cover Benchmark Map.                                                                                                                                                                                                                                                                                                                                                                              |
| Data unit                                                                                    | Ha                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Description                                                                                  | Map that shows the stratification and location of forest in the Leakage belt at the beginning of the accreditation (100% forested).                                                                                                                                                                                                                                                                                   |
| Source of data                                                                               | Landsat-8 satellite image. Sensor OLI.                                                                                                                                                                                                                                                                                                                                                                                |
| Value applied                                                                                | Look at the File.01 memoria_M&M.junio.2021.pdf                                                                                                                                                                                                                                                                                                                                                                        |
| Justification of choice of data or description of measurement methods and procedures applied | The Landsat images have the adequate resolution and they are an available tool to all public.                                                                                                                                                                                                                                                                                                                         |
| Purpose of Data                                                                              | <p>The stratification was based on the Ecological and Economic Zoning of the Region of Madre de Dios. It was developed by the IIAP in 2009 and the regional government uses it as its official source.</p> <p>Non-forest has been determined as beach and water bodies areas. In addition, there are other non-forested areas that used as access roads (rivers, bridges, Interoceanic Highway, alternate roads).</p> |
| Comments                                                                                     | Used in equation 3                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                   |                                                                                                 |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Data / Parameter                                  | Ai                                                                                              |
| Data unit                                         | Ha                                                                                              |
| Description                                       | Total area of each stratum i.                                                                   |
| Source of data                                    | Landsat-8 satellite image. Sensor OLI.                                                          |
| Value applied                                     | Look at the File.01 memoria_M&M.junio.2021.pdf                                                  |
| Justification of choice of data or description of | Frequency at a minimum every 10 years prior to baseline renewal. Is the same area of validation |

|                                            |                                                              |
|--------------------------------------------|--------------------------------------------------------------|
| measurement methods and procedures applied |                                                              |
| Purpose of Data                            | Determination of baseline scenario                           |
| Comments                                   | Ex-ante it is assumed that strata area will remain constant. |

|                                                                                              |                                                                                                                                      |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | ARRD, unplanned, hrp                                                                                                                 |
| Data unit                                                                                    | Ha                                                                                                                                   |
| Description                                                                                  | Total deforested area during the term of reference (until 2008) in the RRD                                                           |
| Source of data                                                                               | Value taken from the Landsat-8 satellite image. Sensor OLI., used by the Deforestation Model of Madre de Dios.                       |
| Value applied                                                                                | File.01 memoria_M&M.junio.2021.pdf                                                                                                   |
| Justification of choice of data or description of measurement methods and procedures applied | The Landsat images have the adequate resolution and they are a free and available tool to all public. Is the same area of validation |
| Purpose of Data                                                                              | Determination of baseline scenario                                                                                                   |
| Comments                                                                                     | Monitored for purpose of baseline revisions                                                                                          |

|                                                                                              |                                                                                          |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | CF                                                                                       |
| Data unit                                                                                    | t C t <sup>-1</sup> d.m.                                                                 |
| Description                                                                                  | Carbon fraction of dry matter.                                                           |
| Source of data                                                                               | Value taken from IPCC 2006 INV GLs AFOLU Chapter 4 Table 4.38                            |
| Value applied                                                                                | 0.49 t C t <sup>-1</sup> d.m. <sup>9</sup>                                               |
| Justification of choice of data or description of measurement methods and procedures applied | for Tropical Forests and wood, tree d>10 cm. IPCC 2006 INV GL Afoly chapter 4, table 4.3 |
| Calculationn method                                                                          | Calculation of baseline emissions                                                        |
| Comments                                                                                     | n/a                                                                                      |

<sup>8</sup> [https://www.ipcc.ch/meetings/session25/doc4a4b/vol4.pdf-pag\\_172](https://www.ipcc.ch/meetings/session25/doc4a4b/vol4.pdf-pag_172)

<sup>9</sup> [http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4\\_Volume4/V4\\_04\\_Ch4\\_Forest\\_Land.pdf](http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_04_Ch4_Forest_Land.pdf)

|                                                                                              |                                                                                          |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | CF <sub>j</sub>                                                                          |
| Data unit                                                                                    | t C t <sup>-1</sup> d.m.                                                                 |
| Description                                                                                  | Carbon fraction of biomass for tree species j.                                           |
| Source of data                                                                               | Value taken from IPCC 2006 INV GLs AFOLU Chapter 4 Table 4.310                           |
| Value applied                                                                                | 0.49 t C t <sup>-1</sup> d.m. <sup>11</sup>                                              |
| Justification of choice of data or description of measurement methods and procedures applied | for Tropical Forests and wood, tree d>10 cm. IPCC 2006 INV GL Afoly chapter 4, table 4.3 |
| Purpose of data                                                                              | Calculation of baseline emissions                                                        |
| Comments                                                                                     | -                                                                                        |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | D <sub>j</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Data unit                                                                                    | t d.m. m <sup>-3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Description                                                                                  | Basic wood density in t d.m. m <sup>-3</sup> for species j.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Source of data                                                                               | National species-specific densities.<br><a href="http://www4.congreso.gob.pe/comisiones/1999/ciencia/cd/inia/inia-p4/inia-p4.htm#TopOfPage">www4.congreso.gob.pe/comisiones/1999/ciencia/cd/inia/inia-p4/inia-p4.htm#TopOfPage</a>                                                                                                                                                                                                                                                                           |
| Value applied                                                                                | file                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Justification of choice of data or description of measurement methods and procedures applied | Species densities have been taken from different sources of national species-specific researches being the main ones: <ul style="list-style-type: none"> <li>- Evaluation of mechanical and physical properties and probable uses of the wood of 20 species in Jenaro Herrera, Loreto – Perú (Aróstegui and Acevedo).</li> <li>- Summary of technical information of 32 tree species. Peruvian Confederation of Wood. 2008. CPM. CITE Madera.</li> </ul> Global wood density database. (Chavé et al., 2009). |
| Purpose of Data                                                                              | Calculation of project emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Comments                                                                                     | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

<sup>10</sup> <https://www.ipcc.ch/meetings/session25/doc4a4b/vol4.pdf-pag 172>

<sup>11</sup> [http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4\\_Volume4/V4\\_04\\_Ch4\\_Forest\\_Land.pdf](http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_04_Ch4_Forest_Land.pdf)

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | D <sub>mn</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Data unit                                                                                    | t d.m. m <sup>-3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Description                                                                                  | Mean wood density of commercially harvested species                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Source of data                                                                               | National species-specific densities.<br>.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Value applied                                                                                | Look at the File Cp Estimation 2020 Mayo                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Justification of choice of data or description of measurement methods and procedures applied | Species densities have been taken from different sources of national species-specific researches being the main ones: <ul style="list-style-type: none"> <li>- Evaluation of mechanical and physical properties and probable uses of the wood of 20 species in Jenaro Herrera, Loreto – Perú (Aróstegui and Acevedo).</li> <li>- Summary of technical information of 32 tree species. Peruvian Confederation of Wood. 2008. CPM. CITE Madera.</li> </ul> Global wood density database. (Chavé et al., 2009). |
| Purpose of Data                                                                              | Calculation of project emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Comments                                                                                     | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|                                                                                              |                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | f <sub>j</sub> (x,y)                                                                                                                                                                                                                                               |
| Data unit                                                                                    | t d.m. tree <sup>-1</sup>                                                                                                                                                                                                                                          |
| Description                                                                                  | Allometric equation for species j linking measured tree variable (s) to aboveground biomass of living trees, expressed as t d.m. tree <sup>-1</sup>                                                                                                                |
| Source of data                                                                               | The Chavé formula for trees and Winrock for palm trees.                                                                                                                                                                                                            |
| Value applied                                                                                | $B = \rho \cdot \exp(-1.499 + 2.148 \cdot \ln(\text{DBH}) + 0.207 \cdot (\ln(\text{DBH}))^2 - 0.0281 \cdot (\ln(\text{DBH}))^3)$ in Kg (dry)..Chavé<br>$B = 6.666 + 12.826 \cdot \ln(H)$ in Kg (dry)...palm<br>$B = 47.022$ in Kg (dry)...bamboo                   |
| Justification of choice of data or description of measurement methods and procedures applied | Both formulas have been taken from: <ul style="list-style-type: none"> <li>- Pearson, T., Walker, S. and Brown, S. 2005. Sourcebook for Land Use, Land-Use Change and Forestry Projects. Winrock International and the World Bank Biocarbon Fund. 57pp.</li> </ul> |

|                 |                                                                                                                                       |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------|
|                 | Chave, J, et. Al. 2005. Tree allometry and improved estimation of carbon stocks and balance in tropical forests. Ecología 145: 87-99. |
| Purpose of Data | Calculation of baseline emissions                                                                                                     |
| Comments        |                                                                                                                                       |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------|----------------|--------|---------|--------|------------|--------|----|-------|----|-------|----|---|----|-------|
| Data / Parameter                                                                             | Carbon stock in all pools in the forest stratum                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Data unit                                                                                    | T CO <sub>2</sub> e / ha                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Description                                                                                  | Carbon stock by stratum in baseline before deforestation.                                                                                                                                                                                                                                                                                                                                                                                                                       |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Source of data                                                                               | Determined from carbon inventories carried out in the Project Area.                                                                                                                                                                                                                                                                                                                                                                                                             |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Value applied                                                                                | <table border="1"> <tr> <td>Hill Forest</td><td>505.10</td></tr> <tr> <td>Terrace Forest</td><td>547.81</td></tr> <tr> <td>Bamboos</td><td>604.48</td></tr> <tr> <td>Tree swamp</td><td>543.42</td></tr> <tr> <td>DP</td><td>18.63</td></tr> <tr> <td>DA</td><td>31.75</td></tr> <tr> <td>DI</td><td>-</td></tr> <tr> <td>DC</td><td>31.75</td></tr> </table>                                                                                                                   | Hill Forest | 505.10 | Terrace Forest | 547.81 | Bamboos | 604.48 | Tree swamp | 543.42 | DP | 18.63 | DA | 31.75 | DI | - | DC | 31.75 |
| Hill Forest                                                                                  | 505.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Terrace Forest                                                                               | 547.81                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Bamboos                                                                                      | 604.48                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Tree swamp                                                                                   | 543.42                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| DP                                                                                           | 18.63                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| DA                                                                                           | 31.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| DI                                                                                           | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| DC                                                                                           | 31.75                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Justification of choice of data or description of measurement methods and procedures applied | <ul style="list-style-type: none"> <li>- The inventory was made inside the Project Area. The inventory was coordinate by Nelson Kroll</li> <li>- Parcels were built in the different stratum.</li> <li>- DBH and HT were taken from each individual found.</li> <li>- It was determined the aerial biomass based in the Chavé formula for trees and Winrock for palm trees.</li> <li>- Factor 0.24 was used to determine the root biomass according to module CP-AB.</li> </ul> |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Purpose of Data                                                                              | Calculation of baseline emissions                                                                                                                                                                                                                                                                                                                                                                                                                                               |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |
| Comments                                                                                     | The exact data for each stratum is found in module CP-AB.                                                                                                                                                                                                                                                                                                                                                                                                                       |             |        |                |        |         |        |            |        |    |       |    |       |    |   |    |       |

|                  |                         |
|------------------|-------------------------|
| Data / Parameter | Change in the land use. |
| Data unit        | %                       |

|                                                                                                     |                                                                                                                                                                                                                                |                   |    |            |     |                           |     |                |    |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----|------------|-----|---------------------------|-----|----------------|----|
| <b>Description</b>                                                                                  | Percentages of the project area that will change the land use after deforestation.                                                                                                                                             |                   |    |            |     |                           |     |                |    |
| <b>Source of data</b>                                                                               | Determined according to the studies of land use carried out in the region of Madre de Dios.<br>CDC, UNALM, SZF, INRENA 2007.                                                                                                   |                   |    |            |     |                           |     |                |    |
| <b>Value applied</b>                                                                                | <table> <tr> <td>Clean cultivation</td><td>4%</td></tr> <tr> <td>Grasslands</td><td>54%</td></tr> <tr> <td>Agriculture and livestock</td><td>40%</td></tr> <tr> <td>Infrastructure</td><td>2%</td></tr> </table>               | Clean cultivation | 4% | Grasslands | 54% | Agriculture and livestock | 40% | Infrastructure | 2% |
| Clean cultivation                                                                                   | 4%                                                                                                                                                                                                                             |                   |    |            |     |                           |     |                |    |
| Grasslands                                                                                          | 54%                                                                                                                                                                                                                            |                   |    |            |     |                           |     |                |    |
| Agriculture and livestock                                                                           | 40%                                                                                                                                                                                                                            |                   |    |            |     |                           |     |                |    |
| Infrastructure                                                                                      | 2%                                                                                                                                                                                                                             |                   |    |            |     |                           |     |                |    |
| <b>Justification of choice of data or description of measurement methods and procedures applied</b> | The study mentioned has been carried out in areas that include the Project Area, or next to them. Furthermore, this data is updated and actors that are also in our areas have been considered. Is the same data of validation |                   |    |            |     |                           |     |                |    |
| <b>Purpose of Data</b>                                                                              | Calculation of baseline emissions                                                                                                                                                                                              |                   |    |            |     |                           |     |                |    |
| <b>Comments</b>                                                                                     | -                                                                                                                                                                                                                              |                   |    |            |     |                           |     |                |    |

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |       |                             |       |                 |                                                     |                      |                                                       |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------|-----------------------------|-------|-----------------|-----------------------------------------------------|----------------------|-------------------------------------------------------|
| <b>Data / Parameter</b>                                  | Emissions by biomass burning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |       |                             |       |                 |                                                     |                      |                                                       |
| <b>Data unit</b>                                         | T CO <sub>2</sub> e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |       |                             |       |                 |                                                     |                      |                                                       |
| <b>Description</b>                                       | Tons of CO <sub>2</sub> equivalents, coming from emissions of CH <sub>4</sub> and N <sub>2</sub> O by forest and agriculture residues burning.                                                                                                                                                                                                                                                                                                                                                                                                                       |                       |       |                             |       |                 |                                                     |                      |                                                       |
| <b>Source of data</b>                                    | Factors of module E-BB were used (table 2.6 and 2.5) for tropical forest. Likewise, it was used the combustion factor of table 2.6 by agriculture biomass burning<br><br>The deforested forest percentage that is burnt after deforestation has been taken from official sources <sup>12</sup>                                                                                                                                                                                                                                                                       |                       |       |                             |       |                 |                                                     |                      |                                                       |
| <b>Value applied</b>                                     | <p>Used values:</p> <ul style="list-style-type: none"> <li>- 55 % of the deforested forest is burnt.</li> <li>- Combustion factor.</li> </ul> <table> <tr> <td>Tropical Humid Forest</td><td>= 0.5</td></tr> <tr> <td>Agriculture Residues (Corn)</td><td>= 0.8</td></tr> </table> <ul style="list-style-type: none"> <li>- Emission Factor</li> </ul> <table> <tr> <td>Tropical Forest</td><td>= 6.8 (CH<sub>4</sub>) and 0.2 (N<sub>2</sub>O)</td></tr> <tr> <td>Agriculture Residues</td><td>= 2.7 (CH<sub>4</sub>) and 0.07 (N<sub>2</sub>O).</td></tr> </table> | Tropical Humid Forest | = 0.5 | Agriculture Residues (Corn) | = 0.8 | Tropical Forest | = 6.8 (CH <sub>4</sub> ) and 0.2 (N <sub>2</sub> O) | Agriculture Residues | = 2.7 (CH <sub>4</sub> ) and 0.07 (N <sub>2</sub> O). |
| Tropical Humid Forest                                    | = 0.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |       |                             |       |                 |                                                     |                      |                                                       |
| Agriculture Residues (Corn)                              | = 0.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |       |                             |       |                 |                                                     |                      |                                                       |
| Tropical Forest                                          | = 6.8 (CH <sub>4</sub> ) and 0.2 (N <sub>2</sub> O)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |       |                             |       |                 |                                                     |                      |                                                       |
| Agriculture Residues                                     | = 2.7 (CH <sub>4</sub> ) and 0.07 (N <sub>2</sub> O).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |       |                             |       |                 |                                                     |                      |                                                       |
| <b>Justification of choice of data or description of</b> | The percentage of 55% is moderate. Some experts consulted consider that 100% of hectares that are torn down are burnt                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |       |                             |       |                 |                                                     |                      |                                                       |

<sup>12</sup>Deforestation map of the Peruvian Amazon – 2000. MINAM (2009)

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| measurement methods and procedures applied |                                   |
| Purpose of Data                            | Calculation of baseline emissions |
| Comments                                   | -                                 |

## 4.2 Data and Parameters Monitored

|                                                                 |                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | Project Forest Cover Monitoring Map                                                                                                                                                                                                                      |
| Data unit                                                       | Ha.                                                                                                                                                                                                                                                      |
| Description                                                     | Map evidencing the stratification and location of the forest in the Project area at the beginning of each verification period. It has to be evidenced if within the Project area there are deforested areas.                                             |
| Source of data                                                  | Satellite images and field verification of deforested areas if any (GPS).                                                                                                                                                                                |
| Description of measurement methods and procedures to be applied | Analysis and Classification of Satellite Images Lizardo Fachin was the coordinator, he did the accuracy assessment and determinate the change use land. The visit field was responsible by personal field.                                               |
| Frequency of monitoring/recording                               | Every year with images. Verification of deforested areas will be permanent in field by the surveillance carried out by the monitoring equipment.                                                                                                         |
| Value monitored                                                 | Look at the File.01 memoria_M&M.junio.2021.pdf                                                                                                                                                                                                           |
| Monitoring equipment                                            | Software GIS, available satellite images, GPS, professional monitoring equipment in field                                                                                                                                                                |
| QA/QC procedures to be applied                                  | Permanent verification of the area of the project surfaces. Compliance Technical Quality Parameters on the Selection and processing of images including trothing<br>See Map                                                                              |
| Purpose of the data                                             | <ul style="list-style-type: none"> <li>Calculation of project emissions</li> </ul>                                                                                                                                                                       |
| Calculation method                                              | VCS module Estimation of emissions from activity shifting for avoided. The use of satellite iages to characterize forest cover through visual interpretation. Then, the vector files of the maps are generated and areas of forest types are determined. |
| Comments                                                        | Stratification is the same as the one used at the beginning of the term                                                                                                                                                                                  |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | Leakage Belt Forest Cover Monitoring Map.                                                                                                                                                                                                                                                                                                                                                     |
| Data unit                                                       | Ha                                                                                                                                                                                                                                                                                                                                                                                            |
| Description                                                     | Map evidencing the stratification and location of the forest in the Leakage Belt at the beginning of each verification period. It has to be evidenced if there are deforested areas.                                                                                                                                                                                                          |
| Source of data                                                  | Satellite images and field verification of deforested areas if any (GPS).                                                                                                                                                                                                                                                                                                                     |
| Description of measurement methods and procedures to be applied | Analysis and Classification of Satellite Images Lizardo Fachin was the coordinator, he did the accuracy assessment and determinate the change use land. The visit field was responsible by personal field.                                                                                                                                                                                    |
| Frequency of monitoring/recording                               | Every year with images to report monitoring.                                                                                                                                                                                                                                                                                                                                                  |
| Value monitored                                                 | 2020: 134.7 Deforest area.                                                                                                                                                                                                                                                                                                                                                                    |
| Monitoring equipment                                            | Software GIS, available satellite images, GPS, professional monitoring equipment in field.                                                                                                                                                                                                                                                                                                    |
| QA/QC procedures to be applied                                  | Verification of the area of the project surfaces. Also, through the accuracy assessment, during monitoring. Verification of the area of the surfaces of the projects. In addition, through evaluating the accuracy during monitoring.<br>Compliance Technical Quality Parameters on the Selection and processing of images including field trothing. Staff Training and Technical Specialists |
| Purpose of the data                                             | Calculation of leakage                                                                                                                                                                                                                                                                                                                                                                        |
| Calculation method                                              | VCS module Estimation of emissions from activity shifting for avoided                                                                                                                                                                                                                                                                                                                         |
| Comments                                                        | Stratification is the same as the one used at the beginning of the term.                                                                                                                                                                                                                                                                                                                      |

|                  |                                                                                                                                                                                                                                                                                              |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter | Degradation PRA Results                                                                                                                                                                                                                                                                      |
| Data unit        | Surveys and/or interviews.                                                                                                                                                                                                                                                                   |
| Description      | The PRA will be executed from interviews and/or surveys to local actors with the purpose of identifying the existence of degradation potential within the area of the project due to: <ul style="list-style-type: none"> <li>• Extraction of firewood.</li> <li>• Illegal logging</li> </ul> |

|                                                                 |                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                 | If $\geq 10\%$ of the surveys indicate that there is a risk of degradation then the procedures to verify and estimate the degradation should be executed. An additional result of the PRA would be the penetration distance that should be applied to calculate the area with degradation potential (buffer area). |
| Source of data                                                  | Current PRA (2019)                                                                                                                                                                                                                                                                                                 |
| Description of measurement methods and procedures to be applied | It would be developed according to the provisions set forth in the M-REDD                                                                                                                                                                                                                                          |
| Frequency of monitoring/recording                               | Each two years, according to the methodology                                                                                                                                                                                                                                                                       |
| Value monitored                                                 | Zero (There is no degradation in 2020)                                                                                                                                                                                                                                                                             |
| Monitoring equipment                                            | PRA sociologist in charge with focusing criteria.                                                                                                                                                                                                                                                                  |
| QA/QC procedures to be applied                                  | There would be templates to carry out surveys and/or interviews.                                                                                                                                                                                                                                                   |
| Purpose of the data                                             | Calculation of project emissions                                                                                                                                                                                                                                                                                   |
| Calculation method                                              | Used PRA each it is indicated a potential for degradation in the project area.                                                                                                                                                                                                                                     |
| Comments                                                        | n/a                                                                                                                                                                                                                                                                                                                |

|                                                                 |                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | Results of limited Degradation survey                                                                                                                                                                                                                                                                                           |
| Data unit                                                       | stumps                                                                                                                                                                                                                                                                                                                          |
| Description                                                     | If the PRA indicates there is degradation potential, then the procedures to verify the degradation occurrence should take place. Sampling transects are distributed across the buffer area with the purpose of identifying if there are new tree stumps. Trnsects should cover a surface of no less than 1% of the buffer area. |
| Source of data                                                  | Current PRA (2019)                                                                                                                                                                                                                                                                                                              |
| Description of measurement methods and procedures to be applied | PRA indicates there is not degradation.                                                                                                                                                                                                                                                                                         |

|                                   |                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------|
| Frequency of monitoring/recording | Each time the PRA indicates there is degradation potential to the project area. |
| Value monitored                   | Zero                                                                            |
| Monitoring equipment              | GPS, compass, tape line.                                                        |
| QA/QC procedures to be applied    | There would be templates to carry out surveys and/or interviews.                |
| Purpose of the data               | Calculation of project emissions                                                |
| Calculation method                | Used PRA each it is indicated a potential for degradation in the project area.  |
| Comments                          | -                                                                               |

|                                                                 |                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | Aburn, i, t                                                                                                                                                                                                                                                                                                                        |
| Data unit                                                       | Ha                                                                                                                                                                                                                                                                                                                                 |
| Description                                                     | Area burnt in stratum i at time t.<br>The monitoring will be carried out, if there is any record of any burnt area within the project area, on each stratum and year of the project.                                                                                                                                               |
| Source of data                                                  | Field measurements, and satellite images                                                                                                                                                                                                                                                                                           |
| Description of measurement methods and procedures to be applied | Area burnt in Stratum I at time t. There isn't any burnt area within the project area. There isn't a record of a burning. (If there is: it will be indicated the type of forest and burnt area to determine the GHG emissions (CH <sub>4</sub> and N <sub>2</sub> O). If possible, the new use of the land will also be indicated) |
| Frequency of monitoring/recording                               | Every time there is an occurrence.                                                                                                                                                                                                                                                                                                 |
| Value monitored                                                 | There are no burned areas in this period 2020                                                                                                                                                                                                                                                                                      |
| Monitoring equipment                                            | GPS                                                                                                                                                                                                                                                                                                                                |
| QA/QC procedures to be applied                                  | n/a                                                                                                                                                                                                                                                                                                                                |
| Purpose of the data                                             | Calculation of project emissions                                                                                                                                                                                                                                                                                                   |
| Calculation method                                              | Satellite images                                                                                                                                                                                                                                                                                                                   |
| Comments                                                        | Ex-ante burnt areas (baseline) have been determined by interviewing experts and by what it is known in the region of                                                                                                                                                                                                               |

|  |                                                                  |
|--|------------------------------------------------------------------|
|  | Madre de Dios. The obtained value will be used in the EBB module |
|--|------------------------------------------------------------------|

|                                                                 |                                                                                                                                                           |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | A <sub>DefPA, i, t</sub>                                                                                                                                  |
| Data unit                                                       | Ha                                                                                                                                                        |
| Description                                                     | Deforested area in the Project area by type of forest                                                                                                     |
| Source of data                                                  | Satellite images / Monitoring field                                                                                                                       |
| Description of measurement methods and procedures to be applied | The images used will be compatible with the ones already used in the estimations ex-ante in order to be compared                                          |
| Frequency of monitoring/recording                               | All moment, constant monitoring area in field. We need information to every verification event. With satellite images every year.                         |
| Value monitored                                                 | Zero. According with the results of satellite image analysis, there is no deforestation inside PA                                                         |
| Monitoring equipment                                            | Software GIS, available satellite images, verification in field with GPS and professional equipment with monitoring the perimeter and inside of the area. |
| QA/QC procedures to be applied                                  | n/a                                                                                                                                                       |
| Purpose of the data                                             | Calculation of project emissions                                                                                                                          |
| Calculation method                                              | Image satellite                                                                                                                                           |
| Comments                                                        | There is no deforestation during this period inside PA                                                                                                    |

|                  |                                                                           |
|------------------|---------------------------------------------------------------------------|
| Data / Parameter | A <sub>DefLB, i, t</sub>                                                  |
| Data unit        | Ha.                                                                       |
| Description      | Deforested area in the Leakage belt by type of forest                     |
| Source of data   | Landsat-8 satellite image. Sensor OLI. And monitoring with personal field |

|                                                                 |                                                                                                                                                                                                                                                         |                                                                                                     |             |                      |                  |                       |        |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------|----------------------|------------------|-----------------------|--------|
| Description of measurement methods and procedures to be applied | The images used will be compatible with the ones already used in the estimations ex-ante in order to be compared                                                                                                                                        |                                                                                                     |             |                      |                  |                       |        |
| Frequency of monitoring/recording                               | For every monitoring report. Constant monitoring in field                                                                                                                                                                                               |                                                                                                     |             |                      |                  |                       |        |
| Value monitored                                                 | Adef, LB, u, i, t                                                                                                                                                                                                                                       |                                                                                                     |             |                      |                  |                       |        |
|                                                                 | <div>u<br/>i</div>                                                                                                                                                                                                                                      | Pastures (8)                                                                                        | Farming (9) | Infraestructure (10) | Agriculture (11) | Secondary Forest (12) | TOTAL  |
|                                                                 | Hilly Forest (2)                                                                                                                                                                                                                                        | 77.64                                                                                               | 0           | 0                    | 41.89            | 6.23                  | 125.76 |
|                                                                 | Terrace Forest (3)                                                                                                                                                                                                                                      | 0                                                                                                   | 0           | 0                    | 8.94             | 0                     | 8.94   |
|                                                                 | Bamboo (4)                                                                                                                                                                                                                                              | 0                                                                                                   | 0           | 0                    | 0                | 0                     | 0      |
|                                                                 | Other (5)                                                                                                                                                                                                                                               | 0                                                                                                   | 0           | 0                    | 0                | 0                     | 0      |
|                                                                 | Tree Swamps (6)                                                                                                                                                                                                                                         | 0                                                                                                   | 0           | 0                    | 0                | 0                     | 0      |
|                                                                 | TOTAL                                                                                                                                                                                                                                                   | 77.64                                                                                               | 0           | 0                    | 50.83            | 6.23                  | 134.7  |
|                                                                 | Monitoring equipment                                                                                                                                                                                                                                    | Software GIS, available satellite images, verification in field with GPS and professional equipment |             |                      |                  |                       |        |
| QA/QC procedures to be applied                                  | Look the area in satellite images and ratified with personal field the area and use soil. Compliance with technical parameters of quality in the selection and processing of images including trothing. Training of technical and specialist personnel. |                                                                                                     |             |                      |                  |                       |        |
| Purpose of the data                                             | Calculation of leakage                                                                                                                                                                                                                                  |                                                                                                     |             |                      |                  |                       |        |
| Calculation method                                              | satellite images                                                                                                                                                                                                                                        |                                                                                                     |             |                      |                  |                       |        |
| Comments                                                        | It was confirmed that deforestation for the period monitored in leakage belt.                                                                                                                                                                           |                                                                                                     |             |                      |                  |                       |        |

|                  |                                                                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter | A <sub>DegW, i</sub>                                                                                                                                  |
| Data unit        | Ha                                                                                                                                                    |
| Description      | Area under potential degradation process.<br><br>Buffer area resulting from PRA, if it shows that there is potential degradation in the Project Area. |

|                                                                 |                                                                                                                                                    |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Source of data                                                  | GIS delineation and ground validation data.                                                                                                        |
| Description of measurement methods and procedures to be applied | The buffer area shall be composed from all access points. The length is obtained from the PRA results, and the width shall be equal to the length. |
| Frequency of monitoring/recording                               | Must be repeated each two years the PRA indicates a potential for degradation                                                                      |
| Value monitored                                                 | Zero. PRA results indicates that evidence of degradation is non-existent                                                                           |
| Monitoring equipment                                            | GIS software, field staff, GPS, Measuring tape                                                                                                     |
| QA/QC procedures to be applied                                  | n/a                                                                                                                                                |
| Purpose of the data                                             | Calculation of project emissions                                                                                                                   |
| Calculation method                                              | PRA results indicates that evidence of degradation is non-existent                                                                                 |
| Comments                                                        | There is no evidence of depredated areas or parcels ex-ante within the project area.                                                               |

|                                                                 |                                                                                                                           |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | A DECKS, i, t                                                                                                             |
| Data unit                                                       | Ha                                                                                                                        |
| Description                                                     | Area of logging decks in stratum i at time t.                                                                             |
| Source of data                                                  | Field measurements.                                                                                                       |
| Description of measurement methods and procedures to be applied | Field measurements of all logging decks and one pca estimated.                                                            |
| Frequency of monitoring/recording                               | Every year                                                                                                                |
| Value monitored                                                 | Zero. There aren't logging decks during this period                                                                       |
| Monitoring equipment                                            | Equipment used to monitor the data/parameter: GPS, Measuring tape and personal field.                                     |
| QA/QC procedures to be applied                                  | GPS was calibrated. Development of evaluation protocols or guidelines.<br>Training of technical and specialist personnel. |

|                     |                                                                                                                      |
|---------------------|----------------------------------------------------------------------------------------------------------------------|
| Purpose of the data | Calculation of project emissions                                                                                     |
| Calculation method  | Width and large with Measuring tape and know the number of logging deck in PCA.                                      |
| Comments            | Ex-ante estimations of emissions are based on average size and number of decks produced due to logging in the region |

|                                                                 |                                                                                                                                     |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 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                                                  | Satellite images and GPS coordinates.                                                                                               |
| Description of measurement methods and procedures to be applied | Interpretation of Landsat-8 satellite image. Sensor OLI.                                                                            |
| Frequency of monitoring/recording                               | Every monitoring report                                                                                                             |
| Value monitored                                                 | Zero, there is no disturbance during this period                                                                                    |
| Monitoring equipment                                            | Imagenes satelitaes, software sig, cartografia basica y gps                                                                         |
| QA/QC procedures to be applied                                  | In case there would be disturbances it is validated with gps in the field                                                           |
| Purpose of the data                                             | Calculation of project emissions                                                                                                    |
| Calculation method                                              | Satellite images.Forest loss areas and their CO2 equivalent                                                                         |
| Comments                                                        | Ex ante estimations of emissions from natural disturbances will be based on historic incidence of such event in the Project region. |

|                  |                                       |
|------------------|---------------------------------------|
| Data / Parameter | $A_{ROAD, I, t}$                      |
| Data unit        | Ha                                    |
| Description      | Area of roads in stratum i at time t. |
| Source of data   | Field measurements and estimated      |

|                                                                 |                                                                                                                          |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Description of measurement methods and procedures to be applied | Length and width of roads known in field registries. See the file Guia M&E -REDD                                         |
| Frequency of monitoring/recording                               | Every year                                                                                                               |
| Value monitored                                                 | Zero, There aren't roads during this period                                                                              |
| Monitoring equipment                                            | GPS and Measuring tape                                                                                                   |
| QA/QC procedures to be applied                                  | GPS was calibrated. Development of evaluation protocols or guidelines.<br>Training of technical and specialist personnel |
| Purpose of the data                                             | Calculation of project emissions                                                                                         |
| Calculation method                                              | With field data, average width by the total length. All width was taken in field, some length was estimated              |
| Comments                                                        | Ex-ante estimations are based on average length of roads produced per unit area due to logging in the region             |

|                                                                 |                                                                                                                                                                      |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | ARRL, forest, t                                                                                                                                                      |
| Data unit - equation                                            | Ha                                                                                                                                                                   |
| Description                                                     | Remaining area of forest in RRL                                                                                                                                      |
| Source of data                                                  | Landsat-8 satellite image. Sensor OLI.                                                                                                                               |
| Description of measurement methods and procedures to be applied | The images used will be compatible with the ones already used in the estimations ex-ante in order to be compared.                                                    |
| 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                                                 | Look at the File.01 memoria_M&M.junio.2021.pdf                                                                                                                       |
| Monitoring equipment                                            | Satellite imagen                                                                                                                                                     |
| QA/QC procedures to be applied                                  | n/a                                                                                                                                                                  |
| Purpose of the data                                             | Calculation of baseline emissions                                                                                                                                    |

|                    |                 |
|--------------------|-----------------|
| Calculation method | Satellite image |
| Comments           | -               |

|                                                                 |                                                                                                                                                           |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | AP <sub>i</sub>                                                                                                                                           |
| Data unit - equation                                            | Ha                                                                                                                                                        |
| Description                                                     | Total degraded area verified by sampling plots.                                                                                                           |
| Source of data                                                  | Ground measurement.                                                                                                                                       |
| Description of measurement methods and procedures to be applied | The sampling plan must be designed using plots systematically placed over the buffer zone so that they sample at least 3% of the area of the buffer zone. |
| Frequency of monitoring/recording                               | Every time the Limited Degradation Survey indicates degradation (existence of stumps).                                                                    |
| Value monitored                                                 | Zero, PRA showed no degradation pressure                                                                                                                  |
| Monitoring equipment                                            | GPS, field equipment: tape line, compass. And field staff.                                                                                                |
| QA/QC procedures to be applied                                  | Trained staff for field measurement.                                                                                                                      |
| Purpose of the data                                             | Calculation of project emissions                                                                                                                          |
| Calculation method                                              | PRA showed no degradation pressure                                                                                                                        |
| Comments                                                        | -                                                                                                                                                         |

|                                                                 |                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | C <sub>DegW, i, t</sub>                                                                                                                                                                                                                                                                                   |
| Data unit - equation                                            | T CO <sub>2</sub> –e                                                                                                                                                                                                                                                                                      |
| Description                                                     | Biomass carbon of removed trees through degradation process from plots measures in stratum.                                                                                                                                                                                                               |
| Source of data                                                  | Field measurement.                                                                                                                                                                                                                                                                                        |
| Description of measurement methods and procedures to be applied | With the tree-stumps identified during the evaluation of sampling parcels of the buffer area, the following procedures should be considered: <ul style="list-style-type: none"> <li>- Take the diameter of the tree-stumps that will be assumed as DBH. In case they are too big (for example,</li> </ul> |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | <p>due to buttress roots), then the specimen should be identified and place other individuals of the same species standing next to it. Then, measure their DBH and tree-stumps diameter. With this data, DBH should be estimated as from the tree-stumps diameter of the individuals deforested.</p> <ul style="list-style-type: none"> <li>- With DBH data, the carbon stock of individuals deforested is calculated using an allometric equation, yet to be defined.</li> </ul> <p>It will be assumed that all stock will be send to the atmosphere.</p> |
| Frequency of monitoring/recording | Every time there is a degradation event or at least every 5 years. This period the PRA was negative                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Value monitored                   | Zero                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Monitoring equipment              | GPS, field equipment: tape line, compass. And field staff.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| QA/QC procedures to be applied    | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Purpose of the data               | Calculation of project emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Calculation method                | Through an allometric equation, using the DBH as one of its variables                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Comments                          | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                 |                                                                                                                                                                                                    |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | CAB_tree_dest,i                                                                                                                                                                                    |
| Data unit - equation                                            | T CO <sub>2</sub> -e ha <sup>-1</sup>                                                                                                                                                              |
| Description                                                     | Carbon stock in aboveground tree biomass assumed to be killed per unit area resulting from the creation of the skid trail per stratum. As baseline, and it permits the methodology (pag 15 M-REDD) |
| Source of data                                                  | CP-AB and documentation stating maximum size tree able to be killed during skid trail creation                                                                                                     |
| Description of measurement methods and procedures to be applied | It is assumed that CAB_tree_dest,i = CAB_tree,i in the baseline.                                                                                                                                   |
| Frequency of monitoring/recording                               | Specify measurement and recording frequency                                                                                                                                                        |
| Value monitored                                                 | Hilly forest 407.34 t CO <sub>2</sub> /ha                                                                                                                                                          |

|                                |                                                                                                                                                                                                                          |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | Terrace forest 441.78 t CO <sub>2</sub> /ha                                                                                                                                                                              |
| Monitoring equipment           | -                                                                                                                                                                                                                        |
| QA/QC procedures to be applied | the same that validation                                                                                                                                                                                                 |
| Purpose of the data            | Calculation of project emissions                                                                                                                                                                                         |
| Calculation method             | It can be assumed that all diameter trees are destroyed and therefore the aboveground and belowground tree biomass destroyed by the skidder equates to the mean aboveground biomass carbon stock of trees in the stratum |
| Comments                       | -                                                                                                                                                                                                                        |

|                                                                 |                                                                                                                                        |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | CBB_tree_dest,i                                                                                                                        |
| Data unit - equation                                            | T CO <sub>2</sub> -e ha <sup>-1</sup>                                                                                                  |
| Description                                                     | Carbon stock in belowground tree biomass assumed to be killed per unit area resulting from the creation of the skid trail per stratum. |
| Source of data                                                  | CAB_tree_dest,i                                                                                                                        |
| Description of measurement methods and procedures to be applied | Estimation of belowground biomass will be performed following the procedures set in module CP-AB.                                      |
| Frequency of monitoring/recording                               | Specify measurement and recording frequency                                                                                            |
| Value monitored                                                 | Hilly forest: 97.76 TCO <sub>2</sub> /ha<br>Terrace forest: 106.03 TCO <sub>2</sub> /ha                                                |
| Monitoring equipment                                            | -                                                                                                                                      |
| QA/QC procedures to be applied                                  | the same that validation                                                                                                               |
| Purpose of the data                                             | Calculation of project emissions                                                                                                       |
| Calculation method                                              | It can be assumed that all diameter trees are destroyed and therefore the aboveground and belowground tree biomass                     |

|          |                                                                                                       |
|----------|-------------------------------------------------------------------------------------------------------|
|          | destroyed by the skidder equates to the mean aboveground biomass carbon stock of trees in the stratum |
| Comments | The root-to-shoot ratio 0.24 is used (same as used in baseline carbon-stock calculations).            |

|                                                                 |                                                                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | $F_{lu}$                                                                                                           |
| Data unit - equation                                            | Dimensionless                                                                                                      |
| Description                                                     | Land use factor before or after conversion                                                                         |
| Source of data                                                  | Stock change factor are provided in tables 5.5, 5.10 and 6.2 of the IPCC 2006 GL Volume 4                          |
| Description of measurement methods and procedures to be applied | This parameter is used to calculate the change in soil carbon stock. The land has been excluded in the PDD pag 128 |
| Frequency of monitoring/recording                               | Never. Soil carbon pool was excluded                                                                               |
| Value monitored                                                 | No Applicable                                                                                                      |
| Monitoring equipment                                            | No                                                                                                                 |
| QA/QC procedures to be applied                                  | -                                                                                                                  |
| Purpose of the data                                             | Calculation of project emissions                                                                                   |
| Calculation method                                              | No.                                                                                                                |
| Comments                                                        | The project doesn't included soil carbon pool as registered in the pdd pag 128                                     |

|                                    |                                                                                                                    |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                   | $F_{MG}$                                                                                                           |
| Data unit - equation               | Dimensionless                                                                                                      |
| Description                        | Management factor before or after conversion                                                                       |
| Source of data                     | Stock change factor are provided in tables 5.5, 5.10 and 6.2 of the IPCC 2006 GL Volume 4                          |
| Description of measurement methods | This parameter is used to calculate the change in soil carbon stock. The land has been excluded in the PDD pag 128 |

|                                   |                                               |
|-----------------------------------|-----------------------------------------------|
| and procedures to be applied      |                                               |
| Frequency of monitoring/recording | Never. Soil carbon pool was excluded          |
| Value monitored                   | No. Applicable                                |
| Monitoring equipment              | No.                                           |
| QA/QC procedures to be applied    | -                                             |
| Purpose of the data               | Calculation of project emissions              |
| Calculation method                | No                                            |
| Comments                          | The project doesn't included soil carbon pool |

|                                                                 |                                                                                                                    |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | $F_i$                                                                                                              |
| Data unit - equation                                            | Dimensionless                                                                                                      |
| Description                                                     | Input factor before or after conversion                                                                            |
| Source of data                                                  | Stock change factor are provided in tables 5.5, 5.10 and 6.2 of the IPCC 2006 GL Volume 4                          |
| Description of measurement methods and procedures to be applied | This parameter is used to calculate the change in soil carbon stock. The land has been excluded in the PDD pag 128 |
| Frequency of monitoring/recording                               | Never. Soil carbon pool was excluded                                                                               |
| Value monitored                                                 | No. Applicable                                                                                                     |
| Monitoring equipment                                            | No                                                                                                                 |
| QA/QC procedures to be applied                                  | -                                                                                                                  |
| Purpose of the data                                             | Calculation of project emissions                                                                                   |
| Calculation method                                              | No                                                                                                                 |

|          |                                               |
|----------|-----------------------------------------------|
| Comments | The project doesn't included soil carbon pool |
|----------|-----------------------------------------------|

|                                                                 |                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | Lsk                                                                                                                                                                                                                                                                                                        |
| Data unit                                                       | m.                                                                                                                                                                                                                                                                                                         |
| Description                                                     | Length of skid trail sk.                                                                                                                                                                                                                                                                                   |
| Source of data                                                  | Field measurements and estimated                                                                                                                                                                                                                                                                           |
| Description of measurement methods and procedures to be applied | A systematic sampling with random start within a sampled known logged area within the project boundary will produce an estimate of the length of skid trails created. The total length of skid trails in the project area equals the mean length of skid trails per unit area times the total area logged. |
| Frequency of monitoring/recording                               | Every year                                                                                                                                                                                                                                                                                                 |
| Value monitored                                                 | Zero. Lsk was not monitored in the field (2020). There was not activity                                                                                                                                                                                                                                    |
| Monitoring equipment                                            | Gps, personal field                                                                                                                                                                                                                                                                                        |
| QA/QC procedures to be applied                                  | Development of evaluation protocols or guidelines.<br>Training of technical and specialist personnel                                                                                                                                                                                                       |
| Purpose of the data                                             | Calculation of project emissions                                                                                                                                                                                                                                                                           |
| Calculation method                                              | -                                                                                                                                                                                                                                                                                                          |
| Comments                                                        | - There is not value to report.                                                                                                                                                                                                                                                                            |

|                                                                 |                                                                                                                                                                                                                       |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | $V_{EXT, z, i, t}$                                                                                                                                                                                                    |
| Data unit                                                       | $m^3$                                                                                                                                                                                                                 |
| Description                                                     | Volume extracted from logging stratum z in stratum i at time t.                                                                                                                                                       |
| Source of data                                                  | Records and reports (based on field measurements) documenting amount of wood extracted within project boundary.                                                                                                       |
| Description of measurement methods and procedures to be applied | Documentation includes: <ul style="list-style-type: none"> <li>Delineation of the location.</li> <li>Total area logged in the Project area.</li> <li>Methods used to measure the amount of wood extracted.</li> </ul> |

|                                   |                                                                                                                           |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------|
|                                   | Methods to estimate and catalog the volume of wood felled and extracted.                                                  |
| Frequency of monitoring/recording | Avery year. There was not activity                                                                                        |
| Value monitored                   | Zero. There is not value to report.                                                                                       |
| Monitoring equipment              | Gps, personal field, measuring tape                                                                                       |
| QA/QC procedures to be applied    | Development of evaluation protocols or guidelines.<br>Training of technical and specialist personnel.                     |
| Purpose of the data               | Calculation of project emissions                                                                                          |
| Calculation method                | Data taken in field used to know the volume per tree and then the volume total. the general equation= $\pi \cdot (D^2/4)$ |
| Comments                          | -                                                                                                                         |

|                                                                 |                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | $V_{EXT,j,z,i,t}$                                                                                                                                                                                                                                                                                        |
| Data unit                                                       | $m^3$                                                                                                                                                                                                                                                                                                    |
| Description                                                     | Volume of timber extracted of species j for logging stratum z in stratum i at time t.                                                                                                                                                                                                                    |
| Source of data                                                  | Records and reports (based on field measurements) documenting amount of wood extracted within project boundary.                                                                                                                                                                                          |
| Description of measurement methods and procedures to be applied | Documentation includes: <ul style="list-style-type: none"> <li>Delineation of the location.</li> <li>Total area logged in the Project area.</li> <li>Methods used to measure the amount of wood extracted by species</li> </ul> Methods to estimate and catalog the volume of wood felled and extracted. |
| Frequency of monitoring/recording                               | Avery year. There was not activity                                                                                                                                                                                                                                                                       |
| Value monitored                                                 | Zero. There is not value to report.                                                                                                                                                                                                                                                                      |
| Monitoring equipment                                            | Gps, personal field, measuring tape                                                                                                                                                                                                                                                                      |
| QA/QC procedures to be applied                                  | Development of evaluation protocols or guidelines.<br>Training of technical and specialist personnel.                                                                                                                                                                                                    |
| Purpose of the data                                             | Calculation of project emissions                                                                                                                                                                                                                                                                         |

|                    |                                                                                                                           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------|
| Calculation method | Data taken in field used to know the volume per tree and then the volume total. the general equation= $\pi \cdot (D^2/4)$ |
| Comments           | -                                                                                                                         |

|                                                                 |                                                                                                      |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | $W_{SKID}$                                                                                           |
| Data unit                                                       | m                                                                                                    |
| Description                                                     | Mean width of skid trails.                                                                           |
| Source of data                                                  | Field measurements.                                                                                  |
| Description of measurement methods and procedures to be applied | Systematic sampling with a random start to produce an average width of skid trails-                  |
| Frequency of monitoring/recording                               | Every year. There was not activity.                                                                  |
| Value monitored                                                 | Zero. There is not value to report.                                                                  |
| Monitoring equipment                                            | GPS, Measuring tape and field personal                                                               |
| QA/QC procedures to be applied                                  | Development of evaluation protocols or guidelines.<br>Training of technical and specialist personnel |
| Purpose of the data                                             | Calculation of project emissions                                                                     |
| Calculation method                                              | Take in field with Measuring tape the width                                                          |
| Comments                                                        | -                                                                                                    |

### 4.3 Monitoring Plan

The Madre de Dios Amazon REDD Project involves two adjacent timber concessions, included within the “Permanent Production Forest” of the Madre de Dios region. It has a total official area of 97,817.41 hectares covered by natural tropical forests with the presence of “Paca” (native bamboo). This type of forest is characterized by a great diversity of flora and fauna of Amazonian species. The physiographic type corresponds mainly to “Low Hills”.

Although the management of the area for the production of forest products, mainly wood under an FSC scheme, is in charge of the two forest concessions, both constitute a single

unit for the implementation of the Madre de Dios Amazon REDD Project. In this sense, the implementation of the activities related to the monitoring component of the project is performed by a single technical team.

The main goal of this Monitoring Plan is the collection of the data that allow the verification of the deforestation and the degradation within the project area and its leakage belt throughout time, regularly updating the emissions estimations as well as the generation of sufficient and timely information to make the necessary adjustments to the strategies included in the VCS Madre de Dios Amazon REDD Project PD Template.

The Monitoring Plan is focused in the following two main components:

1. Monitoring of the Madre de Dios Amazon REDD Project objectives.

- a) **OUTCOME 1:** Contribute to the sustainable development of rural producers living in the buffer zone of the project.
- b) **OUTCOME 2:** Reduce the vulnerability of the project area from external factors of deforestation and degradation.

This component will be conducted through the assessment of compliance with the activities proposed for each objective.

2. Monitoring the parameters described this Monitoring Plan (Data and Parameters Monitored):

- c) Forest cover map – Strata within the project area
- d) Forest cover map – Strata within the project leakage belt
- e) Results of the PRA
- f) Degradation results
- g) Burned area
- h) Deforested area within the project area
- i) Deforested area within the project leakage belt
- j) Potentially degraded area within the project area
- k) Degraded area within the project area
- l) Carbon stock loss due to degradation
- m) Emissions due to biomass burning (if deforestation within the project area occurs – land use change to agriculture and burning of the forest)
- n) Carbon stock in wood products
- o) And other in the section 3.1.2

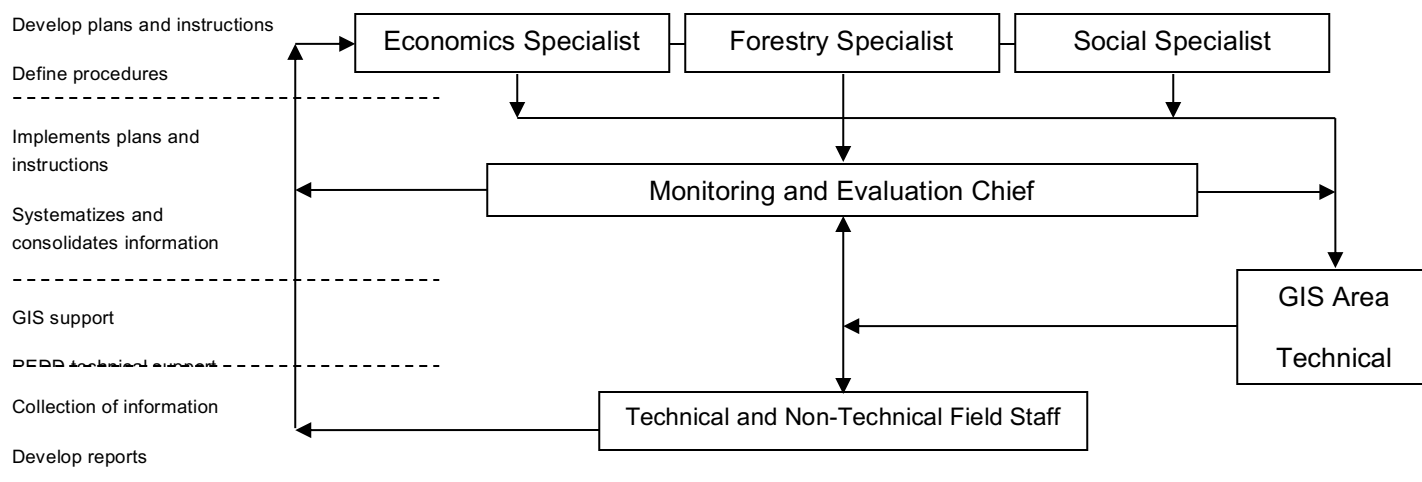
## ORGANIZATIONAL STRUCTURE

The Madre de Dios Amazon REDD Project counts with a skilled and experienced technical team for its implementation and its monitoring component. In addition to this, it also counts with the technical advice of Greenoxx NGO, Tatiana Lapeyre and Lizardo Fachin and other specialist consultant in carbon projects (Eco Development Group Sac), all of them

experienced institutions in the development of conservation and sustainable use of resources projects and projects involving the use of environmental services such as REDD Projects.

The development of the Monitoring Plan is in charge of a multidisciplinary team, led by an Economist, a Forestry Specialist and a Social Specialist, allowing the integral address of the different components of the plan. Its implementation is responsibility of the Monitoring and Evaluation Chief, who must articulate it with the technical and non-technical field staff, the same that carry out the in-field measurements and the corroboration of the laboratory information. There is also a GIS Area for mapping support. Additionally, BAM NGO, Tatiana Lapeyre and Lizardo Fachín (Eco Development Group sac) provides support for the development of the modeling and specialized items that are required for the monitoring of the project.

Following, the information flow of the monitoring system is detailed:



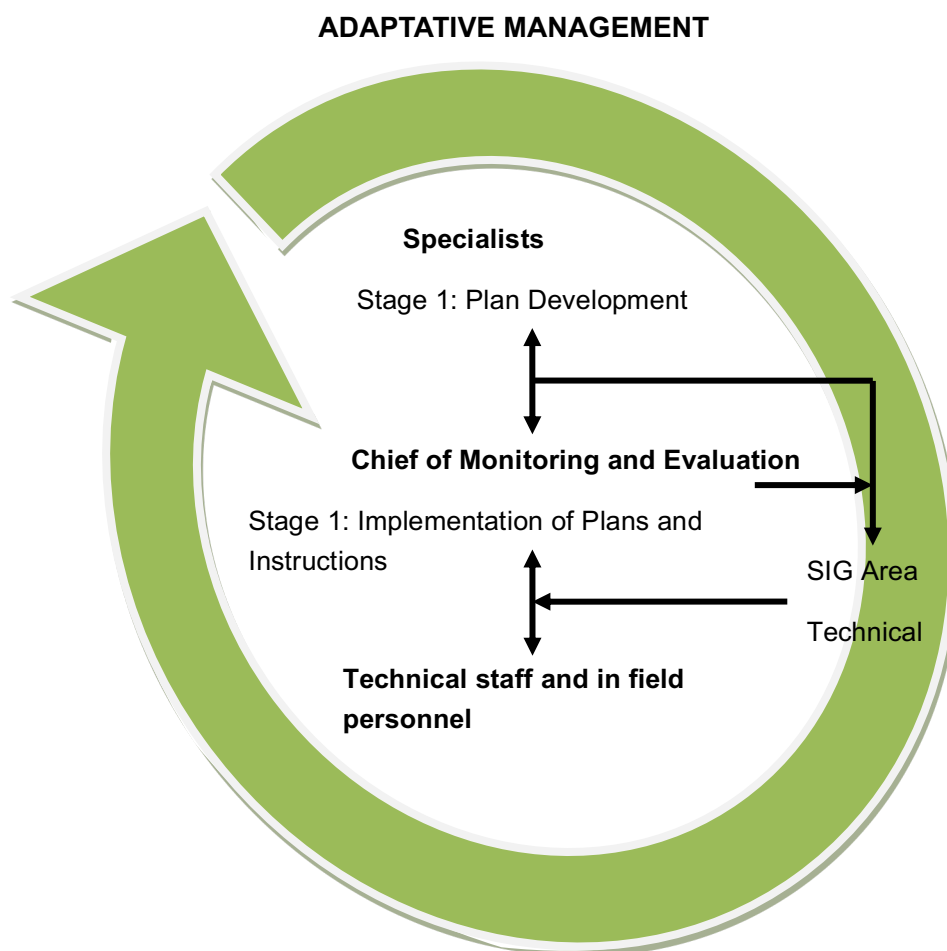
## INFORMATION MANAGEMENT: DATA COLLECTION, PROCESSING AND REPORT

The project is based in the premise of the “Adaptive Management”, in this sense every intervention on the forest is sustained in previous information collected in field as a knowledge basis. Based on this knowledge is that Management Plans, Operative Plans and the rest of the necessary instructions for the implementation of the project, the interventions on the forest and the treatment of the social component are defined.

The permanent implementation of the Monitoring Plan allows the identification of the tendencies of the different parameters, including those that are useful to evaluate the compliance with the objectives of the Project. The knowledge that is generated allows the adaptation of the system (plans and the rest of the instructions).

The information collected in field by the technical staff is systematized by the Monitoring and Evaluation Chief, who at the end of the year (November-December) presents the Monitoring Report for the period to the specialists who together with other members of the project, will elaborate the Operative Plan of the following period, identifying additionally which manuals of instructions or protocols should be updated or adapted to the occurring changes. Since the following up in the implementation of the project is permanent, if important changes occur, the system can be updated during the same period, without having to wait for the report at the end of said period.

Following, the information flow in the framework of the adaptive management of the project is presented:



## PLANIFICATION AND MONITORING

Forms have been defined for the collection of the field data that is currently within the concessions, processes and forms have been defined for those variables to be monitored.

The collected data have been systematically digitalized in Excel type spreadsheets, also designed according to the information requirements. The calculations have been made in said spreadsheets using the correspondent formulas and afterwards the necessary reports are delivered as the basis for the elaboration of the consolidated Monitoring Report.

All the field monitoring processes should be documented, all the established sample units or plots should be georeferenced and systematized within the GIS.

The physical and digital files which store the data generated during the monitoring process will be accessible in the two modalities described before (physical files and digital files), being kept in the project offices in the locality of Iñapari and in Maderacre's central office in Lima, Perú throughout the Madre de Dios Amazon REDD Project duration and for at least two years after the end of the project crediting period.

The information management comprises the following steps or processes:

#### Step 1: Selection and Analysis of the Source of Land Use Change

##### 1.1 For the monitoring period of 5 years, the following actions will be carried out:

- a) The collected and analyzed data should cover the entire project area and leakage belt. Available data for the year when verification occurs.
- b) For the calculation of each category of land use change:
  - The area of each category within the project area will be calculated and where required within the leakage belt.
  - The forest cover maps of reference for the project area and leakage belt will be updated.
  - The remaining forest area within the project zone will be updated.

##### 1.2 For the monitoring period of 10 years. Baseline review:

- a) Use of middle resolution images (30 m x 30 m or less, if available) at the end of the period where the baseline will be renewed.
- b) The collected and analyzed data should cover:
  - The entire reference region: available data for the year of baseline renewal or not less than a year earlier.
  - For the processing of the data change for the Great Land Use Capacity (in Spanish Capacidad de Uso Mayor de las Tierras), will be georeferenced and geometrical corrections will be made as well as clouds and shadows detections.
  - The area of each category within the reference region, project area and where required within the leakage belt will be calculated.
  - The forest cover maps of reference for the reference area, project area and leakage belt will be updated.
  - The total deforested areas during the first 10 years will be estimated in order to adjust the baseline and the deforestation rate if necessary.

Note: The indications of the correspondent Module of the REDD Methodology Modules will be taken into account with respect to clouds for the determination of maps. A classification accuracy of 90% or more will be sought.

## Step 2: Interpretation and Analysis

### 2.1 Monitoring of Deforestation

- a) Deforested area within the Project Area (PA) per stratum.
- b) Deforested area within the Leakage Belt (LB) per stratum.  
In both cases it must be specified to what type of Land Use (LU) the deforested areas have been changed. For the baseline re-calculation it should be established or indicated if the percentages of land use change are still the same as in the initial baseline.
- c) Carbon stock in carbon pools:
  - Carbon stock in each stratum defined in the baseline is maintained. It will be reassessed for the baseline review (in 10 years).
  - Carbon stock of each land use is maintained. It will be reassessed for the baseline review (in 10 years).
- d) Volume of timber harvested in each concession, per stratum and per year.
- e) Deforested area within the Reference Region (for the baseline review).

### 2.2. Monitoring of Degradation

The Madre de Dios Amazon REDD Project counts with a Custody System in the process of implementation (control posts, defined boundaries, regular patrolling, etc.). In this sense, it is expected that there will be no degradation by wood extraction due to illegal logging or firewood or coal production. If this occurs within the concessions, this degradation will be discounted.

A Participatory Rural Appraisal (PRA) will be conducted in order to determine whether degradation occurs. In this sense, these steps will be followed:

- a) Degradation due to illegal logging:
  - The PRA will be conducted every 2 years. The first PRA was done in 2011-2012, the last PRA was conducted in 2015, 2017 and 2019. If the results indicate that the project area has no pressure from this type of degradation, then it will be assumed that:  $\Delta C_{p,Deg,i,t} = 0$ . (that was to this period)
  - If the results of the PRA indicate that there is potential for degradation, then it must:
    - Obtain a “penetration distance” in the PRA (distance that the degradation agents can enter from the nearest access points).
    - Identify the most important access points to the vulnerable area.
    - From said points, draw the distances and create a Buffer Area with a width equal to length.

- Transects will be established to evaluate the buffer zone. The assessed area should not be lesser than 1% of the buffer area.
- If stumps are not found (harvested trees), then it is assumed that  $\Delta C_{p,Deg,i,t} = 0$  and the assessment is repeated every 2 years.
- If stumps are found, then a systematic assessment is carried out. For this, plots are distributed systematically, being the area to assess  $\geq 3\%$  of the buffer area.
- Take into account the diameter of the stumps, which will be assumed as their DBH. If they were very large (e.g. due to buttresses), then the species of the stump is identified and standing trees of the same species are located. Afterwards, their DBH and stump diameter are measured and a ratio between DBH/stump diameters is calculated. With this ratio, the DBH from the stump diameter of the cleared individuals that were found is estimated.
- With the DBH data, the carbon stock of the harvested trees is calculated, using the allometric equation that was employed for the estimation of the tree carbon stocks in the baseline (Chavé Equation).
- It will be assumed that all stock will be lost to the atmosphere.
- This assessment must be repeated every 5 years.

b) Degradation due to fire:

- Burned areas must be measured in the field using
- GPS.
- In order to calculate the emissions from this, the E-BB Module of the approved VCS REDD Methodology Modules shall be followed.

### 2.3 Monitoring of areas of increased carbon stocks

The increase in carbon stocks is assumed to be zero, thus it does not require monitoring.

### 2.4 Monitoring of project emissions

The Non-CO<sub>2</sub> GHG emissions will be calculated:

- a) N<sub>2</sub>O and CH<sub>4</sub> from the burning of agricultural and forest biomass. It is carried out in those areas of land where use change occurred. For the ex-ante calculations of the biomass burned within the forest, it was estimated (through expert consultation) that 50% of the deforested forest was burned. In the case that deforestation within the project area occurs, a new percentage will be established (based on real measurements that will be made or literature support). It will be indicated what was done for the baseline recalculation (every 10 years).
- b) N<sub>2</sub>O emissions due to the use of fertilizer within deforested areas. In the case that deforestation and N<sub>2</sub>O use occur during the project lifetime, the amount of nitrogen fertilizer used per deforested hectare shall be determined.

## SATELLITE IMAGES ANALYSIS AND INTERPRETATION

The deforestation and the source of land use change analysis should be conducted through the use of satellite images and in-field verifications. The procedures that will be considered are the following:

### 1. Selection of satellite images:

The image was obtained from the image server: Instituto Nacional de Pesquisas Espaciais - (INPE-Brazil) <http://www.dgi.inpe.br/catalogo/>

The satellite image used was Landsat- 8, path 003 and row 068. The image has only 1% of cloud cover, in the evaluated area.

The monitoring reports must detail the relationship between the acquired images and the use of an “Images Acquisition Form” that includes the following information: Path, Row, Date, Year, Source and Code.

Images with a cloud cover surpassing 10% of the entire area of the image must not be used, this to ensure the proper analysis of them.

### 2. Satellite images processing:

For the processing of the selected satellite images, the software used are Erdas Imagine 2011 2® and ArcGis v10.1®. This activity should include the following steps:

#### a) Band composition

As the image is acquired in TIFF format (raw format), it has to be decompressed and exported to Erdas Imagine matrix (\*.img). Then, all bands are grouped in a 543-RGB combination, which is the most optimal combination for visual interpretation of deforestation and land use change.

#### b) Geometric Correction

This process is applied to transform images by eliminating geometrical distortions from the sensor, which means that they must be georeferenced. It is a very important step because it assures that the image is located in the same geographical space as the historic images.

#### c) Radiometric Improvement

This is done to get a better visual appearance of the image.

#### d) Visual classification

IIAP methodology was used to classify the satellite images. The working scale was 1:80 000. The classes identified were:

- Forest
- Non forest land, which was divided into sub categories:

- Pastures
- Agriculture
- Farming
- Infrastructure
- Secondary forest, included here to avoid accounting for positive changes in forest (natural regeneration).

For this period no deforestation has occurred in the Project Area. The Leakage Belt has 195.02 ha.

## INTERNAL AUDITING

The main purpose of the management system of the project's information quality is to minimize the risks of error, obtaining reliable data on which to base the monitoring results. It includes the following steps:

### 1. Training

It includes the training of general staff in the different roles to play within the framework of the Madre de Dios Amazon REDD Project, however, aiming at always having quality information, the training on those critical points of the information management will be prioritized, which are field collection and its processing (Evaluation and Monitoring Chief, field staff and GIS Specialist). All staff must go through an induction process before executing any activity related to the monitoring.

### 2. In-field verification

It basically consists of monitoring in the field, and that the field staff is following the procedures set out in the methodological guidelines given in the previous process of induction. This work is in charge of the Evaluation and Monitoring Chief.

An error in following the procedures should be corrected in the field during the execution of samplings or assessments.

### 3. Review of the collected data pre and post digitalization

The collected data should be reviewed before (field forms) and after (electronic spreadsheet) its digitalization, so that a second eye can detect inconsistent information. This work is in charge of the Evaluation and Monitoring Chief.

If any information inconsistency is identified at the level of field forms, this information must be verified in the field. If the inconsistency is found in the digitalized information, it must be corroborated in the field forms and whether the inconsistency persists, it must be corroborated in the field.

### 4. Review of the monitoring reports prior to publication

The monitoring reports must be reviewed prior to publication, in order to confirm the calculations, analysis and the conclusions are accurate and measured. This work is in charge of the Project Chief or Coordinator.

If non-conformities exist during the internal or external auditing processes, the data should be reviewed and the non-conformities addressed.

## 5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

### 5.1 Baseline Emissions

As showed in the Project PD, the net GHG emissions under the baseline scenario during this period is presented in the next chart according to PD VCS (pg. 164 in PD and Excel). According with the PD the project estimated the VCU in the first 10 years of the project<sup>13</sup>.

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<sup>11</sup> The table was presented for validation according to the module with which it validated. In the following table, the nomenclature of the parameters of the statement has been updated according to the update requested in the NIR 24, October 2020. Currently the variables have been modified from:  $\Delta\text{CBSL}$ , unplanned to  $\Delta\text{CBSL-REDD}$  / from  $\Delta\text{CLK-AS}$ , unplanned to  $\Delta\text{CLK-REDD AS.unplanned}$  and from  $\text{Credd,t}$  to  $\text{CWPS REDD,t}$

Table 5-1-1 Net GHG emissions under the baseline scenario according to PD VCS (pg 164 in PD and Excel validated)

| t     | year | $\Delta\text{C}_{\text{BSL-REDD, unplanned}}$ | $\Delta\text{C}_{\text{p}}$ | $\Delta\text{C}_{\text{LK-REDD-AS, unplanned}}$ | $\Delta\text{C}_{\text{WPSREDD, t}}$ | Buffer, unplanned | VCut       |
|-------|------|-----------------------------------------------|-----------------------------|-------------------------------------------------|--------------------------------------|-------------------|------------|
| 1     | 2009 | 1,162,914                                     | -                           | 87,943                                          | 1,074,971                            | 116,291           | 958,679    |
| 2     | 2010 | 1,305,876                                     | -                           | 82,095                                          | 1,223,781                            | 130,588           | 1,093,193  |
| 3     | 2011 | 1,314,396                                     | -                           | 82,454                                          | 1,231,942                            | 131,440           | 1,100,503  |
| 4     | 2012 | 1,175,042                                     | -                           | 82,564                                          | 1,092,479                            | 117,504           | 974,974    |
| 5     | 2013 | 1,190,498                                     | -                           | 81,976                                          | 1,108,522                            | 119,050           | 989,472    |
| 6     | 2014 | 1,107,895                                     | -                           | 81,920                                          | 1,025,975                            | 110,789           | 915,186    |
| 7     | 2015 | 1,046,807                                     | -                           | 80,361                                          | 966,446                              | 104,681           | 861,765    |
| 8     | 2016 | 1,028,258                                     | -                           | 79,417                                          | 948,841                              | 102,826           | 846,015    |
| 9     | 2017 | 1,033,409                                     | -                           | 80,152                                          | 953,257                              | 103,341           | 849,916    |
| 10    | 2018 | 1,054,842                                     | -                           | 77,902                                          | 976,940                              | 105,484           | 871,456    |
| 11    | 2019 | 1,016,709                                     | -                           | 75,676                                          | 941,033                              | 101,671           | 839,362    |
| 12    | 2020 | 1,005,070                                     | -                           | 74,123                                          | 930,947                              | 100,507           | 830,440    |
| 13    | 2021 | 999,417                                       | -                           | 72,602                                          | 926,815                              | 99,942            | 826,873    |
| 14    | 2022 | 965,015                                       | -                           | 72,961                                          | 892,055                              | 96,502            | 795,553    |
| 15    | 2023 | 918,279                                       | -                           | 71,214                                          | 847,065                              | 91,828            | 755,237    |
| 16    | 2024 | 873,208                                       | -                           | 69,771                                          | 803,437                              | 87,321            | 716,117    |
| 17    | 2025 | 816,921                                       | -                           | 68,958                                          | 747,964                              | 81,692            | 666,272    |
| 18    | 2026 | 697,122                                       | -                           | 68,265                                          | 628,856                              | 69,712            | 559,144    |
| 19    | 2027 | 617,139                                       | -                           | 67,645                                          | 549,494                              | 61,714            | 487,780    |
| 20    | 2028 | 564,248                                       | -                           | 66,326                                          | 497,922                              | 56,425            | 441,498    |
| 21    | 2029 | 503,011                                       | -                           | 65,422                                          | 437,588                              | 50,301            | 387,287    |
| 22    | 2030 | 533,807                                       | -                           | 65,439                                          | 468,368                              | 53,381            | 414,988    |
| 23    | 2031 | 494,516                                       | -                           | 64,057                                          | 430,459                              | 49,452            | 381,007    |
| 24    | 2032 | 474,989                                       | -                           | 63,146                                          | 411,843                              | 47,499            | 364,344    |
| 25    | 2033 | 474,126                                       | -                           | 60,214                                          | 413,912                              | 47,413            | 366,500    |
| 26    | 2034 | 463,776                                       | -                           | 61,135                                          | 402,641                              | 46,378            | 356,263    |
| 27    | 2035 | 463,774                                       | -                           | 60,535                                          | 403,238                              | 46,377            | 356,861    |
| 28    | 2036 | 457,464                                       | -                           | 58,118                                          | 399,346                              | 45,746            | 353,599    |
| 29    | 2037 | 445,081                                       | -                           | 57,342                                          | 387,738                              | 44,508            | 343,230    |
| 30    | 2038 | 394,654                                       | -                           | 55,188                                          | 339,466                              | 39,465            | 300,000    |
| 31    | 2039 | 398,082                                       | -                           | 56,576                                          | 341,506                              | 39,808            | 301,698    |
| 32    | 2040 | 370,389                                       | -                           | 54,345                                          | 316,044                              | 37,039            | 279,005    |
| 33    | 2041 | 393,507                                       | -                           | 54,331                                          | 339,176                              | 39,351            | 299,825    |
| 34    | 2042 | 413,147                                       | -                           | 51,720                                          | 361,427                              | 41,315            | 320,112    |
| 35    | 2043 | 361,665                                       | -                           | 51,407                                          | 310,258                              | 36,167            | 274,092    |
| 36    | 2044 | 374,314                                       | -                           | 51,342                                          | 322,973                              | 37,431            | 285,541    |
| 37    | 2045 | 362,047                                       | -                           | 50,105                                          | 311,941                              | 36,205            | 275,737    |
| 38    | 2046 | 355,188                                       | -                           | 49,719                                          | 305,469                              | 35,519            | 269,950    |
| Total |      | 27,626,600                                    | -                           | 2,554,466                                       | 25,072,135                           | 2,762,660         | 22,309,475 |

## 5.2 Project Emissions

The net change in carbon stock, inside the project area, by deforestation was “0”.

During the monitoring, all the steps in M-REDD module are followed to obtain the Net greenhouse gas emissions under the project scenario.

We must consider that this period there was no forest use, therefore there was no degradation of forest biomass, nor implementation of road infrastructure as every period, this due to the covid context, which was experienced. There is not value to report in 2020.

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

## 5.3 Leakage

$\Delta C_{WPS-REDD, LB}$  = Deforestation area in Leakebelt for this period 2020 and during all the life project.

Table 5.3-1

|              | A <sub>Def,PA-i</sub> | A <sub>Def,LB-i</sub> |
|--------------|-----------------------|-----------------------|
| 2009-2012    | 0                     | 2,693.51              |
| 2013         | 0                     | 0                     |
| 2014         | 0                     | 16.84                 |
| 2015         | 0                     | 87.28                 |
| 2016         | 0                     | 153.21                |
| 2017         | 0                     | 605.9                 |
| 2018         | 0                     | 689.19                |
| 2019         | 0                     | 481.79                |
| <b>2020</b>  | <b>0</b>              | <b>134.70</b>         |
| <b>Total</b> | <b>0</b>              | <b>4,922.74</b>       |

During the monitoring of 2020 and following the steps presented in LK-ASU module, the Next greenhouse gas emissions due to leakage are equal to:

$$\Delta C_{LK-REDD-AS,unplanned} = \Delta C_{LK-REDD-ASU-LB} + \Delta C_{LK-REDD-ASU-OLB} + GHG_{LK,E}$$

Tabla 5.3-2

| Year | $\Delta C_{LK-REDD-ASU-LB}$ | $\Delta C_{LK-REDD-ASU,OLB}$ | $GHG_{LK,E}$ | $\Delta C_{LK-REDD AS unplanned}$ |
|------|-----------------------------|------------------------------|--------------|-----------------------------------|
| 2020 | 0                           | 240,479.91                   | 0            | 240,479.91                        |

$$\Delta C_{LK-REDD-AS,unplanned} = \Delta C_{LK-REDD-ASU-OLB} + GHG_{LK,E}$$

Where:

$$\Delta C_{LK-REDD-ASU-LB} = \Delta C_{P,LB} - \Delta C_{BSL,LK unplanned}$$

Where:

|                               |                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| $\Delta C_{LK-ASU-LB}$        | Net CO <sub>2</sub> emissions due to unplanned deforestation displaced from the project area to the Leakage Belt; t CO <sub>2</sub> -e |
| $\Delta C_{BSL,LK,unplanned}$ | Net CO <sub>2</sub> emissions in the baseline from unplanned deforestation in the leakage belt; t CO <sub>2</sub> -e                   |
| $\Delta C_{P,LB}$             | Net greenhouse gas emissions within the leakage belt in the project case t CO <sub>2</sub> -e                                          |

Table 5.3-3

| Year | $\Delta C_{P,LB}$ | $\Delta C_{BSL,LK-unplanned}$ | $\Delta C_{LK-REDD-ASU-LB}$ |
|------|-------------------|-------------------------------|-----------------------------|
| 2020 | 64,215.97         | 638,985.00                    | 0                           |

$$\Delta C_{LK-REDD-ASU-LB} = \text{IF } < 0, \text{ then it must be set } = 0$$

$$\Delta C_{LK-REDD-ASU-OLB}$$

$$A_{LK-OLB,t} = A_{LK-IMM,t} - A_{LK-ACT-IMM,t}$$

$A_{LK-OLB,t}$  Area deforested by immigrants outside the Leakage Belt and project area under the project scenario at time t; ha

$A_{LK-IMM,t}$  Total area deforested by immigrant agents in the baseline and project scenario at time t; ha

$A_{LK-ACT-IMM,t}$  Area deforested by immigrants in the project area and Leakage Belt under the project scenario at time t; ha

Table 5.3-4

|             | ALK-IMM,t          |                     |               |
|-------------|--------------------|---------------------|---------------|
|             | PROPIMM            | ABSL,PA-unplanned,t | Total 1       |
|             | from Step 2 LK-ASU | PDD pg 150 (2016)   | Eq 7 LK-ASU   |
| <b>2020</b> | <b>0.03</b>        | <b>25,945.50</b>    | <b>778.37</b> |

Table 5.3-5

| year                | ALK-ACT-IMM,t      |             |                 |               |
|---------------------|--------------------|-------------|-----------------|---------------|
|                     | PROPIMM            | ADef,PA-i,t | ADef,LB-i,t     | Total 2       |
|                     | from Step 2 LK-ASU | from M-REDD | from M-REDD     | Eq 8 LK-ASU   |
| <b>2020</b>         |                    |             |                 |               |
| <b>(accumulate)</b> | <b>0.03</b>        | <b>0</b>    | <b>4,862.42</b> | <b>145.87</b> |

$\Delta CLK-REDD-OLB,t = \text{total 1} - \text{total 2} = T \text{ CO}_2$  , If is > 0 leakage outside the leakage has occurred

Where

$$\Delta CLK-REDD-ASU-OLB = COLB * \Delta CLK-OLB,t$$

Tabla 5.3-6

|      | $\Delta\text{ALK-OLB,t}$<br>(acumulativo) | $\Delta\text{CLK- ASU,OLB}$ |
|------|-------------------------------------------|-----------------------------|
|      | Eq 9 LK-ASU                               | 11 LK-ASU                   |
| 2020 | 632.49                                    | 240,479.91                  |

$$\Delta\text{CLK-ASU-OLB} = \text{COLB} * \Delta\text{CLK-OLB,t}$$

| COLB   |
|--------|
| 380.21 |

GHG LK, E

Greenhouse gas emissions as a result of leakage of avoided deforestation activities; T CO<sub>2</sub>. There wasn't in the project

## 5.4 Net GHG Emission Reductions and Removals

| Year                   | Baseline emissions or removals (tCO <sub>2</sub> e) | Project emissions or removals (tCO <sub>2</sub> e) | Leakage emissions (tCO <sub>2</sub> e) | Net GHG emission reductions or removals (tCO <sub>2</sub> e) | Buffer pool allocation | VCUs eligible for issuance |
|------------------------|-----------------------------------------------------|----------------------------------------------------|----------------------------------------|--------------------------------------------------------------|------------------------|----------------------------|
| Year 2019 (accumulate) | 12'436,646.00                                       | 1'783,526.33                                       | 220,046.76                             | 10'433,072.90                                                | 1'065,311.97           | 9'367,760.94               |
| Year 2020 (accumulate) | 13'441,716.06                                       | 1'783,526.33                                       | 240,479.91                             | 11'417,709.82                                                | 1'165,818.97           | 10'251,890.85              |
| Annual 2020            | 1'005.070.06                                        | 0                                                  | 20,433.14                              | 984,636.92                                                   | 100,507.01             | 884,129.91                 |

Then, this result was adjusted to account for the uncertainty analysis:

Adjusted\_NER<sub>REDD</sub> = NER<sub>REDD</sub> \* (100% - NER<sub>REDD\_ERROR</sub><sup>14</sup> + 15%) ... Equation in REDD-MF, page 19

Adjusted\_NER<sub>REDD</sub> = 11' 417,709.82\*(100%) = 11' 417,709.82 t CO<sub>2</sub>-e

A final discount due to **Permanence Risk Buffer** was made, so the final result is:

$$Buffer_{Unplanned} = \left( \frac{\left( \Delta C_{BSL, Unplanned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC, i, t} + N_2O_{direct, i, t}) \right) - \left( \Delta C_{P, Unplanned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC, i, t} + N_2O_{direct, i, t}) \right)}{\left( \Delta C_{BSL, Unplanned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC, i, t} + N_2O_{direct, i, t}) \right) - \left( \Delta C_{P, Unplanned} - \sum_{t=1}^{t^*} \sum_{i=1}^M (E_{FC, i, t} + N_2O_{direct, i, t}) \right)} \right) \times Buffer\% \quad (9)$$

Buffer<sub>UNPLANNED</sub> = ΔC<sub>BSLunplanned</sub> - 0) - (ΔC<sub>Punplanned</sub> deforestation área-0) \* Buffer...

Buffer<sub>UNPLANNED</sub> = ((13'441,746.06 – 0) – (1'783,526.33- 0)) \* 10% = 1'165,818.97t CO<sub>2</sub>-e.

In this way, the total emission reductions due to project activity for the 2020 period were obtained:

VCU = (Adjusted\_NER<sub>REDDt</sub>- Buffer total)

**VCUs = 10'251,890<sup>15</sup>**

**VCUs annual= 884,129**

<sup>14</sup> Uncertainty doesn't exceed the 15%, is 4.86%

<sup>15</sup> The VCU acumulate 2020 was 10'251,890.85 tco2

## ATTACHED FILES :

### <CALCULATIONS>

All calculations and SIG information, can be reviewed in the following worksheets, which will be available for the auditor.

#### EXCEL FILE



- CP Estimation 2020.Mayo
- Leakage Estimations 2020.junio
- Uncertainty Analysis 2020. junio
- VCS- Risk Report- Calculation- Tool-v4.0 junio
- VCUs Estimation 2020. junio

#### DATA CAMPO FILE AND MONITORING DEFORESTATION

- This 2020 period, there was no use of wood, and therefore there was no construction of infrastructure such as roads, patios, etc.

