



REDD Project in Brazil Nut Concessions in Madre De Dios



Distinctive features

The “REDD Project in Brazil Nut Concessions in Madre de Dios” is located within the political boundaries of the Provinces of Tambopata and Tahuamanu, Department of Madre de Dios. The project proponent is Bosques Amazónicos (BAM), a Peruvian company established in 2004 that develops forest carbon projects in order to recover and sustainably manage forests, thus contributing towards biodiversity conservation and creating benefits for the population and for the company.

The original project area is made up of a total of 291,566 hectares consists of 377 mostly forested Brazil Nut concessions awarded by the Peruvian State through a 40 year renewable contract. Brazil nut harvesting has been a traditional activity in Madre de Dios since the 1940s. Brazil nut sale represents the main source of income for rural families and is a source of employment for around 1/3 of total population.

The project aims to avoid unplanned deforestation associated with increasing accessibility for encroachment into the forests in the concessions from the opening and improvement of the Interoceanic Highway. To prevent this risk, BAM has signed a contract with FEPROCAMD, the regional grassroots organisation that represents Brazil nut concessionaires in order to implement a REDD project that will implement actions to deal with this threat. The proponent aims to counter the unplanned deforestation by providing support to Brazil nut concessionaires to increase their revenues, undertake forest management and protect forests from conversion. The project is aiming for organic certification of Brazil nuts and FSC certification of forest management for those concessionaires that wish to continue extracting timber from the forests. Concessionaires will also be involved in check points and patrols to monitor and control illegal logging activities, agricultural encroachment by migrants and mining activities.



	Heading	Explanation
Locational factors		
	Location	Eastern part of Madre de Dios, which is a Department in southeastern Peru bordering Brazil, Bolivia and the Peruvian Departments of Puno, Cuzco and Ucayali
	Spatial boundaries	Project area: 291,566.5 ha Reference area: Reference Region for Projecting Location of Deforestation (RRL): 1,804,906.5 ha Leakage monitoring area: 723,748.3 ha (total); 718,282.3 ha (forest area) Leakage management area: [leakage management conducted by size of area not given in VCS PD]
	Land cover	17 types of forest in the project area <ul style="list-style-type: none"> ▪ High Terrace Forests with Brazil Nut Stands (57%) ▪ Low Hill Forests (14%) ▪ High Terrace Forests with Bamboo (9.6%).
	Agents and drivers of forest cover change	Agents: Local families; Illegal artisanal gold miners (mainly concentrated in the Southern part of Madre de Dios and a small part of the Project Area, affecting an area of 3.62% of the Project Area) Underlying drivers: [not discussed] Proximate causes: <ul style="list-style-type: none"> ▪ Clear the land for settlements (2.32%), crop production (3.25%) or ranching (51.79%) and mixed agriculture/grazing (39.01%); in all cases, at a subsistence or small-scale ▪ Mining
Basic project features		
	Objectives	<ul style="list-style-type: none"> ▪ Reduce deforestation while contributing to the development of local people and preservation of biodiversity <p>Climate Objectives:</p> <ul style="list-style-type: none"> ▪ By the seventh year of the project's lifetime, deforestation will be minimum or even zero, and in the leakage belt, deforestation will have a decreasing trend ▪ Increase carbon stocks in the project area <p>Community Objectives:</p> <ul style="list-style-type: none"> ▪ By the end of the first year, the concessioners will be legally organised and represented, and will also have their management documents updated ▪ By the fifth year, income from concessioners and local people will be significantly increased <p>Biodiversity Objectives:</p> <ul style="list-style-type: none"> ▪ Guarantee and maintain ecological integrity in Brazil Nut

	Concessions and contribute to the preservation of biodiversity in the Leakage Belt
Proponent/s	Bosques Amazónicos (BAM) Mission: to lead the value maximisation of forests in Latin America by the recovery and sustainable management thus contributing towards biodiversity conservation and creating real benefits for the population
Actors involved in project design and implementation and their roles	<ul style="list-style-type: none"> ▪BAM: Main duties – Provide ownership titles to commercialization rights of environmental services related to carbon in the Project area; Finance the project; Responsible for the implementation and monitoring of the project activities; Responsible for the technical process to certify carbon credits, including validation and verification of the Project; Responsible for selling carbon credits. ▪FEPROCAMD - the main organisation representing most of the concessionaires of forestry products other than wood (i.e. Brazil nuts) in Madre de Dios. Main duties are associated with representing and promoting the interests of the concessionaires. ▪Conservación Ambiental y Desarrollo en el Perú (CAMDE PERU) - a Peruvian NGO that seeks to contribute to the conservation of biodiversity in Peru by promoting sustainable management of natural resources and generating profits in the local population. Main duties are Give technical support to the Brazil nut concessionaires and present monthly reports. ▪Carbon Decisions International (CDI) - independent advisory company specialising in the design of projects, programmes and policies that reduce GHG emissions in the forestry and land-use sector. Main duty is to support BAM in the elaboration of the draft version of the deforestation model using DINMICA EGO software
Tenure and Carbon rights holder/s	<p>Tenure:</p> <ul style="list-style-type: none"> ▪Concessioners have a concession contract with the State. <p>Carbon rights:</p> <ul style="list-style-type: none"> ▪Have been transferred from Brazil Nut Concessionaires that belong to the REDD Project to FEPROCAMD (main organisation representing concessionaires), and then to BAM
Upfront financing	BAM has secured sufficient debt and equity to cover all investment commitments and working capital through the end of 2013.
Start date	24 th September 2009
Crediting period	31 years, 1 January 2010 – 31 December 2040

Baseline emissions



Methodology	REDD Methodology Modules, v1.1 (VM0007)
Reference data (unplanned deforestation/degradation)	Reference period: 2000-2008 Types of data used: Landsat satellite images of from the years 2000, 2005 and 2008 to establish historical deforestation rate.
Reference data (planned deforestation/degradation)	Not applicable
Stratification of project area	Low Hills forest, Low Hills with Bamboo Forest, High and Mid Terrace with Bamboo Forest, Terraces Forest, Flooded Terraces Forest, Pacal (Bamboos), Swamp Trees, Others (without carbon)
Deforestation rate and location	<p>Historical 1.23%</p> <p>Projected 1.23%</p> <p>Likely baseline scenario Deforestation due to ranchers and farmers</p> <p>Modelling procedure</p> <ul style="list-style-type: none"> ▪Deforestation risk maps were created using 10 different scenarios at the end of which one was selected. The maps are constructed from modelling incorporating opportunity cost analysis, historical deforestation rates and spatial drivers of deforestation. The software used is DINAMICA EGO.
Carbon pools	<p>Carbon pools included</p> <ul style="list-style-type: none"> ▪Aboveground tree biomass ✓ ▪Belowground tree biomass ✓ ▪Non-tree woody biomass ✓ ▪Litter ✗ ▪Dead wood ✗ ▪Soil ✗ ▪Wood products ✗ <p>Estimation method</p> <ul style="list-style-type: none"> ▪A carbon inventory was carried out through a stratified sampling of 58 fix area plots inside the project area. ▪Plot dimensions are 10m x 200m, with sub-plots for three diameter classes. Palm trees and pacales were evaluated along the entire plot. ▪The individuals included in the inventory were trees, palms and bamboos. ▪The parameters measured were DBH, total and commercial height and tree health.

	<ul style="list-style-type: none"> ▪The conversion from field parameters (DBH in case of trees and total height in case of palms) to biomass was done by the use of allometric equations from published research. In case of bamboos, a fixed biomass per individual was used (taken from studies of bamboos forest in Colombia). A root-to-shoot ratio was used for estimating below ground biomass.
Carbon stock changes	<p>Land use assumed to change to:</p> <ul style="list-style-type: none"> ▪Farmland: 3.25% ▪Pasture: 51.79% ▪Farming: 39.01% ▪Infrastructure (urban areas and roads): 2.32% ▪Illegal mining: 3.62% <p>Default carbon stocks for each of the systems was considered according to studies conducted in the Peruvian jungle</p>
GHG emissions	<ul style="list-style-type: none"> ▪CH₄ and N₂O from burning of forest biomass and agricultural biomass included ▪Emissions from burning fossil fuels were not estimated, since there is no certainty in the baseline of how many machines or tools would be incorporated as a result of post-deforestation activities.
Net emissions without project	89,217,396 tCO ₂ (over 31 year project life)

Project GHG emissions reduction strategy



Scope	Avoided deforestation and degradation
Activities	<p>Climate Activities:</p> <ul style="list-style-type: none"> ▪Implementation of a forest monitoring and surveillance system (Concessionaires will organise a ground team of monitoring and surveillance, formed by 12 people divided into sub-teams of two people for each of the 6 checkpoints that will also be implemented. All of the checkpoints will be located in strategic places in order to monitor and control illegal logging activities, migratory agriculture and mining activities) ▪Training deforestation agents in alternative and sustainable productive initiatives (includes workshops on agroforestry, management of forestry products, fish farming, etc., and training of miners on how to extract gold without using mercury, etc.) ▪Implementation of a tree nursery to supply 100,000 seedlings to concessionaires for planting in the forest ▪Forest enrichment through plantation of native species by concessionaires <p>Community Activities:</p> <ul style="list-style-type: none"> ▪Organisation and legal formalisation of the Federation

	<p>of Brazil Nut Concessioners of Madre de Dios (FEPROCAMD)</p> <ul style="list-style-type: none"> ▪ Implementation of an early alert system to report environmental crimes ▪ Implementation of a conflicts and complaints management system for any concerns over project activities ▪ Implementation and start-up of a brazil nut processing plant in the project zone ▪ Certification of brazil nuts (to be recognised internationally as organic product) and brazil nuts second class by-product, and forest management certification (FSC certification for the entire forests managed by the project) ▪ Training in forestry management, utilisation of reduced impact techniques and alert system to communities in area ▪ Cooperation agreements, alliances and training with the government of Madre de Dios and other public and private actors ▪ Local campaigns for preservation of forests goods and services <p>Biodiversity Activities:</p> <p>Improved forestry management in brazil nut concessions</p>
Leakage mitigation strategy	<ul style="list-style-type: none"> ▪ Implementation of the forest monitoring and surveillance system. This is not just limited to the project area, but also includes the leakage belt. ▪ Implementation of the early alert and complaints management systems ▪ Promotion of sustainable projects among neighbouring residents – agro-forestry, utilisation of other forest resources, fish farming – to encourage the rational use of non-timber resources in the project area. ▪ Creation of alliances with local NGOs or Technical Institute to develop pilot projects comprised of alternative development activities ▪ Improvement of the organisational capacity of FEPROCAMD
Non-permanence risk mitigation strategy	<i>No information given</i>
Additionality	<ul style="list-style-type: none"> ▪ Alternative land use scenarios: 3 scenarios identified and assessed ▪ Investment analysis / barrier analysis: Comparing the scenarios proposed the highest average investment becomes from Castañeros REDD Project which also has the longest payback period (seven years) making this scenario less attractive than the alternative land use or artisanal Brazil nut activity (both scenarios have three or

less than three years of payback period).

- Common practice analysis: There is no experience in REDD in the proposed area; Previous projects analysed only have coverage of a maximum of 50 families and lifetime of no more than 4 years; The projects analysed do not have a proposal to generate their own businesses that can add value to the product.

With-project emissions




Effectiveness of measures	[appears to be 100%]
Carbon stock changes	Post deforestation land use carbon stocks included
GHG emissions	<p>Project implementation activities considered for the calculation were: Forest monitoring and surveillance, construction of checkpoints, construction and activity of tree nursery, and activity of Brazil nut processing plant. The GHG emissions from these activities were not included in the calculation since they were less than 5% of the total increases in emissions.</p> <ul style="list-style-type: none"> ▪ CH₄ and N₂O from burning of forest biomass and agricultural biomass excluded ▪ Emissions from burning fossil fuels included ▪ N₂o from fertilisers excluded because there will be no leakage prevention activities that include the use of fertilisers.
Leakage	<p>Types</p> <p>Activity shifting: Leakage is calculated both for the numbers of the resident population expected to shift to the leakage belt because of the project and the numbers of potential migrants who would have moved into the project area but have been caused by the project to move elsewhere.</p> <p>Deduction</p> <p>2,238,559 tCO₂e deducted for first 10 years of project</p>
Non-permanence risk	<p>Buffer</p> <p>20% (17,832,571 tCO₂)</p>
Ex-ante estimated net greenhouse gas emissions reductions	<p>Total over crediting period: 64,668,764 tCO₂e</p> <p>Annual average: 2,086,089 tCO₂e</p> <p>Annual average per ha: 7.15 tCO₂e</p>
Monitoring of carbon stock changes and emissions	<p>Parameters</p> <ul style="list-style-type: none"> ▪ i. Forest and deforestation maps ▪ ii. Degradation ▪ iii. Area of logging decks ▪ iv. Area impacted by natural disturbance. Area of roads. Skid trails

	<ul style="list-style-type: none"> ▪ v. Biomass removals <p>Methods</p> <ul style="list-style-type: none"> ▪ i. Landsat satellite image analysis ▪ ii. PRA and transects and sample plots ▪ iii. Field measurements or post-harvest reports ▪ iv. Satellite images and ground verification ▪ v. Field measurement, Logging reports, etc. <p>Frequency</p> <ul style="list-style-type: none"> ▪ i. Varies, but for revising baseline ▪ ii. Every 2 years (transects and plots, whenever PRA finds degradation potential) ▪ iii., iv., v. At least every 5 years.
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Stakeholder identification and engagement

	<p>Stakeholders identified</p> <p>Initial stakeholders are:</p> <ul style="list-style-type: none"> ▪ FEPROCAMD; Community of Varsovia; Community of Mavila; CASAL – Alegria; ASCART; RONAP; PRONATURALEZA; RAINFOREST; SPDA; ACCA; UNAMAD; Special Project GOREMAD <p>Other stakeholder categories are:</p> <p>Madre de Dios Regional Government; Local Municipalities; Decentralized Ministries - Madre de Dios; Cabinet Council Presidency; Autonomous Organizations; Educational Institutions; NGOs; Trade Organisations, Media; Private Institutions; Local Organisations</p>
	<p>Identification process</p> <p>The constant previous work field allowed identifying the stakeholders comprehensively. On-going workshops and the conduction of interviews and surveys to prepare the Assessment of the Condition of Brazil Nut Concessioners in Madre de Dios has allowed to have a record of the stakeholders and involved parties in the project.</p>

Full and effective participation

	<p>Access to information and consultation</p> <ul style="list-style-type: none"> ▪ Project began a consultation and project dissemination process, establishing relations with key leaders in each sector ▪ Once the contacts were made, the possibility of implementing a REDD brazil nut concessioners project was explained and publicised through working meetings between BAM and key leaders of the Brazil nut concessioners ▪ The project carried out an affiliation campaign, organising talks, workshops and work groups with brazil nut concessioners to disseminate the proposal and distributing previous information in each sector
	<p>Participation in design and implementation</p> <ul style="list-style-type: none"> ▪ Brazil nut concessioners decide whether or not to participate in project ▪ Development of Community Training Plan included

	community poll and workshop with interest groups.
Feedback and grievance redress procedures	<ul style="list-style-type: none"> ▪Conflicts and Complaints Management System has been created. ▪Submitted complaints will be dealt with within 3 weeks ▪Actions taken to fix the situation will be communicated to the complainant.
Worker relations and safety	Peruvian legislation exists to support concern about employer responsibilities and executing the project. The Brazil nut processing plant shall meet the standards of health and safety requires by the Peruvian State. All employees will be trained not only on issues related to health and safety in the workplace but also receive incentives for continued compliance with these standards. All employees of the processing plant and administrative staff of the company shall be provided with health insurance to them and their families, health care, medicine and others. All workers shall have accident insurance and life insurance as required by law. Persons who perform services for the project will have all the necessary security protection and welfare at the plant facilities. They will be also trained on issues related to care and precautions to be taken in the facilities.

Communities



Without-project scenario	<p><i>Variables and methodologies used for assessment are same as for community impact monitoring</i></p> <ul style="list-style-type: none"> ▪Deforestation will affect negatively the food safety and the means of subsistence of the communities in the Project Zone, mainly because the quality and quantity of natural stock mainly provided by Brazil nut forests will decrease dramatically. Poverty will increase since deforested areas lead to poverty of the resident given that migratory agriculture or mining activities are not sustainable in the long term. Other sustainable activities such as ecotourism would not be possible.
With-project scenario	<p>Expected net benefits</p> <ul style="list-style-type: none"> ▪Sustainable forest management ▪Concessionaires income increase ▪Variation of traditional subsistence activities to sustainable activities ▪Forest conservation and ecosystem flows for the resident of the area ▪Control of activities causing deforestation <p>Possible negative impacts on other stakeholders and mitigation strategy</p> <ul style="list-style-type: none"> ▪Displacement of activities causing deforestation or leakages leading to conflict with deforestation agents. The project will mitigate these social conflicts through

	the Dispute and Complain Resolution System.
Impact monitoring	<p>This system is organised in the present Community Impact Monitoring Plan of the Brazil Nut REDD project. The Community Impact Monitoring Plan (CIMP) is based on the fact that indicators have already been identified, which will bring the processes and changes planned for the project. The first measurement of these indicators is registered in the previous moment before starting the project; this is referred to as the Community Baseline.</p> <p>Indicators</p> <ul style="list-style-type: none"> ▪ Improved organisation for sustainable forest activities ▪ Increase of economic income of concessionaires ▪ Change from traditional subsistence activities to sustainable activities ▪ Forest conservation and ecosystem flows for local families ▪ Control of activities causing deforestation (miners, farmers, etc.) <p>Methodologies</p> <p>Causal Modelling Approach. Data collection methods include:</p> <ul style="list-style-type: none"> ▪ Participatory Impact Assessment ▪ Directed Surveys ▪ Focus Group Discussions ▪ Reviews from secondary sources <p>Frequency</p> <p><i>Not stated</i></p>

Biodiversity and ecosystem services



Without-project scenario

Assessment was conducted using “Wildlife Baseline in Brazil Nut Concessions,” which was carried out by an external consultant. Data was also collected in relation to the wildlife use by local population and the presence or absence of species taxa - mammals, birds, amphibians and reptiles - focusing the efforts on the conservation and maintenance of the most sensitive populations “Indicator Species” for their tracking and monitoring in the project areas.

- The loss of Brazil nut forests and the habitat would cause the isolation of flora and fauna species cutting the connectivity. This would increase the endogamy (reducing the genetic diversity), the infertile or unfeasible population (reducing the total population), the amount of species under threat and their degree of threat (by uncontrolled hunting or exploitation); and feeding and nesting sites would be damaged. All these impacts would be negative for biodiversity of the project area.

<p>With-project scenario</p>	<p>Expected net benefits</p> <ul style="list-style-type: none"> ▪The biodiversity in the Project Area has improved, as well as the water quality. ▪The areas with HCV identified in the Project Zone are recognised by the villager and have been maintained and improved the number endangered species in the Project Zone. <p>Possible negative offsite impacts and mitigation strategy</p> <p>The control and monitoring activities in the zone of the project will produce the displacement of deforestation and degradation agents (non-members of the project), mainly related to illegal logging, burning and mining. To counteract the impacts of illegal logging, fires and mining will be carried out mainly by training local people on the awareness of good management of forest resources and conservation benefits of these resources.</p>
<p>Impact monitoring</p>	<p>Indicators</p> <ul style="list-style-type: none"> ▪Deforestation rate ▪Presence / absence of threatened species ▪Relative abundance of species ▪Alpha diversity ▪Beta diversity ▪Taxonomic structure ▪Trophic structure <p>Methodologies</p> <ul style="list-style-type: none"> ▪A Rapid Biological Assessment was developed using methodologies raised by the Rapid Assessment Program (RAP) of International Conservation. Such assessments are suggested to collect information about the presence/absence of species in areas of all kind (aquatic and terrestrial) and data of relative abundance. ▪Monitoring is carried out through indirect indicators by monitoring mammals, mainly the population of the Dasyproctidae family and particularly of the Dasyprocta variegata (Añuje) species as it is the main Brazil nut seed disperser. ▪The project through monitoring the Brazil nut areas, will carry out every two years the Participatory Rural Appraisal (PRA), which is a survey regarding the perception of the Brazil nut producer on the current situation in its area, which will allow focusing the efforts on areas potentially affected and implement appropriate measures to safeguard the forests. ▪Rivers and lakes: monitoring of indirect indicators will be carried out by analysing the Herpetofauna, with the presence/absence of species that top the food chain such as the Caiman crocodilus (Lagarto blanco),

Paleosuchus trigonatus (Lagarto enano), Eunectes murinus (Anaconda), Boa constrictor (Boa) and Lachesis muta (Shushupe) that are good indicators of the site's health.

- Jaguar (Panthera onca): The monitoring of this solitary and nocturnal species will be carried following its tracks, to determine the presence/absence in the Brazil nut forest.


- Threatened Big Mammals: The monitoring will be carried out to determine the absence/presence of the species by direct methods (viewed and heard) and indirect methods (smell, traces and footprints).

- Endangered Birds: Bird species will be monitored by direct methods (viewed and heard and indirect methods (traces).


Frequency

Not stated

Progress

	Validation	VCS validation report issue date: 12 June 2012 CCBA validation report issue date: 15 January 2014 (Gold Level)
	Verification	VCS verification period and report issue date: 1 January 2010 to 31 December 2012; 14 November 2013, CCBA verification period and report issue date: Not verified as of 21 February 2016
	Credits issued	Number: 457,149 As of: 21 February 2016

Further information

	▪Bosques Amazonicos http://www.bosques-amazonicos.com/en/our-projects/redd-in-concessions-of-brazil-nuts-in-madre-de-dios-peru
	▪VCS Database https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=868&lat=-11.4881489093766&lon=-69.2404201325963&bp=1
	▪CCBA Database http://www.climate-standards.org/?s=REDD+Project+in+Brazil+Nut+Concessions+in+Madre+de+Dios

Documents reviewed

VCS project website: PD, Validation Report, Verification Report
CCBA project website: PDD, Validation Report