



PERÚ

Ministerio del Ambiente

Servicio Nacional de  
Áreas Naturales  
Protegidas por el Estado

Contrato de  
Administración de la  
RNTAMB y PNBS - AIDER



**Reduced Emissions from Deforestation and Forest  
Degradation in Tambopata National Reserve and in  
Bahuaja-Sonene National Park, Madre de Dios region  
- Peru**

Summary of the  
Project Design Document (PDD)  
according to the  
Climate, Community and Biodiversity Alliance (CCBA)  
Standards

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## EXECUTIVE SUMMARY

Madre de Dios is the Amazonian region of Peru which has the highest biodiversity of the country. It is home of endangered species and forest species of economic importance. This region, as well as the rainforest of Puno and Cusco regions, is the best-conserved of Peruvian Amazonia, having 30 % of its surface under different categories of protection in the National System of Protected Natural Areas (SINANPE). The Tambopata National Reserve (RNTAMB) and the Bahuaja-Sonene National Park (PNBS) are parts of the System.

Although Madre de Dios has had a low historical rate of deforestation, the improved access by the recently paved South Interoceanic Road (nearby the Buffer Zone of RNTAMB) is increasing migration and thus land use change and forest degradation.

The Project activity will take place in the area formed by the Tambopata National Reserve (RNTAMB) and the sector of the Bahuaja-Sonene National Park (PNBS) located in Madre de Dios region, which is the area of the Contract of Administration signed between Peruvian State and the Asociación para la Investigación y Desarrollo Integral – AIDER (Association for Research and Integral Development). Both Natural Protected Areas have together a total surface of 573 299,97 hectares.

The project proposes to reduce the land-use change in the Buffer Zone of the Protected Areas by the promotion of sustainable economic activities and the establishment of conservation agreements in previously identified critical areas.

The system of Control and Surveillance of RNTAMB and PNBS will be strengthened, giving emphasis to the creation and operation of communal surveillance committees with official accreditation, as a strategy of participation of local populations in Protected Areas' management.

Finally, technical support will be given to the regional forest authority and to the Servicio Nacional de Áreas Naturales Protegidas por el Estado – SERNANP (National Service of Protected Areas) for the environmental and forest governance in Madre de Dios region, promoting the presence of Peruvian State in the Protected Areas and optimizing the coordination and collaboration between authorities and local populations in Protected Areas' management.

By this actions, the Project expects to avoid the total net emission of **4 577 502,5 tCO<sub>2</sub>-e** compared with the projected baseline scenario during the first accounting period (10 years). Equally, avoiding deforestation and forest degradation will contribute to maintain and improve the welfare of populations in the Project zone, as well as the maintenance of biodiversity of Project area.

## Location of the project

The Project area is politically located in Tambopata and Inambari districts, Tambopata province, Madre de Dios region. The Project area is formed by the Tambopata National Reserve (RNTAMB) and the sector of the Bahuaja-Sonene National Park (PNBS) located in Madre de Dios region, which is the area of the Contract of Administration signed between Peruvian State and the Asociación para la Investigación y Desarrollo Integral – AIDER, covering 573 299,97 ha, of which 541 620,14 ha meet the definition of forest in the year 2008.

Project area is currently almost completely covered by primeval subtropical rainforest. According to the forest types' map of INRENA made for the master plans of the RNTAMB and the PNBS, the project area has 10 types of forests and 12 subtypes of forests.

Project start date: January 1<sup>st</sup>, 2009, when the Contract of Administration of the RNTAMB and the PNBS –Madre de Dios formally started.

Project crediting period: 20 years (July 01, 2010 – June 30, 2030).

First period to quantify GHG emission reductions: 10 years (July 01, 2010 – June 30, 2020)

## Carbon stocks inventory

The methodology of the inventory carried out to determine the carbon stocks in the Project area was exploratory, with an optimal stratified sampling design, with samples randomly distributed in the forest types identified in the project area. Previously to the field work, the interpretation of Landsat 5 images was done to determine the stratification of the Project area. Twelve units were identified, one of them considered as non-forest and discarded from carbon accounting (tropical savannah). The total carbon stock in project area is **247 659 096,47 tCO<sub>2</sub>-e**, being **457,26 tCO<sub>2</sub>-e** per hectare.

## Communities in Project zone

The National Population Census of 2007 said that the total population of Madre de Dios was 109 555 in that year (the Ministry of Health estimated 110 857 in 2009). The Tambopata National Reserve and the Bahuaja-Sonene National Park are contiguous to the most populated places of the region: Tambopata province has the 71,67 % of regional population.

The Master Plan of the RNTAMB 2004-2008 records two settlements inside the Reserve: Nueva América y Sandoval. At the same time it points at the existence of agricultural plots of other settlements that overlap the Reserve, as it occurs in the case of Loero. Meanwhile, the Buffer Zone of the Reserve has 50 settlements with an estimated population of 11 369 inhabitants.

The next stakeholders have been identified adjacent or inside the Project area:

-Native Communities<sup>1</sup>: there are 04 Native Communities adjacent to the Project area: Palma Real, Sonene, Infierno and Kotsimba.

-*Castañeros*: individuals that collect Brazilian nut (*Bertholletia excelsa*). Inside the RNTAMB and the PNBS there are 99 contracts of harvesting of Brazilian nut; 86 are inside the RNTAMB and 13 are inside the PNBS.

-Tourism operators: private companies that offers tourism services in áreas adjacent or inside the RNTAMB. The lodges in the project zone are located in two sectors: Sandoval lake and Tambopata river.

-Villagers of Nueva América: families that migrated from the south Andes. They are approximately 21 families (119 inhabitants) settled in three streams nearby the RNTAMB.

-Villagers of Sandoval Lake: in this sector there are two settlements of families that have got property rights previous to the creation of the RNTAMB.

-Mining concessioners of APAYLOM: members of the Asociation of Artisanal Gold Producers of Malinowsky River - APAYLOM, located in sector A-6.

The activities developed in the Project zone are: slash-and-burn agriculture, cattle ranching (mainly an extensive one), highly pollutant gold mining (mainly illegal), timber harvesting and subsistence hunting and fishing.

## **Biodiversity**

Madre de Dios region, which is only the 7 % of Peruvian territory, has a considerable part of Peru's biodiversity, as it is demonstrated by the records of fauna: round 30 % of species of amphibians, reptiles and fresh-water fishes and 50 % or more of the diversity of mammals and birds recorded in Peru. The project area specially has a high biological diversity, with occurrence of endemic species and a mosaic of habitats of high ecological and sociocultural importance. In addition, this is a remarkable area because it gets new species records continually and offers healthy habitats for shelter and recovery of populations of big mammals' species.

The Project zone is home of many endangered species according to the IUCN Red List.

## **Projection of baseline scenario**

Madre de Dios is the best-preserved sector of Peruvian Amazonia. The Project area is currently almost completely covered by forest with a low degree of intervention. Although Madre de Dios has had a low historical rate of deforestation, the improved access by the recently paved South Interoceanic Road (nearby the Buffer Zone of RNTAMB) is increasing migration and thus land use-change and forest degradation. Part of this scenario is the increasing of illegal gold mining (outside and inside the Buffer Zone and even inside the Protected Areas) prompted by the rising gold prizes. This mining is highly pollutant and causes deforestation in the areas adjacent to rivers. Therefore, the baseline scenario includes an increasing trend of deforestation an forest degradation, biodiversity loss and exacerbation of social problems.

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<sup>1</sup> "Native Community" is the legal name of Amazonian indigenous communities in Peru, sanctioned by the Political Constitution.

In order to determine the amount of hectares that would be deforested in the next years if the Project were not launched, the Approved VCS Methodology VM0007, REDD Methodological Modules (REDD-MF) was applied. This was made using the software Dinámica Ego 1.6. In this manner, the annually deforested surface was estimated for the baseline scenario in the Project zone: this is an aggregate of 11 893 ha deforested up to the year 10 in the Project area and 82 643 ha deforested up to the year 10 in the Buffer Zone.

In order to determine the areas under forest degradation, the software CLASlite was used to convert satellite images in high detailed maps where forest degradation can be identified easily.

### **Additionality**

In spite of the status of legal protection that the RNTAMB and the PNBS have got, they are vulnerable to the establishment of activities that are not compatible with the objectives of conservation. There are great difficulties to control and monitor large and inaccessible areas. In addition, Peruvian State gives a small budget to the organism in charge of the Protected Areas' management. This means that there are great limitations to meet the objectives and plans of protected areas, and they are continually under the pressure of forest degradation agents, as well as the threaten of deforestation in their Buffer zones and, in the last years, even inside the protected areas, as a consequence of the rising population and the improvements of access.

### **Project Objectives**

- To prevent the emissions of greenhouse gases (GHG) caused by deforestation and forest degradation, contributing to the fight against global climate change. The project will avoid a total emissions of 4 577 502,5 tCO<sub>2</sub>-e over a first period of 10 years. The average annual value of avoided net emissions is 457 750,25 tCO<sub>2</sub>-e compared to the project baseline scenario in which, because of the migration and land occupation prompted by the operation of the South Interoceanic road, there will be an average deforestation of 1027 hectares per year.
- To maintain and improve the welfare of populations in the project area, which in the baseline scenario will be directly affected by the removal of the forest cover, biodiversity loss and pollution of water.
- To maintain the biodiversity in the project area, one of the most important zones in the world, avoiding activities that cause its reduction, the fragmentation or elimination of habitats / ecosystems and ensuring the continuity of Vilcabamba–Amboró Conservation Corridor.
- To contribute to the financial sustainability of the Tambopata National Reserve and Bahuaja - Sonene National Park –Madre de Dios sector for their appropriate management, in order to achieve the objectives of both protected areas.
- To promote a better governance of natural resources in the project zone.

## **Project Strategy**

The strategy to achieve the benefits of climate, community and biodiversity, have 4 components:

- **Conservation Agreements:** consist in offering concrete and periodical benefits to local people in exchange for real conservation commitments. This component will be used crossing the other components, providing technical support and advice to local people for the establishment of these agreements with SERNANP and the Protected Area Management Committee.
- **Promotion of productive activities:** financial resources, technical and commercial support will be allocated to promote these sustainable productive activities amongst the families of the villages and communities in the Buffer Zone. In addition, technological innovations will be introduced to the traditional activities, reducing their environmental impacts. These activities will be agroforestry, aquaculture, low-impact gold mining, timber management, brazilian nut processing and marketing, conservation and management of palms, and others.
- **Control and Surveillance:** although the main component of the project's strategy will be the promotion of sustainable activities, the Control and Surveillance component will involve the strengthening of the 02 Protected Areas' Sub-programs, with the objective of ensuring its integrity through the forecast and mitigation of threats and negative impacts, especially those who are driving and generating deforestation. This component will take great importance in areas where it is impossible to achieve consensus (presence of illegal mining, illegal logging). It involves the improvement of existing checkpoints, construction of new checkpoints, technical support to communal surveillance committees, and training for park guards.
- **Forest Governance:** This component aims to promote inter-institutional agreements that allow a better governance of the project zone resources. SERNANP, Management Committees, Regional Forest Authority and local governments will receive advice in fulfilling its roles in promoting and monitoring sustainable use of forest resources.

## **Consultation to local populations**

Since the beginning of the Contract of Administration there has taken place a process of dialogue and consultations with local stakeholders, both inside the RNTAMB and in the Buffer zone.

## **Project Proponent**

Asociación para la Investigación y el Desarrollo Integral – AIDER: executor of Partial Administration Contract in the Tambopata National Reserve and Bahuaja – Sonene National Park – Madre de Dios sector, signed with the Peruvian Government in October 2008. Project proponent and responsible for its design and implementation.

Servicio Nacional de Áreas Naturales Protegidas (SERNANP): responsible for conducting the management of Protected Natural Areas National System – SINANPE from which Tambopata National Reserve and Bahuaja – Sonene National Park are part.

### **Positive Climate Impact of the Project**

The methodology used to calculate the climate benefits of the project is the Approved VCS Methodology VM0007, REDD Methodological Modules (REDD-MF). The modules involved in estimating the net change in carbon stocks are: REDD-MF "REDD Methodology Framework", BL-UP "Baseline Unplanned deforestation", LK-ASU "Estimation of Emissions from activity Unplanned Avoided deforestation for shifting" and X-UNC "Estimation of uncertainty for REDD project activities".

Net emissions avoided during the first accounting period (10 years) are 4 577 502,5 tCO<sub>2</sub>-e.

To carry out monitoring of deforestation the REDD Methodology Module M-MON "Methods for monitoring of greenhouse gas emissions and removals" will be applied. This methodology will be used also in the monitoring of degradation. Reporting of leakage caused by the project activity will be done according to the module LK-ASU "Leakage activity shifting Unplanned deforestation" and the REDD methodological framework. Monitoring of land-use change, based on Landsat 5 images, will be done annually, involving all the changes in the forest cover. The deforested area (in hectares) will be calculated in the project area and the leakage belt. Furthermore, once generated the deforestation map, it will be validated through a non-aligned systematic sampling in the field.

### **Positive Community Impact of the Project**

The implementation of productive activities aims to improve livelihoods of the population, comprising technical assistance and income generation. Along the establishment of conservation agreements and participatory community surveillance, it seeks to redefine the relationship between populations and the forest and its resources. Economic activities promoted by the project shall be subject to prior and informed consultations.

### **Positive biodiversity impact of the project**

In the project scenario, the protection of the project area will be improved substantially, reinforcing the control and surveillance system and the institutional presence of the Peruvian State and other stakeholders, maintaining the natural forest dynamics, reducing the reported violations and ordering the use of resources. What is more, the project will enable the establishment of a biological monitoring system and a strategy to promote investigation. These actions will result in a net gain of biodiversity.

The project envisaged the development and implementation of an integrated monitoring system (Biological Monitoring and Impact of Economic Activities), which will result in relevant information for decision making and therefore ensure the permanence of biodiversity and the ecological

processes continuity. The biological monitoring system to implement is based in the conservation objects prioritized in a participatory manner.

Nonnative species selected by the project are: pineapple and citrus, which are already adapted to the environment of Madre de Dios, have a market and its management is known, these species are perfectly adapted to agroforestry in the Amazon River basin, so it is not expected adverse effects from them on local biodiversity.

As the project objective is to reduce deforestation and forest degradation, it does not involve forest plantations or other as a way to generate verifiable GHG removals. Also, the proposed project activities are based on local biodiversity management (timber management, brazilian nut management) and validated productive systems (Agroforestry, Aquaculture), without contemplating the use of Genetically Modified Organisms.

