

**Tambopata National Reserve and Bahuaja-Sonene National Park REDD+  
project: limitations and challenges during its implementation**

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## Abstract

Reducing emissions from deforestation and forest degradation (REDD+) program is a mechanism developed by Parties of the United Nations Framework Convention on Climate Change (UNFCCC), which aims at creating a financial value for the carbon stored in forests from developing countries, and contributing to the mitigation of climate change, as well as create social and environmental benefits to stakeholders. Nonetheless, some studies suggest that this program has faced some challenges during its implementation. This study focuses on a REDD+ pilot project developed in the Peruvian Amazon, in an area considered as the biodiversity capital of Peru and one of the world's most important biodiversity hotspots. This study aims at describing (1) the main economic, environmental, and social limitations/challenges that have faced the "Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project" during its implementation, and (2) to discuss what general lessons can be learned from this project. For this, the study comprises a literature review on cases studies of REDD+, and then a documentary analysis of documents that relate specifically to the REDD+ project examined. Likewise, semi-structured interviews were carried out with the main actors of this project. The third step is to explain and discuss the field results. This study finds that the REDD+ pilot project has to face many challenges before starting to generate money from the sale of carbon credits. In this particular case, the project did not have to deal with land tenure issues nor social problems during its implementation. Nonetheless, it has had to face stiff opposition from the former governor of Madre de Dios, who promoted mining activities close to the project area. Furthermore, this case has shown that this REDD+ pilot project has helped to halt deforestation in the project area. However, this is not addressing the actors who are primarily responsible for deforestation and forest degradation in the Tambopata province, where deforestation has increased in the last years.

## Acknowledgements

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# 1. Project Background

## History of REDD+

Human activities have impacted ecosystems along history. Cutting down forests for lumber, clearing land for agricultural use, or contaminating the water of rivers are some of the activities where humans have impacted ecosystems, and as a consequence, ecosystems have been degraded or used unsustainably. Knowing the negative impact that human activities have generated on the environment, some scholars propose to adopt a sustainable use of ecosystems to stop the loss of biodiversity and environmental degradation (Opoku, 2019). That is important because ecosystem services are essential not just for providing direct benefits to humans, but also for regulating ecosystem processes (such as climate regulation, water purification, energy provision, and others) that are essential for the well-being of humans (Feng et al., 2018). In order to conserve ecosystem services, environmental incentive programs appear as mechanisms to reduce the loss of ecosystems by making the conservation an attractive economic activity for users of natural resources (Chervier et al., 2017). Within these mechanisms developed, the initiative for reducing emissions from deforestation and forest degradation (REDD+) is one of the most ambitious conservation mechanisms.

The initiatives for reducing emissions from deforestation in developing countries (REDD) was first discussed in 2005 by the United Nations Framework Convention on Climate Change (UNFCCC) at its 11<sup>th</sup> session of the Conference of the Parties to the Convention (COP) at the request of Costa Rica and Papua New Guinea, on behalf of the Coalition for Rainforest Nations (United Nations Framework Convention on Climate Change, 2005). This mechanism was focused on reducing CO<sub>2</sub> emissions from preventing deforestation in developing countries (Bishop et al., 2014; UNFCCC, 2019). According to Overman et al., 2019, “tropical deforestation and degradation produce about 10% of global anthropogenic carbon emissions”, so the creation of this mechanism would help to halt emissions from deforestation and forest degradation (Bottazzi et al., 2018). Nonetheless, the implementation and development of the REDD program faced some difficulties. As Ogonowski et al., 2009 mentioned in their study, the verification of the success of a REDD project could be challenging due to these projects could require a detailed plan to monitor compliance, and these kind of evaluation programs could be difficult and expensive to execute in poor and remote areas such as the Amazon.

Over time, the REDD concept became more ambitious until it converted REDD+ (Bishop et al., 2014). The initiative for reducing emissions from deforestation and forest degradation (REDD+), along with conservation and enhancement of forest carbon stocks, and sustainable forest management (Rakatama et al., 2017), is a mechanism developed by Parties to the UNFCCC during the COP 13, in Bali, Indonesia (O’Connell, 2018). This program aims at

creating a financial value for the carbon stored in forests from developing countries (UN-REDD, 2018). This global initiative, which appears in 2007, has represented an excellent opportunity to deal forest loss and forest degradation in order to contribute to the mitigation of climate change, as well as create social and environmental benefits to stakeholders. As UN-REDD, 2018 points out, REDD+ results very attractive for developing countries because they may receive results-based payments for their verified emission reductions. In addition, REDD+ program also serves as a mechanism to achieve some of the 17 Sustainable Development Goals (UN-REDD Programme, 2016). As mentioned in the Un-Redd Programme Fact Sheet, REDD+ is not also linked to Climate Action goal, but also to the Responsible Consumption and Production goal, Gender Equality goal, Life on Land goal, and Decent Work and Economic Growth goal.

The original concept of REDD+ was to offer payments for emission reductions when the emission reductions have been verified (Labbate, 2016). As Overman et al., 2019 state in their study, to demonstrate the emission reductions, REDD+ projects have to be capable of i) developing a baseline for past CO<sub>2</sub> emissions from deforestation and degradation activities, also known as Forest Reference Level (FAO, 2019), ii) generating a projected deforestation model without the implementation of the REDD+ project, and ii) monitoring and reporting greenhouse gas (GHG) emissions to the UNFCCC, in order to assess their performance in implementing REDD+ activities.

As mentioned earlier, REDD+ is designed to provide financial compensation to developing countries for reducing carbon emissions from deforestation and forest degradation (Overman et al., 2019). However, to date, most developing countries are still in the first stage of REDD+ preparation, or “Readiness” (Dunlop et al., 2016), focusing on developing the technical programs and new policy models needed for effective implementation of this mechanism at the national level (Forest Carbon Partnership, 2018). Nonetheless, during the last decade, more than 300 subnational REDD+ pilot projects have been initiated in tropical developing countries (Pasgaard et al., 2016), and they provide valuable learning for the implementation of national-level REDD+ strategies.

To sum up, according to REDD+ proponents, this program is an effective, efficient, and equitable mechanism (Nathan and Pasgaard, 2017) to face climate change. However, it remains unclear if REDD+ projects can bring economic, environmental, and social benefits at the same time.

### **REDD+: Challenges faced during its implementation**

As previously mentioned, REDD+ is a mechanism that has the potential to reduce greenhouse gas emissions, while providing other social and environmental benefits (Barquín et al., 2014),

but it still remains uncertain if REDD+ projects are achieving effective, efficient and equitable outcomes (Pasgaard et al., 2016). These so-called ‘3E criteria’ (Stern, 2006) address the following general questions (adapted from Angelsen and Wertz-Kanounnikoff, 2008): Can the REDD+ mechanism achieve its GHG emission reductions? Are the emission reductions achieved at the minimum cost? And are the benefits and costs distributed fairly within countries? Table 1 summarizes suggested sub-criteria for assessing the 3Es in REDD+ (adapted from Pasgaard et al., 2016).

**Table 1 Sub-Criteria for assessing the 3 E’s in REDD+**

Criteria	Sub-Criteria
Effectiveness	Depth and additionality, scope, flexibility and robustness, control or avoidance of displacement of emission (leakage), permanence and liability.
Efficiency	Start-up cost (including capacity building), running cost (monitoring, forest law enforcement and tenure reforms), landowners’ opportunity cost
Equity	Fair distribution among countries (e.g. in relation to poverty profile and reference levels), fair distribution within countries (across administrative levels and land use actors), and the effects on local and indigenous communities

Source: adapted from Pasgaard et al. (2016).

Massarella et al., 2018 point out that the implementation of REDD+ projects have been characterized by using large amounts of resources and attention, along with high expectations of success; nevertheless, the costs and benefits of REDD+ projects are often not reported (Rakatama et al., 2017), and expectations are rarely fulfilled (Massarella et al., 2018).

In this section, after doing a literature review of REDD+ studies, the study will evaluate which are the main challenges that REDD+ projects face during its implementation.

#### Environmental Challenges:

While the main valued outcome in REDD+ projects is to reduce emissions from deforestation and forest degradation (Nathan and Pasgaard, 2017), the scope of REDD+ projects seems unclear because there are doubts about whether REDD+ projects receive carbon credits for “avoiding leakage and future deforestation; avoided deforestation; forest conservation; or afforestation and reforestation” (Mukahid and Lawal, 2016). The idea of working on initiatives to protect forests sounds simple (Bapna, 2010), but there are a number of challenges that the program has to face to fulfil its main goal. Only in the implementation phase, REDD+ pilot projects in different parts of the world have faced a series of limitations and challenges that have prevented them, in some cases, from achieving the wanted objectives.

One clear example of the challenges that REDD+ pilot projects have faced during their implementation can be found in the pilot projects developed in Papua New Guinea (PNG). PNG became one of the countries that proposed the REDD+ program to the UNFCCC in 2005 (Pascoe, 2018), and it has been one of the first countries where REDD+ pilot projects have been implemented, such as the Suau REDD+ Pilot Project, and the April Salumei REDD+ Pilot Project (Pacific Forest Alliance, 2015). The development of these pilot projects has left key lessons to PNG. According to the National REDD+ Strategy of PNG, 2017, for example, if there is no a national implementation plan, the challenges addressed in an area may provide protection and local benefits, but at the same time, they may displace the threats to other areas (carbon leakage). In other words, REDD+ projects focus on reducing GHG emissions within the project area, but they may cause the increase of emissions outside the project boundary (Streck et al., 2006). The results obtained from the execution of separate projects could bring only local benefits, and not have a real impact on a national scale, much less on a global scale. Likewise, it is difficult to assess additionality in this kind of projects (Bhullar, 2013), this means that it is not easy to know what would have occurred regarding GHG emissions reductions without the REDD+ projects.

Besides, there are many limitations at the time to guarantee permanence of REDD+ pilot projects (St-Laurent et al., 2017), basically due to the risks associated with the management of forest vulnerability (these projects may be affected by anthropogenic activities or natural events, such as wildfires (Streck et al., 2006)).

On the other hand, there is no agreement about how to assess environmental effectiveness of REDD+ projects; however, Nathan and Pasgaard, 2017 have included some criteria like for example: the extent to which REDD+ covers different types of forest and forest users (scope and depth); as well as its ability to meet diverse local conditions and unknown future changes (flexibility and robustness).

Another of the major constrain for implementing REDD+ projects are the technical systems for measuring emissions reductions and removals (Nathan and Pasgaard, 2017). Despite its difficulty, REDD+ project proponents have established reference emissions levels for their project sites based on historical rates of deforestation, using remote sensing techniques and new algorithms for detecting forest fires to monitor deforestation and degradation (Angelsen et al., 2012), however, all this process is time consuming and costly, and its precision sometimes seems out of proportion given the often very tangible problems on the ground (Nathan and Pasgaard, 2017).

#### Economic Challenges:



REDD+ pilot projects have to deal with economic challenges, mainly during the implementation phase, where large amount of resources (e.g. money, time) must be invested in order to run successfully the REDD+ project. As [Angelsen and Wertz-Kanounnikoff, 2008](#) point out, a REDD+ project is efficient if the emission reduction is achieved at a minimum cost. Besides, as [Nathan and Pasgaard, 2017](#) mention in their study, REDD+ projects have to deal with the costs associated with i) start-up costs, which are related to the design of the project, technical infrastructure and governance; ii) running costs, which include regular monitoring, forest law enforcement, and tenure reforms; and iii) land owners' opportunity costs, which are the foregone economic benefits from the best alternative (non-forest) land uses, e.g., the minimum amount a landowner must be paid to be willing to stop deforestation and forest degradation ([Angelsen and Wertz-Kanounnikoff, 2008](#)).

As mentioned previously, the main economic challenges in a REDD+ project are related to the implementation and evaluation. Most cases, the key barrier to implementation is a lack of funding to this kind of projects. In this sense, [Mbow et al., 2012: 43](#) point out “while some specialists suggest an international fund to support reforms and specific measures to tackle deforestation and degradation, others are advocating the two basic approaches to REDD financing which are government funding and market-based instruments or combining both public and private approach”.

On the other hand, [Cadman et al. \(2017: 14\)](#) remark in their study that the implementation and evaluation of REDD+ projects addressing economic issues due to “without improving livelihoods in a sustainable way, indigenous and local communities may prefer to convert forest to other land uses”. In other words, forests are key to achieving sustainable development, but if farmers do not find economic benefits in the short term in this type of projects, it is logical to think that they will prefer to develop other types of economic activities that are more profitable for them, such as agriculture or cattle raising, affecting directly to the successful running of the REDD+ project.

Another economic challenge for the successful implementation of these projects is related to the running costs, and especially with costs related to secure land tenure, which is a common problem in developing countries ([Larson et al., 2013](#)). As Larson et al. remark, in most cases, REDD+ projects have served as an opportunity in developing countries for securing land tenure rights. However, the intervention of them is insufficient without the support of national governments to implement national programs for land tenure reform. Concerns related to land tenure include overlapping titles or claims, land grabbing, and elite capture, outdated or non-existent land cadastres ([Larson et al., 2013](#)). As indicated in the “Policy Bulletin” prepared by [FAO, 2016:1](#), “tenure of land, forest, and natural resources has essential effects on the goals, planning, and implementation of REDD+. Tenure is the decisive factor that identifies the

stakeholders whose rights, territories and livelihoods are affected by REDD+ activities, and its recognition is important when prescribing who should be the subjects that will have to be compensated for their contribution to the realization of the Program”. For those reasons, it is crucial to solve tenure ambiguity for implementing REDD+ projects easier and faster.

Other lessons learned during the evaluation of the REDD+ pilot projects are related to the high costs involved in the development and monitoring of carbon projects per hectare; and the complexity involved in convincing communities (mostly people living in extreme poverty) to assume long-term commitments, especially when the price of the product is variable and can affect their economies ([PNG National REDD+ Strategy, 2017](#)).

#### Social challenges:

As [Nathan and Pasgaard, 2017](#) already observed in their study, REDD+ projects and PES programs (Payment for Ecosystem Services) should focus on social equity goals in broad terms of alleviating poverty and/or improving the lives of the poor, powerless, and marginalized. The PES literature refers to this as “pro-poor” approaches to social equity; nevertheless there is another school call “do-no-harm”, this school argues that REDD+ should not harm the involved communities ([Mucahid and Lawal, 2016](#)). As [Mucahid and Lawal, 2016](#) point out there is a crucial difference in those approaches, the first one treats a REDD+ as a mechanism for providing incentives and/or compensations to those who will be more willing to stop deforestation, whereas the second one has a strict approach to carbon dioxide reduction.

Based on the pro-poor approach, REDD+ projects could positively affect the livelihoods of forest-dependent communities contributing to poverty alleviation, providing local households extra income, or offering other co-benefits such as improved land tenure or carbon ownership ([Mucahid and Lawal, 2016](#)). Nonetheless, REDD+ projects may also face some social issues. According to Boas for example, indigenous people see this kind of programs as a threat to their agricultural practices, and cultural activities ([Boas, 2011](#)) especially in countries with weak or no social safeguard systems ([Mucahid and Lawal, 2016](#)). The rejection to this type of projects occurs because, as [Mucahid and Lawal, 2016](#) state in their study, REDD+ projects could lead to sell forestland to transnational companies, and as a consequence these actors may push forest-dependent communities out from their lands and forests. For instance, in Peru the lack of national guidelines resulted many years ago in an explosion of carbon piracy, in where “carbon pirates” convinced indigenous people communities to sign away their rights to land and carbon under terms that are favourable to commercial actors ([Espinoza and Feather, 2011](#)).

Likewise, REDD+ initiatives could increase income inequality between communities involved in REDD+ and those not involved in REDD+ ([Mucahid and Lawal, 2016](#)). This could result in

community conflicts, due to the growing economic equality between the benefited communities and those who are not benefited by the project.

On the other hand, REDD+ proponents argue that communities need to be recognised as key actors in decision-making to ensure fair distribution of benefits between people who rely on and manage the forests (Pascoe, 2018). Nonetheless, the process of involving indigenous people not only will change local people's forest use practices, as Mucahid and Lawal, 2016: 12 already described, "REDD+ on the ground activities will also affect the ecological, cultural, social, spiritual, political customary, institutional and world-view values which underline and justify it". Notwithstanding the negative socio-cultural impacts that REDD+ activities could bring due to the interaction with local communities, Loaiza et al., 2016 argue in their study that to incorporate traditional knowledge and practices from local communities to a REDD+ pilot project in Ecuador has brought equity and better management of forest resources. Also, other benefits of social inclusion include cost reduction of implementing and monitoring, as well as to ensure the monitoring and enforcement of regulations (Mbow et al., 2012).

REDD+ pilot projects around the world face similar limitations and issues such as land tenure security, leakage, permanence, high costs, and social problems. Besides, as Cadman et al. (2017: 10) describe "the actual deployment of REDD+ initiatives has been a slow process due partly to an initial lack of policy infrastructure around climate change, and institutional problems around poor forest governance, as well as political instability". All these points represent great challenges for the correct implementation, and sustainability of the REDD+ projects over the time.

### **REDD+ in Peru**

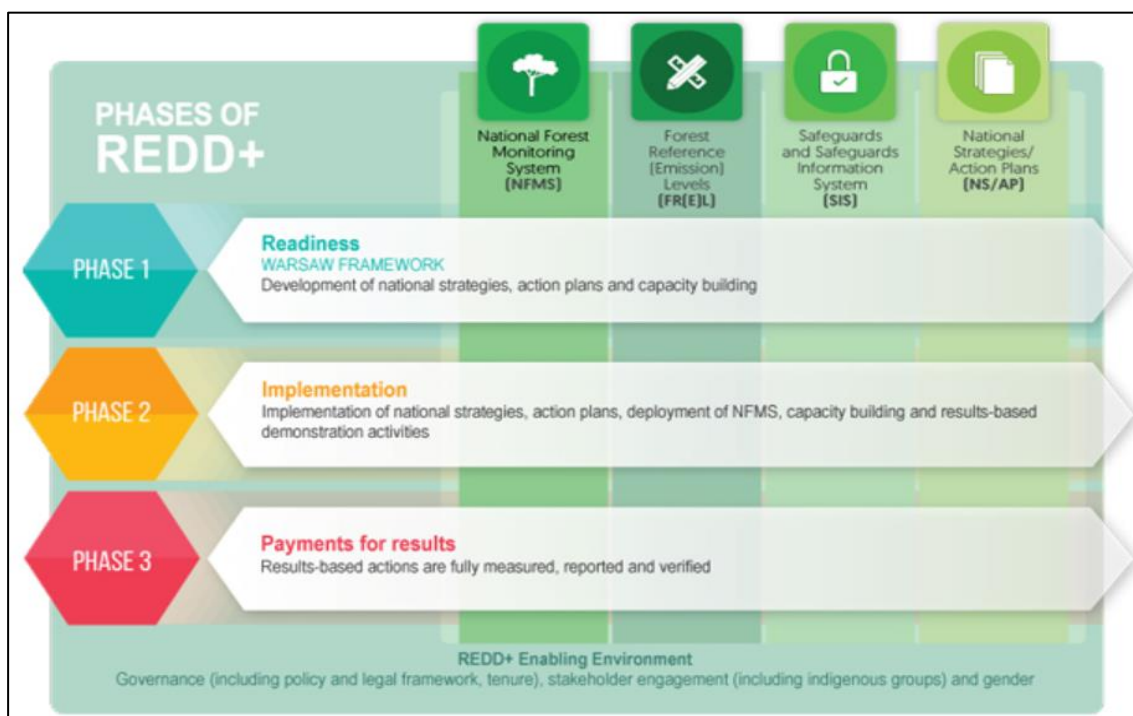
All the issues associated with the implementation of REDD+ projects that have been mentioned earlier, are not exclusive to any particular country, but they are repeated in many developing countries. This is the case of Peru, a developing country where corruption at the governmental level, and poor forestry governance are major challenges for the success of any program, including REDD+ program (Piu and Menton, 2014). Peru is the second country with the largest area of rainforest in Latin America (Seifert-Granzin, 2014), only Brazil holds a larger area of Amazonian tropical forest (Smith and Schwartz, 2015). However, roughly 1,100 square miles of Peru's forests are cut down every year (Smith and Schwartz, 2015), and this situation could be worse in the coming years if the Peruvian Government does not take actions on this problem. For that, as Piu and Menton, 2014 mention in their study, it is fundamental to increase the intersectoral support for socio economic development that encourages conservation and slowing of deforestation and degradation. Moreover, they point out that the success of REDD+ program in Peru requires the resolution of legal challenges about land tenure rights, as well as

the adoption of measures that protect the rights of indigenous peoples living in the Peru's forests.

In Peru, REDD+ program began to gain attention in the mid-2000s with the “Tarapoto Declaration” (Hajek et al., 2011). As Hajek et al., 2011: 202 point out, “the Tarapoto Declaration is regarded as the first major collective agreement to work on the key issues for REDD+ implementation in Peru”. Currently, the Ministry of the Environment (MINAM) is the governing body responsible for putting forward technical aspects relating to REDD+ and for coordinating with the pertinent public and private, national and sub-national (regional) institutions (Climate Investment Fund, 2013). In fact, the former Peruvian Ministry of the Environment announced, during the conference in Poznan (COP14), the establishment of the ‘national forest conservation program’ whose objective is to protect 54 million hectares of forest and reduce net deforestation to zero by 2020 (Espinoza and Feather, 2011).

As Green Climate Fund, 2018 points out “REDD+ is implemented in three phases (Fig. 1): 1) Readiness phase, involving the development of national strategies or action plans, policies and measures, and other capacity building activities; 2) Implementation phase, includes implementing national policies and measures, as well as national strategies or action plans; 3) Payments for results phase, that must be fully measured, reported and verified”. Only countries that have completed the first two phases of REDD+ will be eligible to apply for phase 3.

**Figure 1:** Phases of REDD+



Source: FAO, 2019. Available at: <http://www.fao.org/redd/overview/en/> Accessed (12 July 2019)

According to the National Strategy on Forest and Climate Change (Estrategia Nacional de bosques y cambio climático, ENBCC), elaborated by MINAM, Peru is in the first phase of REDD+ (MINAM, 2017). Lozano, 2018: 17 points out “in terms of the three-phase international REDD+ process, Peru is still in the readiness phase, which include changes in policies, incentives and institutional procedures and capacities to reduce emissions.” Within the first phase, Peru is currently developing the four pillars of REDD+ Readiness, involving i) the elaboration of the National Strategy on Forest and Climate Change, ii) the design of the Forest Coverage Monitoring Module, iii) the elaboration of national reference level, and iv) the design of a safeguard system (MINAM, 2016). In Peru, the development of national reference levels, monitoring systems, safeguards, risk assessments and legal reforms are moving slowly, however, sub national and local REDD+ initiatives are proliferating (Espinoza and Feather, 2011). In the meantime, Peru is developing programs, projects, actions and measures, both public and private, of subnational scale in favour of the reduction of deforestation and forest degradation (MINAM, 2017).

In addition, Peru has joined diverse REDD+ initiatives, such as Forest Carbon Partnership Facility (FCPF) in 2009, the Forestry Investment Program (FIP) of the Climate Investment Fund (CIF) in 2010, the UN REDD+ Program and the REDD+ Partnership UN-REDD+ program in 2011 (Lozano, 2018). As Lozano points out, Peru has received substantial financing for the implementation of REDD+ programs, as she mentions “by 2016, the total amount had increased for a cumulative of US\$ 610 million.”

Many REDD+ pilot projects have been developed in Peru in the last years, however there is little information about the limitations and issues that faced those REDD+ projects during their implementation. By 2012, 41 REDD pilot projects were identified in Peru, “all of them were prepared and/or implemented by civil society or private actors” (Lozano, 2018: 18), while MINAM develop national policies, data, and capacities. Nonetheless, due to Peru chose to work under the “nested approach” to implement REDD+ (Seifert-Granzin, 2014), all these pilot projects, also known as early REDD+ actions, will have to insert them into the broader national REDD+ scheme once Peru has finished the implementation of the REDD+ strategy (Conservation International, 2019). As Seifert-Granzin, 2014: 16 remarks “the nested approach proposes to develop forest reference emission levels at the level of jurisdictions that will be added to form the national forest reference level. As a consequence, REDD+ projects must be nested in the jurisdictional reference emission level of their corresponding jurisdiction”.

This study will focus on the identification of the main limitations and challenges that appeared during the implementation of the *Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project*. Although there is a lot of literature on REDD+, it is necessary to conduct ‘on the ground’ research to find out which are the main challenges that this program faces

during its implementation in this REDD+ pilot project. In sum, after doing a literature review, this study have presented some of the most known environmental, economic, and social challenges that REDD+ pilot projects have faced around the world. I have taken all this literature as a reference for the development of this study, which is explained in the Methodology section. Before explaining the methodology, I will introduce the research area and the REDD+ pilot project.

## 2. The Case Study of Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ pilot project

The Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project is a private project, which is being led by the Peruvian Non-governmental organization (NGO) Association for Research and Integral Development (Asociación para la Investigación y Desarrollo Integral, AIDER), and the National Service of Natural Protected Areas (Servicio Nacional de Áreas Naturales Protegidas, SERNANP), which is the State entity in charge of the supervision and management of the Peru's natural protected areas ([Althelia, 2018](#)). This project area is politically located in Tambopata and Inambari districts, Tambopata province, Madre de Dios region, Republic of Peru. Madre de Dios region presents an abundant biodiversity, since it has from tropical forests of Amazonian plain (150 masl) to tropical mountain forests (3,500 masl), which vary in conformation of species ([Recavarren, 2011](#)). Due to its importance, 44.78% of its territory is protected by the National System of Natural Protected Areas administered by SERNANP. [Lopoukhine et al., 2012](#) defines a protected area as “a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”. Nonetheless, the inadequate exploitation of the resources in Madre de Dios, such as Brazilian nut, timber, gold; as well as the advance of agriculture, livestock and the opening of roads and human settlements, have been putting pressure on resources, transforming the landscape and destroying wooded areas, as a consequence of poorly planned economic activities on the use of the territory and its natural resources ([Recavarren, 2011](#)).

In this context the Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project is born. The project is developed in the area comprised by Tambopata National Reserve (Reserva Nacional Tambopata, RNTAMB) and the sector of Bahuaja-Sonene National Park (Parque Nacional Bahuaja-Sonene, PNBS) located in the region of Madre de Dios ([Fig. 2](#)), corresponding to the partial Administration Contract of RNTAMB and PNBS – Madre de Dios sector, signed by Peruvian State and AIDER ([AIDER, 2012](#)). The RNTAMB

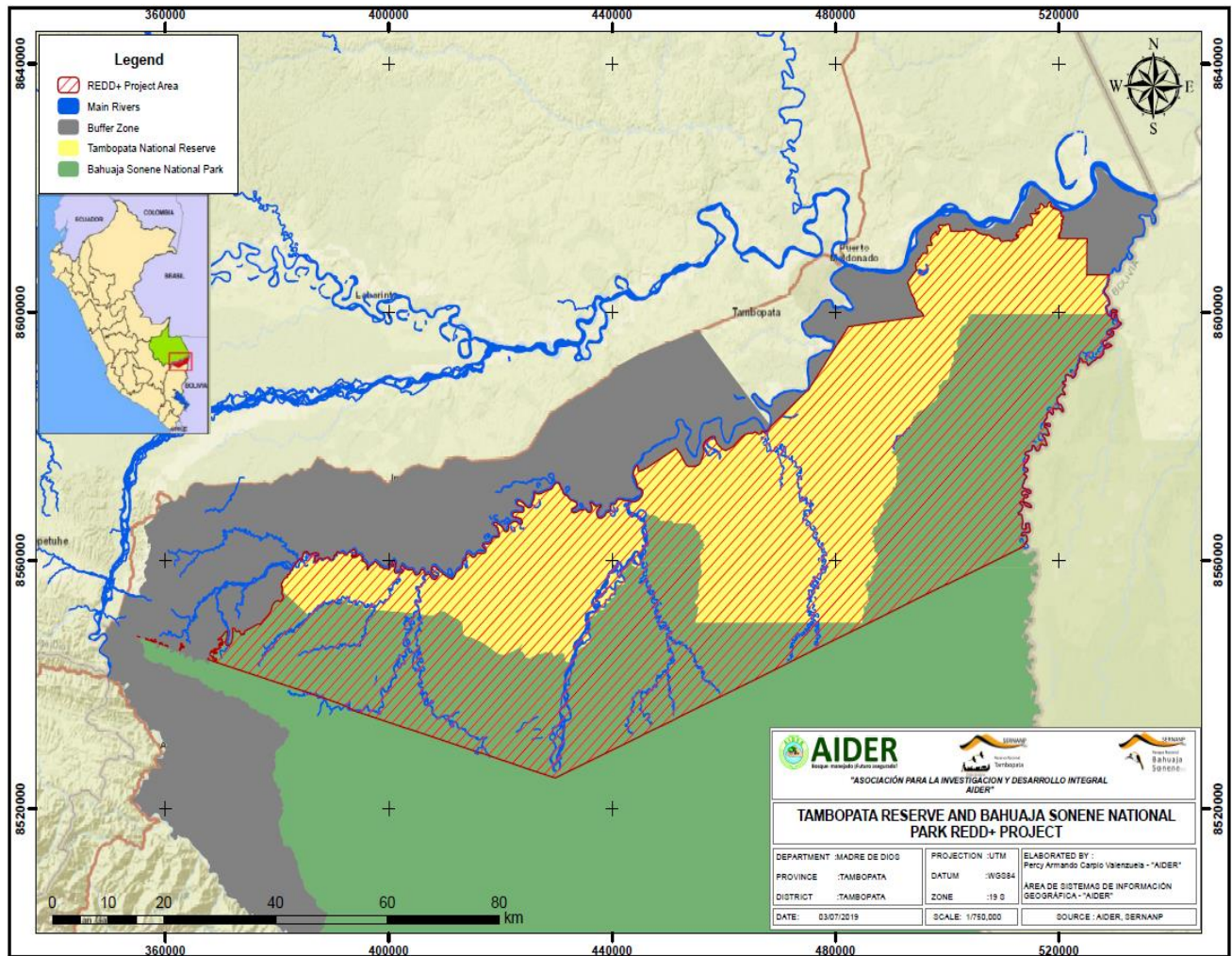


and PNBS, are natural protected areas (NPAs) of great importance, both national and world, because of the great biodiversity that they harbour, and for being an economic source for the local people ([Recavarren et al., 2011](#)). Within the RNTAMB and PNBS there are a high diversity of vegetal communities, as well as many forest species of economic importance such as cedar (*Cedrela odorata*), mahogany (*Swietenia macrophylla*), screw (*Cedrelinga cateniformis*), Brazilian nut (*Bertholletia excelsa*), palm trees such as pona (*Iriartea ventricosa*), aguaje (*Mauritua flexuosa*), among others ([Recavarren et al., 2011](#)). Regarding animals, RNTAMB is home to 632 species of birds, 1200 of butterflies, 103 of amphibians, 180 of fish, 169 of mammals and 103 of reptiles ([Andina, 2016](#)).

This project was designed to finance and safeguard the long-term conservation of 573,299 hectares of virgin natural forest in the RNTAMB and PNBS ([Recavarren, 2015](#)), home to some of the world's most pristine and beautiful landscapes, as well as 12 critically endangered animal species, such as Giant Otters, Giant Armadillos, the cougar, the jaguar, among others ([Althelia, 2018](#)). Likewise, the project established a buffer zone, since displacements of activities may occur (leakage). This buffer zone includes an area of approximately 263,854 hectares ([Recavarren, 2015](#)).

In 2010, from the total area (837,153 hectares, 573,299 ha of the RNTAMB and PNBS, and 263,854 ha of the buffer zone), 753, 977 ha were composed by forest, it means 90.06% of the total area. According to AIDER, the forest loss in Madre de Dios between the years 1990-2010 was roughly 190,689 ha, with an annual deforestation rate of 9,534 ha per year ([Recavarren, 2015](#)). The direct causes of deforestation included agricultural expansions, gold mining, land speculation, and logging roads that contribute to forest degradation ([Finer and Novoa, 2015](#)). In fact, since the construction of the Interoceanic Highway, a road built in July 2010 that goes through the Peruvian Amazon from the Andes on the west to the Brazilian border on the east ([Crezee, 2017](#)), the population in Madre de Dios region increased by almost 2.6 per cent annually due to immigration into this region ([INEI, 2018](#)). As [AIDER, 2012: 39](#) describes in its study "till the implementation of the REDD+ project, in 2012, the main social and environmental impacts of the Interoceanic Highway had been the intensification of four accelerated process: (a) alluvial gold mining stimulated by the high prices of this metal; (b) wood extraction; (c) Andean highlands citizens migration to the jungle, stimulated by high poverty rate in the southern Andes; and (d) migration population concentration in the city of Puerto Maldonado (the capital city of Madre de Dios)".

**Figure 2: Project Area**



Source: AIDER, 2019.

Regarding to native communities, within the buffer zone of the NPAs there are four peasant or native communities, these are Infierno, Palma Real, Sonene, and Kotsimba ([Recavarren, 2015](#)). Other stakeholders identified inside the Project area and/or the buffer zone are: a) castañeros, individuals that collect Brazilian nut inside the RNTAMB and the PNBS; b) tourism operators, these are private companies that offers tourism services in the buffer zone and inside the RNTAM; c) villagers of Nueva América, they are approximately 21 families settled inside the buffer zone; and d) villagers of Sandoval Lake, they are a group of families settled inside the RNTAMB ([AIDER, 2011](#)). On the other hand, within the buffer zone, AIDER works with the support of the RNTAMB and PNBS Management Committees (Comités de Gestión de RNTAMB and PNBS). These Management Committees have been facilitating communications between AIDER-SERNANP and the populations located in the buffer zone ([Recavarren, 2015](#)).

From the very beginning, the project purpose is to conserve forests from both NPA against deforestation imminent advance ([Verra, 2019](#)). Besides, according to [the REDD desk, 2019](#),



“the project aimed to reduce land use change at the NPAs buffer zone through the promotion of sustainable economic activities and the establishment of conservation agreements at previously identified critical areas”. As is mentioned by [Verra, 2019](#), both actions look forward to consolidate a “barrier” against expansion of economic frontier (agricultural and mining activities), with the support of institutions that are working on conservation activities within the area. Likewise, the project aimed to generate an estimated 4.5 million ton of emission reductions over the first 10 years ([AIDER, 2012](#)); in other words, the project expects to avoid a net emission rate of 457,750 ton of carbon annually over the first ten years. In 2012, the project was certified by Rainforest Alliance according to the Climate, Community and Biodiversity Standard and the Verified Carbon Standard (VCS) ([MINAM, 2019](#)).

According to [AIDER, 2012: 9](#), “the strategy to achieve its objectives was to work in four main components: **i)** conservation agreements, offering tangible and periodic benefits to local settlers in exchange of real conservation commitments; **ii)** to promote sustainable productive activities among families from farmhouses and communities settled at buffer zone; likewise, technologic innovations will be introduced for traditional activities, such as agroforestry, aquaculture, and other; **iii)** to strength surveillance and control in the NPAs, to ensure its integrity, through prevision and mitigation of threats and negative impacts, mainly those that generate forest deforestation; and **iv)** to promote agreements between institutions and related to responsibilities that allow a better governance of resources within the project area and the buffer zone”.

At the time of study, the Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project was already nine years since its inception and was recognized by most of the inhabitants that inhabit the buffer zone as the most important REDD+ project from Madre de Dios region.

### 3. Research Methods

This research comprehended three main activities. The first was to conduct a literature review on cases studies of REDD+ projects elsewhere to identify which are the main economic, environmental, and social challenges that face these projects. Reports, such as those describes the challenges that have faced other countries during the implementation of their REDD+ projects, were useful for the identification of some of the most common challenges faced by developing countries when implementing REDD+ projects.

After this first literature review, the research focused on analysing project primary data. Project primary data derives from fieldwork conducted in July, which includes documentary analysis, semi-structured interviews, and field observations.

*Documentary analysis:* This research carried out a documentary analysis of documents that are related specifically to the *Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project*. To get this primary data was necessary to contact the main organizations involved in the implementation of this REDD+ project. These organizations were: (i) government institutions, such as MINAM, which is the governing body responsible for putting forward technical aspects relating to REDD+; and SERNANP, which supervises and manages Peru's national protected areas (e.g. Tambopata and Bahuaja-Sonene); (ii) the Peruvian NGO AIDER, which is the entity in charge of designing, implementing and administering this REDD+ project; (iii) and the Peruvian company Bosques Amazónicos (BAM), which is responsible for financing the design and implementation of this project. Besides, this study used relevant information provided by Althelia, which is an environmental investment fund in charge of marketing the carbon credits generated by this REDD+ project.

To access and use project related documents, I contacted to MINAM and AIDER. Both institutions supported the development of this study. Once the information was obtained, the study focused on analysing the documents, and identifying which have been the main challenges that this REDD+ project has faced since the beginning of its implementation.

The review of project related documents was conducted in June and July 2019. It was necessary to travel to Madre de Dios to obtain relevant project documents, this travel took place at the beginning of July, and lasted two weeks.

*Semi-structured interviews:* This study used semi-structured interviews, these interviews were carried out with: (1) the MINAM and SERNANP, which are the government institutions involved in the development of this REDD+ project; (2) the Peruvian NGO AIDER; (3) the environmental manager of the Regional Government from Madre de Dios; (4) the president of the RNTAMB Management Committee; (5) the international company Althelia Climate Fund, which is supporting economically this REDD+ project; and (6) two community leaders of the Infierno Native Community, as well as the president of the Agricultural Cooperative of Tambopata, which is integrated by farmers located inside the buffer zone.

As I said before, I had to contact to representatives of MINAM and AIDER, who showed interest in supporting this research, either providing relevant information related to the *Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project* or participating in the interviews. In the same way, I contacted representatives of SERNANP, the RNTAMB Management Committee, and Althelia in order to explain the purpose of this study and ask for their collaboration. Concerning social stakeholders, I contacted them with the support of AIDER, the Peruvian NGO that has been working in the project area since 2010 and has daily contact with them.

Semi-structured interviews were conducted in June and July 2019, and they took place in the cities of Lima, and Puerto Maldonado. Considering the semi-structured interviews were quite expensive and time consuming, I carried out 11 semi-structured interviews to 4 state actors, 2 AIDER's actors, 1 representative of the RNTAMB Management Committee, 2 community leaders, 1 representative of the Agricultural Cooperative of Tambopata, and 1 international organisation representative. Even though 11 is a low number for a project that covers an area of 541 620.14 ha, this number of interviews allowed me to answer the research question.

The interviews included a mixture of closed and open questions. Open questions were made to get a better idea about perceptions and positions actors have towards this REDD+ project. As [Young et al., 2018](#) point out in their study, before starting interviews I let participants know about aims of this study and how data was used. Likewise, the study kept under anonymity the identity of informants. The average duration of the interviews was 45 min, and they were recorded to obtain as much information as possible.

*Field observations:* The fieldwork was conducted in July 2019, which included not only semi-structured interviews but also field observations. As part of the field observations, I proceeded to visit the RNTAMB NPA, which is the closest NPA to the buffer zone and the easiest access. Besides, I visited agricultural land where the Agricultural Cooperative of Tambopata is running the agroforestry project with the support of AIDER, as part of the strategies of the REDD+ project. During the fieldwork, I proceeded to take photos ([Appendix 1](#)), as well as to take field notes about the agroforestry project that the Agricultural Cooperative of Tambopata is currently executing.

After doing the fieldwork, which included semi-structured interviews, and field observations, I proceed to transcribe the interviews in order to analyse them. Once transcribed the interviews, I proceeded to organize the information by three different themes:

- 1) Environmental challenges: for identifying the main environmental challenges faced during the implementation of the Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project, the study had to identify: i) which were the main deforestation and forest degradation drivers, and ii) if the REDD+ project succeeds in halting these drivers.
- 2) Economic challenges: for identifying the main financial challenges associated with the design and implementation of the RNTAMB and PNBS REDD+ project, the study identified: i) what were the start-up costs for this project? ii) Which are the main running costs? And iii) How did the REDD+ project address the landowners' opportunity costs (if applicable)?
- 3) Social challenges: for identifying the main social challenges, I conducted interviews with some of the main social actors located inside the buffer zone. Besides, I visited some agricultural land. The study identified: i) how the RNTAMB and PNBS REDD+ project has

impacted the lives of the inhabitants that live inside the buffer zone; and ii) whether the REDD+ project has contributed to improving the lives of the inhabitants.

Transcriptions and analysis of the interviews were conducted in June, July, and August 2019. Then, I integrated all the primary data (obtained by interviews and project related documents) to answer the research question.

To sum up, the research techniques that were used are the following:

- a. Literature review: a collection of data through the bibliography to be consulted as a secondary data.
- b. Documentary analysis: a collection of documents that are related specifically to the *Tambopata National Reserve and Bahuaja-Sonene National Park REDD+ project*.
- c. Interviews with stakeholders: this step was made to get valuable information, and to identify the limitations and challenges that faced this REDD+ project during its implementation.
- d. Field observations: This step was made in order to see - on the ground- which are the activities that the RNTAMB and PNBS REDD+ project is running to meet its goals.

## 4. Results

### 4.1 Environmental Challenges

#### 4.1.1 Which are the main environmental challenges that the REDD+ project has faced?

First of all, it was essential to identify the main deforestation and forest degradation drivers both in the RNTAMB and PNBS NPAs, and in the buffer zone. Many respondents perceived mining, predominantly illegal, slash-and-burn agriculture and extensive cattle raising as the main drivers inside the buffer zone; and farmers, illegal miners, and immigrants as the main agents of deforestation and forest degradation. Besides, they agreed that since the construction of the Interoceanic Highway, immigration has increased, and as a consequence, illegal activities, such as illegal mining, has increased as well. The response from one of the interviewees was:

“The construction of Interoceanic Highway contributed to the illegal mining explosion. The highway brought positive and negative things. Prior to the creation of the Interoceanic Highway, Puerto Maldonado city was an isolated place. With the construction of this road, it was possible to transport our farm products, as well as to access relatively remote places. Nonetheless, this highway aided in the migration and augmentation of illegal activities. The investment (the highway) is justifiable; however, it contributed in attracting illegal miners and to make the removal of gold much easier”.

Personal communication, male villager, Puerto Maldonado city, July 2, 2019.

According to many respondents, by 2010, when AIDER started to the implementation of the RNTAMB and PNBS REDD+ project, mining activities had not put pressure on RNTAMB and PNBS NPAs yet. Until then, mining activities were conducted only in the buffer zone. However, between 2014 and 2018 when the regional governor of Madre de Dios was Mr Luis Otsuka – known as the ruler of gold ([García, 2015](#)) - mining activities intensified throughout the region and even entered the RNTAMB NPA. Thanks to the intervention of SERNANP with the support of the Peruvian Navy, the progress of mining was halted; nevertheless, this is still a latent problem. As one AIDER worker pointed to:

“In 2015 mining reached the borders of the project area, in the area known as La Pampa, and it is here that problems from mining began. Between 2016 and 2017 some 500 hectares of forest were lost due to informal mining. It was challenging to face mining because the regional governor supported them, and the park rangers were unwilling to confront the problem as the situation provoked significant social complications, including talk of mafia involvement. Nonetheless, expulsion of the informal miners was achieved after 2 years with support on the Peruvian Navy [...] Part of AIDER’s responsibilities was to strengthen control of surveillance, which helped to diminish areas being deforested.”

Personal communication, AIDER worker, Lima city, June 13, 2019.

Besides mining activities, inside the buffer zone respondents pointed out two other important deforestation drivers: slash-and-burn agriculture and extensive cattle breeding. Concerning slash-and-burn agriculture, the native communities developed this type of small-scale migratory agriculture, which is maintained among most actual producers ([AIDER, 2012](#)). Most cases the agricultural products are for own consumption, although there are those who sell their products to the local market. Among the main crops that are sown we have cassava, bananas, rice, and hard yellow corn. It is also produced, in smaller volumes papaya, beans, and soybeans ([AIDER, 2012](#)). Regarding extensive cattle breeding, animal breeding is generally made in a familiar and extensive way ([AIDER, 2012](#)). As one of the farmers mentioned, extensive cattle breeding is a complement activity which is always practiced together with agriculture.

Both, slash-and-burn agriculture and extensive cattle breeding have been deforesting big extensions of forest inside the buffer zone. As one Althelia worker pointed to:

“The deforestation dynamics is as follows: a farmer can only manage up to 2 or 3 hectares, to produce food for their table or to be sold on the weekend at the local farmer’s market. After two years, the soil begins to degrade due to use of chemicals, so 3 more hectares are cut down once and again until they are left with no arable land. What happens after they are left

with no land? They have to invade or purchase more land and cut down more forest, and as a consequence, they continue deforesting more forests. This is how they approach and put under threat the RNTAMB reserve.”

Personal communication, Althelia worker, Lima city, June 21, 2019

The National Strategy on Forest and Climate Change elaborated by MINAM also point to the agricultural expansion, illegal extractive activities, and the extension of road infrastructure as the main national level driver for Amazon forests ([MINAM, 2017](#)). On the other hand, the main underlying causes of deforestation in Peru include population growth, and lack of laws on land titling, and forest heritage ([MINAM, 2017](#)).

Both primary and secondary data indicate that the main deforestation drivers were mining, predominantly illegal, agricultural expansion (which includes slash-and-burn agriculture and extensive cattle raising). Furthermore, the extension of road infrastructure, such as the Interoceanic highway, has increased in-migration, and as a consequence, pressure on the forest has increased as well.

#### 4.1.2 Has the REDD+ project halted deforestation?

As previously stated, the RNTAMB and PNBS REDD+ project is developed in the area comprised by the NPAs RNTAMB and the sector of PNBS located in the region of Madre de Dios, corresponding to the partial Administration Contract of RNTAMB and PNBS – Madre de Dios sector, signed by Peruvian State and AIDER. [AIDER, 2012](#) points out, through the signing of the partial Administration Contract, the Peruvian State looked forward to enhancing the management of both NPAs and reduce deforestation inside them, through the participation of them. To achieve this, the NGO committed to developing sustainable activities by the application of the REDD+ strategies ([AIDER, 2012](#)), which are currently being funded by the sale of carbon credits.

The RNTAMB and PNBS REDD+ strategies focus not only on the development of activities inside these NPAs but also inside the buffer zone because the main drivers of deforestation and forest degradation are located in the buffer zone. For that reason, AIDER develops projects inside the NPAs RNTAMB and PNBS (e.g., biological monitoring) and in the buffer zone. One of the main planned activities of this REDD+ project within the NPAs has been the strengthening of surveillance and control in the NPAs. For example, before the REDD+ project, there were nine checkpoints for monitoring both NPAs; the SERNANP manages these checkpoints. Nowadays, there are one control point more, which was built with funds from the REDD+ project to protect an area that was threatened by mining. This checkpoint was built in 2015 due to the increase in mining activity. This new control point was located between 2 checkpoints that were separated by 60 kilometres.

It is essential to underline that the construction of a new checkpoint was not the only benefit. From the sale of carbon credits, the project has financed the repair of some checkpoints. Besides, it has been possible to equip them according to needs on each checkpoint and hire a total of 7 park rangers. Nonetheless, despite efforts to increase patrols in the NPAs (through the increase of checkpoints and the recruitment of more park rangers), the mining continued to expand its activities inside the RNTAMB NPA. As mentioned by SERNANP chief in Madre de Dios: "Currently, due to mining activities, we have had to triple patrols in the RNTAMB NPA. Before mining activities, there were between 2 or 3 patrols per day. Now we have to patrol up to 7 or 8 times per day in the areas where mining activities represents a threat to the RNATM NPA. Despite efforts, mining remains a major threat to the RNTAMB NPA" (personal communication, SERNANP chief in Madre de Dios, Puerto Maldonado city, July 2, 2019).

In addition, the REDD+ project has had to face a particular situation. During the government of the former regional governor from Madre de Dios, Mr Luis Otsuka, AIDER could not work with the support of the Regional Government from Madre de Dios, basically because the governor was in favour of mining, and against initiatives such as the REDD+ project. Regarding this issue, one respondent pointed out "The former regional governor promoted mining activities in Madre de Dios during his government, because he owned mining concessions. Besides, he decided not to work with organizations such as AIDER that promoted sustainable projects in favour of the region. Since January of this year, with the entry of the new governor, it has been possible to impulse the elaboration of the *Regional Strategy for low-emission rural development*, a project that the Regional Government seeks to work with the support of different institutions, such as AIDER" (personal communication, Environmental Manager of the Regional Government from Madre de Dios, Puerto Maldonado city, July 2, 2019).

However, the REDD+ project has helped protect the RNTAMB and PNBS NPAs. The VCS has assessed the project's emission reduction from its beginning to the present. Table 2 summarizes the project's emission reduction (tCO<sub>2</sub>e) from its beginning to the last evaluation period (2016 - 2017).

**Table 2: Project's emission reduction (tCO<sub>2</sub>e)**

#	Period	Project's emission reduction (tCO <sub>2</sub> e)
1	2010 - 2011	165,992
2	2011 - 2012	228,322
3	2012 - 2013	311,835
4	2013 - 2014	370,903
5	2014 - 2015	418,096
6	2015 - 2016	395,524
7	2016 - 2017	426,823

Source: Own elaboration with data obtained from VCS

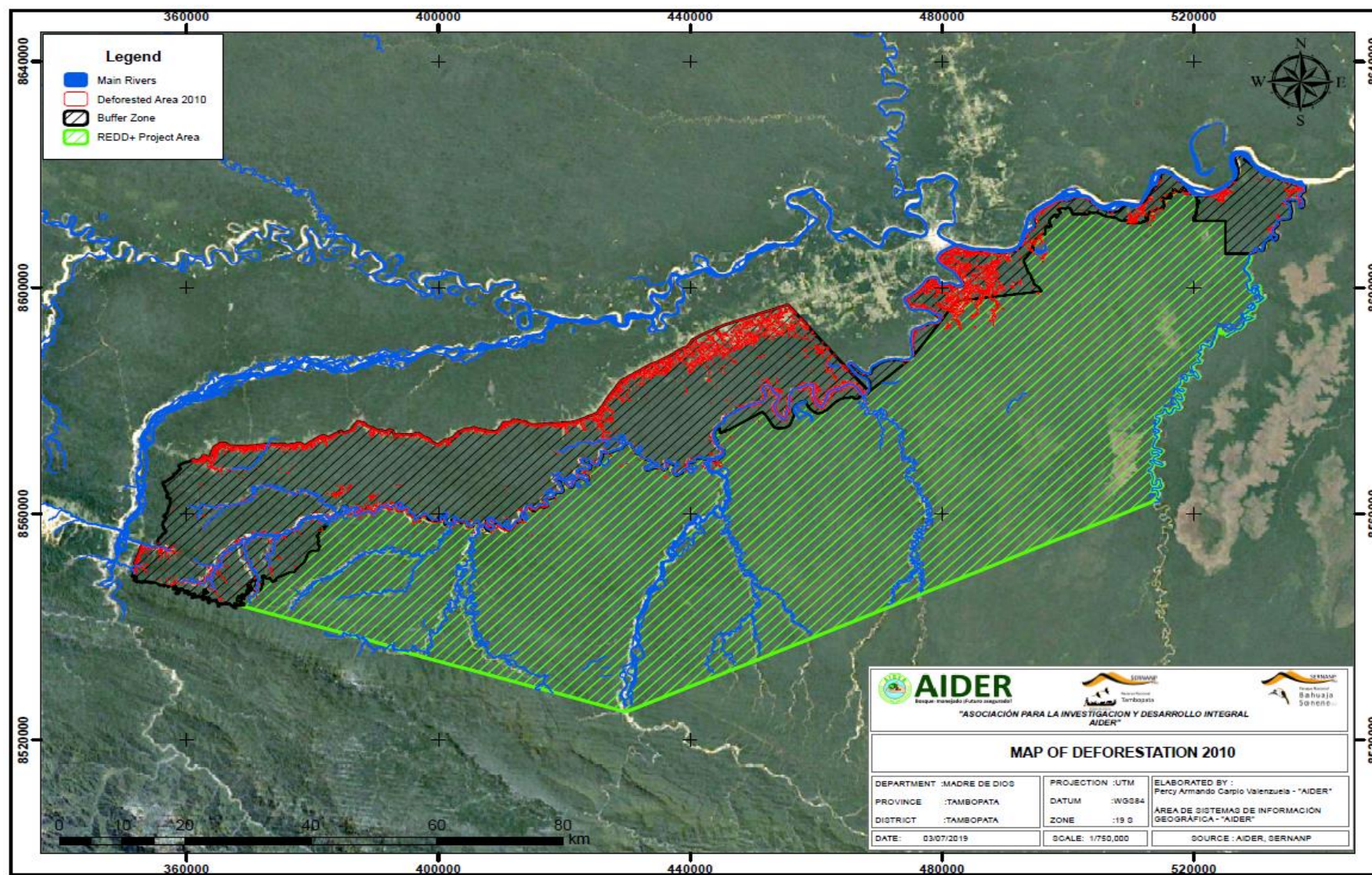
In the period 2016 – 2017, the reductions were ~426,823 tCO<sub>2</sub> (Verra, 2019), while the project's ten year target was 4.5 million tCO<sub>2</sub> or about 457,750 tCO<sub>2</sub> annually. This indicates that the project has not entirely fulfilled its goal for any year but has shown a rising line period by period except for the 2015-2016 period.

On the other hand, the main planned activities in the buffer zone included recovery of degraded areas by slash-and-burn agriculture and intensive livestock with agroforestry systems; and the strengthening of organizations within the project area and the buffer zone. The first activity is relatively new; it began in 2014 when AIDER and Althelia signed an alliance that seeks to promote the sustainable development of the RNTAMB and PNBS NPAs. As regards the second activity, AIDER has helped to the RNTAMB Management Committee to execute its *Governance Strengthening Plan*, which aimed to consolidate the internal organizational management of the RNTAMB Management Committee.

Even though the REDD+ project has helped to avoid a bigger impact of mining inside the NPAs, the deforestation has not stopped; on the contrary, deforestation has increased in the last years basically in the buffer zone (Fig. 3 and Fig. 4).



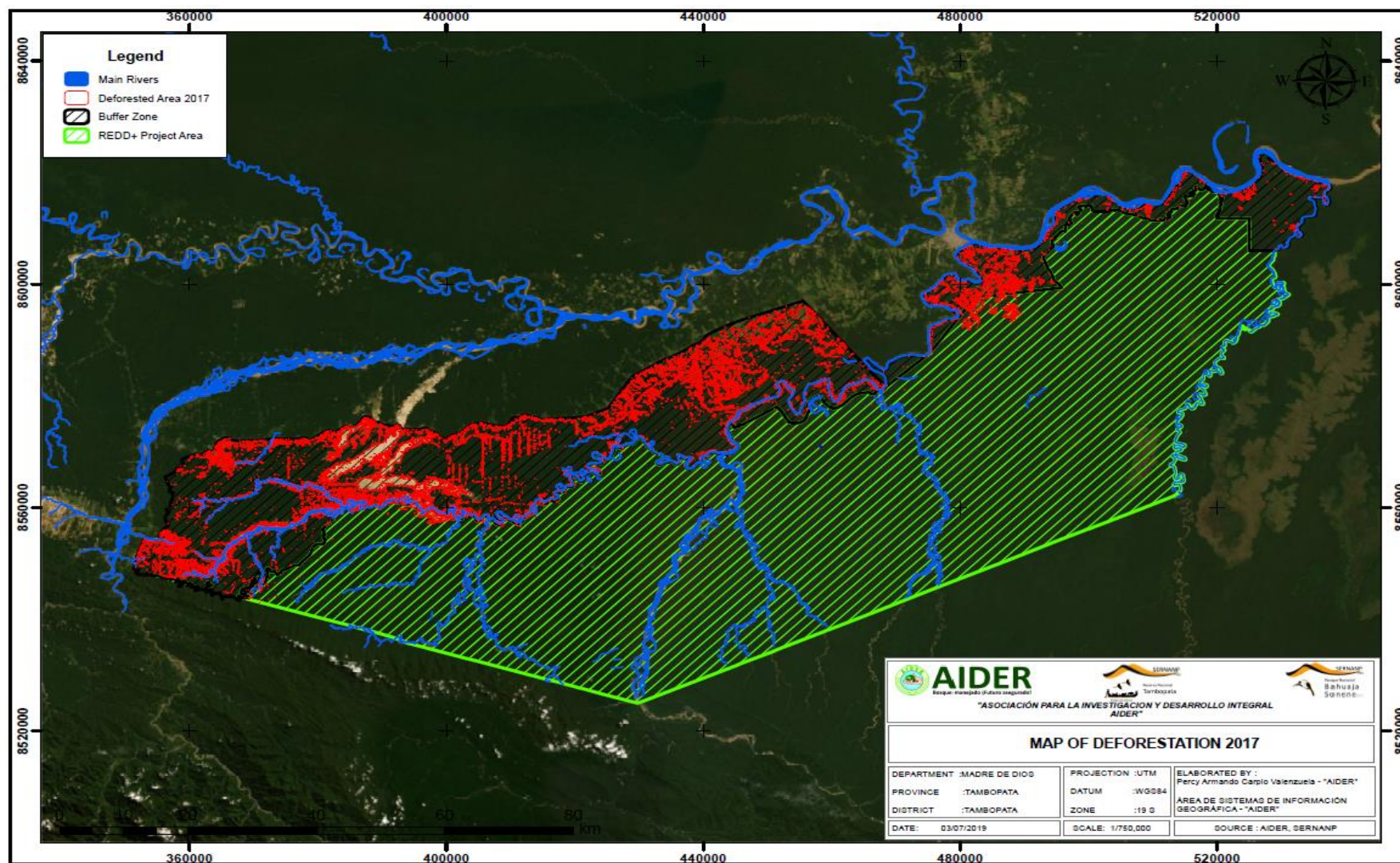
**Figure 3:** Map of deforestation 2010 in the Project Area and Buffer Zone



Source: AIDER, 2019



**Figure 4:** Map of deforestation 2017 in the Project Area and Buffer Zone



Source: AIDER, 2019.

The RNTAMB and PNBS REDD+ project has achieved emission reductions and could continue to do so while AIDER and SERNANP continue to work together to strengthen control and surveillance in the project area; in addition to developing activities in the buffer zone that reduce pressure on the forest. Thanks to the partnership signed by AIDER with Althelia, the risk of project failure has decreased due to Althelia has committed to commercializing carbon credits until 2021. Nonetheless, it seems that the REDD+ project will always have to face the main drivers of deforestation, as well as dealing with regional governments that support mining activities. Even though the project is reducing GHG emissions within the project area, it has not been able to diminish deforestation in the buffer zone; in other words, the results obtained have been very punctual, and not have a real impact on a regional scale.

## 4.2 Economic Challenges

### 4.2.1 What were the start-up costs for the REDD+ project?

According to AIDER workers, the design and implementation of the project was time consuming and costly. One AIDER worker pointed to:

“At the outset, it was challenging to forge ahead with the project. From 2008, when AIDER signed the partial Administration Contract with the Peruvian State, to 2014 the REDD+ project survived firstly for the money received by the Peruvian State, which was used by the elaboration of the baseline, and the carbon quantification. Likewise, from 2010 to 2014, before the sale of carbon bonds, AIDER had managed donation projects employing various sources of finance, such as USAID, ICCA, Fondo de las Américas, GEPAN, PROFONAMPE, among others; all of which was immersed in the Tambopata ANP or within the buffer zone where the implementation and execution of these activities were permitted. There were practically 4 years during which the contract had been self-financed through donation projects.”

Personal communication, AIDER worker, Puerto Maldonado city, July 3, 2019.

Working on the project design was challenging. Since this was one of the first REDD+ projects in Peru, it was tough to hire qualified personnel. Moreover, as a former AIDER worker commented, to use satellite images and software to calculate deforestation was particularly stressful, as he pointed out “There have been complications since the beginning with the project’s design as AIDER in Madre de Dios experienced a series of problems accessing the internet, electrical energy that did not allow them to perform projection work, in order to make projections, it was first necessary to perform some field work which was done in 107 test locations within the ANP which was done also in order to determine what type of forests there were [...] For example, to download each satellite image took a whole a day, so it literally took weeks perform deforestation projections. That was the first complication.”

On the other hand, as mentioned earlier one of the most critical points for the success of these projects is related to the costs to securing land tenure. Nonetheless, it was not the case of this project due to the RNTAMB and PNBS REDD+ project is located on lands that belongs to the Peruvian State. So, it has not been necessary to invest money to implement programs for land tenure reforms. In the buffer zone there are a vast number of smallholders with land ownership issues; however, the REDD+ project has not taken actions on this problem because they are not located in the project area (RNTAMB and PNBS NPAs).

The project expected to generate economic incomes after getting the certification by VCS, but it was not possible. The REDD+ project got its certification in 2012; nonetheless, the first sell of carbon credits occurred in 2014, when the Peruvian Government approved the “Law on Compensation Mechanisms for ecosystem services.” This law promotes, regulates and supervises the remuneration mechanisms for ecosystem services that derive from voluntary agreements that establish conservation, recovery and sustainable use actions to ensure the permanence of ecosystems ([Ley N° 30215, 2014](#)). Before the enactment of the law, there was no legal device that indicated how to commercialize the carbon credits.

Till 2014, the project had only made a small sale of carbon credit. It is in this year that AIDER and Althelia signed an alliance, where Althelia agrees to buy around 75% of the carbon credits, at a minimum price of USD 2.5 per ton CO<sub>2</sub>. From this alliance, the project is consolidated and begins to generate the funds that allow it to develop its REDD+ strategies. Even though there are things to improve, the project has been contributing to the protection of the NPAs thanks to the funds generated by the sale of carbon credits.

#### 4.2.2 Which are the main running costs?

The running costs for the REDD+ project includes operational costs for forest patrols, salaries for 7 park rangers, strengthen the RNTAMB and PNBS Management Committees, as well as the execution of agroforestry projects. As mentioned earlier, the money generated by the sale of carbon credits has served to build a new checkpoint that has helped to increase the control in the RNTAMB NPA. Likewise, the project pays the salaries of 7 park rangers.

However, the resources obtained by the sale of carbon credits has focus basically on developing an agroforestry project. Since 2015, AIDER has started up to form a cocoa production project, a project that has compensated to local households for reducing deforestation. To get that, AIDER supports local households to i) organize them in cooperatives for improving their organization, and ii) to enhance their agricultural infrastructure, resulting in more efficient land use. Nonetheless, not all the farmers can participate; one of the requirements is to show that they are the owner of the land; otherwise, they cannot participate in this program. While it is true that AIDER helps farmers, that do not have land titles, to

recognize which are the institutions to regularize their land ownership situation, AIDER does not commit to doing the activities to seeking clarification of land titles. Furthermore, the money that participating farmers received to develop the cocoa production project was made by Althelia as a loan.

According to the president of the Agricultural Cooperative of Tambopata, Cooperative was established in October of 2014 on behalf of AIDER. As he mentioned, “Initially the area’s farmers were called to a meeting, but when they began to realize that it was an investment project with money acquired through a loan, many of them withdrew. The project began with 21 farmers (out of a total of 60), all of whom are from the buffer zone [...] Currently we are 339 farmers, 70% of whom understand that the project is well underway and has a future. The remaining 30% are not completely convinced and require more training”. Neither AIDER nor Althelia mentioned how much the investment of this project amounted.

It should be noted that the participating farmers have not stop developing their previous economic activities, this means that they continue to engage in traditional agriculture and livestock farming.

#### 4.3 Social Challenges

##### 4.3.1 How the RNTAMB and PNBS REDD+ project has impacted the lives of the inhabitants that live inside the buffer zone?

People have not been displaced as a result of the establishment of the REDD+ project. In fact, they continue living and carrying out their economic activities. However, people do not feel the project has impacted their lives.

One of the project’s goals is to offering tangible and periodic benefits to local settlers in exchange for real conservation commitments. Nonetheless, to date, the project has not had a real impact. For example, the flagship project of AIDER and Althelia, the cocoa production project, has just over 300 benefited farmers from a total 1,250 farmers ([Asociación de agricultura ecológica, 2015](#)). These farmers have benefited from the project because they proved to have the title. On the other hand, people that do not pose land titles they cannot participate in this program. In other words, the cocoa project is benefiting to rich people – or the least poor people of the buffer zone – and this has not brought benefits to the poorest people. Furthermore, the cocoa production project has not created a change between the benefited; in fact, they continue to engage in their traditional economic activities. As the president of the Agricultural Cooperative of Tambopata pointed out:

Prior to the agroforestry project and even now, the farmers dedicated themselves to other crops, even now these other crops mainly include plantain, cassava, rice, corn; as well as

livestock. Another part of the Committee's farmers take part in logging, nut harvesting, and to a lesser degree, mining as well. But now I can say that cacao is attracting more interest than mining [...] we do not know if cocoa will be a profitable activity, in one or two years we will be able to say if this project is lucrative enough to replace our agriculture and livestock activities".

The cocoa project is located over deforested and degraded lands that farmers used to use for their agricultural activities. According to the president of the Agricultural Cooperative, they aim to reforest the areas where they work to sell carbon sequestered by trees, "our idea is to earn money from the sale of carbon credits that we could generate through reforestation of our lands, but we still do not know how to quantify carbon; nonetheless, we are reforesting and taking care of the environment". As we can see, the cocoa project's benefited people see in the REDD+ project a mechanism to generate money rather than a mechanism to stop deforestation, what could have a positive impact on the environment if they understand that these types of projects will only succeed if the project area remains forested permanently.

On the other hand, as stated by representatives of the Infierno Native Community, the execution of different projects inside the community (e.g. tourism within the Infierno Native Community) has allowed them to progress in many aspects; nevertheless, this also has brought negative impacts. For instance, in recent years certain ancestral customs have been lost, including the dialect of that area. Youngest people, for example, prefer to learn English rather than their own dialect. But this is not the only change, forest management has also changed within the community. Furthermore, the perception of the representatives of the Inferno Community is that the more the community opens up to the world, the more social problems they have, such as access to drugs, alcohol, or illegal activities.

While it is true that the REDD+ project has not faced significant social issues since its implementation, AIDER had to face the opposition of the former governor Luis Otsuka between 2014 and 2018. Except for this episode, local people have not shown resistance against the REDD+ project. However, there are currently different perceptions of local people on how this project has impacted their everyday lives. Except for benefited farmers from the cocoa project, the rest of the people either do not know of the REDD+ project or feel the project has not impacted their lives.

#### **4.3.2 Has the REDD+ project contributed to improving the lives of the inhabitants?**

As mentioned earlier, most local do not know much about the REDD+ project. In this regard a worker of SERNANP argued "At the beginning, talking about the REDD+ project was a challenge not only for AIDER but also for other developers of this kind of projects because they did not know how to explain the objectives and scope of these projects. Moreover, there were organizations that spread the rumour that these projects were going to damage the lands or to



avoid the use of resources, and as a consequence, local people began to feel mistrust about the nature of these projects. Nowadays, people know a little more about the REDD+ projects, and the development of agroforestry projects such as cocoa production project has served to demonstrate that it is possible to earn money with the development of conservation projects”.

On the other side, representatives of the Inferno Community mentioned that AIDER tried to include them in the cocoa project. They gave them cocoa seedlings, tools, and agricultural supplies, but they did not receive technical assistance. A large number of farmers began to plant the cocoa, but currently only eight farmers are producing cocoa. As they mentioned, the handling of this crop is complicated without technical assistance.

In conclusion, the project has not dealt with a complicated social situation. On the contrary, AIDER has had the advantage of having developed this REDD+ project on lands that belongs to the Peruvian State. Likewise, the primary data indicates that the project has impacted neither positively nor negatively the lives of the inhabitants. Except for cocoa project's benefited people, local people feel this project has served neither to improve their lives nor to halt deforestation in the buffer zone. Nonetheless, they think project has helped to reduce deforestation in the NPAs.

## 5. Discussion and Conclusion

For REDD+ to succeed, it will need to ensure that incentives address relevant drivers of deforestation. In the case of the RNTAMB and PNBS REDD+ project, primary and secondary data point out illegal mining, slash-and-burn agriculture, and extensive cattle raising as the main drivers of deforestation. These activities are located predominantly in the buffer zone but put pressure on the RNTAMB NPA. While it is true that the REDD+ project has served to increase the control and surveillance in the border of the RNTAMB NPA, this measure has not been enough to stop deforestation. Illegal mining has entered to the RNTAMB NPA and has deforested around 700 hectares in the NPA. To sum up, it might be said that the project is partially reducing deforestation in the project area; nonetheless, this private initiative seems insufficient to combat deforestation because of illegal mining. Therefore, it is essential the cooperation between the private and public sectors to reduce the threat mining represents.

According to [MINAM, 2017](#) the sole legal designation of a forest (e.g., as a Natural Protected Area) is not enough protection in the absence of rights and economic occupation. As [MINAM, 2017: 63](#) mention “even in concessions granted, in the absence of effective activities or due to institutional weaknesses to deal with invasions, 8 percent of deforestation is presented”. So, even though the REDD+ project led by AIDER is not avoiding 100% deforestation, without its participation over the RNTAMB and PNBS NPAs, deforestation would be even higher. Efforts

such as those carried out by AIDER help to make visible the illegal activities that occur in forests and provide some protection over them.

Start-up costs for these types of projects are usually very high, and these increases even more when they are executed in remote areas such as the Amazon. Nonetheless, since the project is located on NPAs, AIDER has not paid for securing land tenure, which has been advantageous for the survival of this project. On the other hand, the cocoa production project does not seem to be halting the drivers of deforestation due to smallholders continue to engage in traditional agriculture and livestock farming. Furthermore, according to AIDER, deforestation has increased considerably, mainly in the buffer zone (as shown in the [Fig. 3](#) and [Fig. 4](#)). According to GEOBOSQUES, the platform for monitoring changes in forest cover developed by MINAM, from 2010 to 2017 deforestation in Tambopata and Inambari districts has increased in 10,295 ha and 33,609 ha respectively ([GEOBOSQUES, 2017](#)).

According to the people interviewed, they received little information about the nature of the project, as well as they were unaware of what carbon can generate. To address this situation, AIDER could become more involved in informing local people about the positive and negative impacts of the REDD+ project. Moreover, AIDER could promote environmental education programs through Native Communities located in the buffer zone that help them to understand the importance of caring for forests. In this sense, the Peruvian Government could work in this point with the support of AIDER and other organizations, in order to prepare people for the implementation of the national REDD+ strategy.

Initially, the project did not face significant environmental, economic, and social challenges. Beyond the typical start-up costs, there were no complications, due to external factors, during the implementation of the project. In fact, and as mentioned earlier, economically and environmentally speaking the project was benefited from being located within two protected natural areas. However, despite its protected status, the RNTAMB NPA has been exposed to high pressure because of illegal mining and agricultural activities. In this regard, the REDD+ project has helped not only to combat deforestation, but also to promote biological monitoring and investigation in the RNTAMB NPA, which has helped strengthen management in the protected area.

This REDD+ project has caused a positive impact on the project area, but this is not addressing the actors who are primarily responsible for deforestation and forest degradation in the Tambopata province. The results obtained from the execution of REDD+ pilot projects, like this, bring only local benefits, but not have a real impact on a national scale, much less on a global scale. Therefore, it is essential the implementation of the REDD+ national program in Peru. Nonetheless, until this happens, pilot projects have helped to improving management of



natural protected areas under threat, especially in a country with poor forest governance in terms of the policy framework, institutions, and coordination platforms (Lozano, 2018).

While it is true that the main goal of these initiatives is to mitigate climate change, some people seem to view this type of projects as a mechanism to generate money rather than a mechanism to mitigate climate change. As a farmer mentioned during the interviews, they want to sell the sequestered carbon from their reforested lands with cocoa. In that case, the motivation to farmers for caring the forest is money, and this could be concerning because they may give up to their responsibility to care for the forest if they do not receive money in return.

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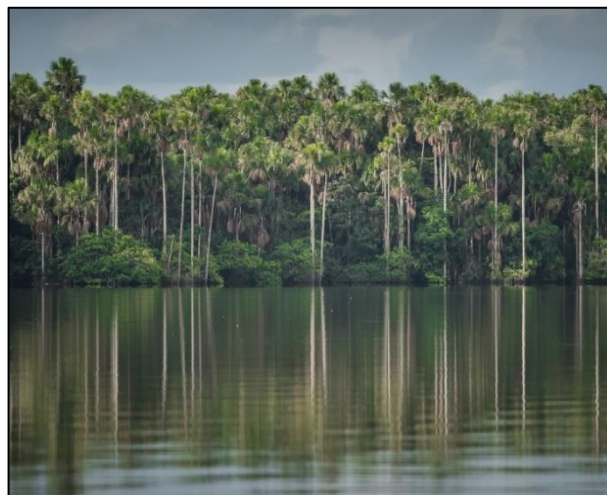
## 7. Appendices



## Appendix 1: Photos of the project area and buffer zone



Project Area – Tambopata National Reserve  
Photo 1: Ben Cooper



Project Area – Tambopata National Reserve  
Photo 2: Ben Cooper



Buffer Zone – Agricultural parcel  
Photo 3: Milenko Radanovic



Buffer Zone – Interoceanic Highway  
Photo 4: Milenko Radanovic



Checkpoint "Sandoval" administered by SERNANP  
Photo 5: Milenko Radanovic



"La Pampa" Zone destroyed by illegal mining  
Photo 6: Alonso Chero





Overview of mining activities in Tambopata Reserve  
Photo 7: CEVAN / Fuerza Aérea del Perú



Cocoa project – Agroforestry parcel  
Photo 8: Ben Cooper



Cocoa project beneficiaries receiving a capacitation  
Photo 9: Marilia Ñauparin, AIDER



Cocoa production of Agricultural Cooperative of Tambopata  
Photo 10: Marilia Ñauparin, AIDER



Cocoa processing plant  
Photo 11: Milenko Radanovic



Cocoa processing plant  
Photo 12: Milenko Radanovic

## Appendix 2: Interviewees

Interview: 06/11/2019 - MINAM representative

### **Does Peru already have the REDD+ preparation proposal? / How much has the REDD+ program advanced in Peru?**

REDD+ is implemented 3 phases: Preparation phase, implementation phase, payment for results (as a country, not as a project).

In order to reach the payment for results phase, 4 elements or pillars must be developed:

- 1.- Strategy or action plan (National forest and climate change Strategy) Peru already has one!
- 2.- Monitoring System (monitoring module providing coverage of forests and loss forest data from 2000 until present day) Peru already has it!
- 3.- Reference level, which is the projection of deforestation against which to compare (Amazon biome reference level for deforestation activity 2015-2020) subject to Convention approval. Peru already has it.
- 4.- System of safeguards, currently in. Element yet to be completed.

Implementation of policies working with financing from Norway and elsewhere, on issues of forest zoning, community entitlement, assignment of rights aimed at reducing deforestation permitting access to payments for results. As per payments for results, there are 2 agreements in development:

- 1.- The carbon fund, administered by the World Bank. In Peru's case, it has been circumscribed for the Departments of San Martin and Ucayali, and
- 2.- The agreement signed with Norway and Germany at the level of the entire Amazon.

Treatment of REDD has migrated from a project-by-project approach to a national approach. MINAM is working on these initiatives such as those of Tambopata to see how these initiatives figure within the national focus. This is referred to as the nesting process. MINAM is creating a roadmap in order that they be situated in such a way, so they continue develop while ensuring that the action that they generate do not impact environmental integrity and accounting consistency. For example, if MINAM states that in some area deforestation has fallen during 2018 by a factor of 500, then they cannot have another figure (ensuring consistency). Therefore, via the manner in which they have applied their methodologies in order to project their reference level, baseline, along with other temporal parameters, MINAM is establishing a transition period in such a way that AIDER can apply its own data up to 2020, and then starting in 2021 they can incorporate their data with that generated nationally. This is a challenge since it will have an impact on the carbon credits corresponding to them and as it is a regulatory

issue designed as means of effectively reducing emissions in the area, yet the deforestation in the area results from the confluence of many factors, from the actions in the field such as the work of the community, the park rangers, as well as public policy. So, the contribution of each and every one of these factors must be evaluated, which would have a regulatory process and, consequently, will have an impact in terms of the volume of units can be traded. Still, on the other hand, this provides a greater support or endorsement as per their ability to state that these reductions are not simply voluntary but have some type of guarantee and shall figure within a system of registry of reductions that MINAM is developing and which is about to be completed. So, it has its pros and cons which on one hand will have to be adapted, and on the other will provide greater credibility since it will have the support of the Government. All of this is in development, since there currently exists no specific regulation in Peru concerning REDD+, there are some references in forestry law, in law of mechanisms for remuneration for ecosystem services, and climate change framework law.

- The reference level is in the Convention's page.
- The nation forest strategy is in MINAM's forest conservation page.
- The monitoring module has a specific portal.
- Within the Forest Strategy there is an entire diagnostic section describing the main factors complicating the implementation of these types of initiatives and actions.
- The Forest Strategy also covers the drivers of deforestation.

### **Which are the main drivers of deforestation in Peru?**

In general the major drivers are small scale migratory agriculture, deforestation due to speculative sale of land, and livestock production.

MINAM does not figure within the business of climate change, there are various investors. Althelia is an investment fund which finances systems of cacao production in Tambopata. MINAM does not establish financial agreements.

As per the Carbon Fund, MINAM has performed an analysis of carbon leakage and reversals or non-permanence. The Carbon Fund requests a buffer discount to cover risk. But once REDD adopts a national approach, an analysis of leakage is not required because it is assumed there are no international leaks. Additionality and leaks are issues requiring no analysis having a national focus, actual deforestation as monitored via the monitoring system is simply compared against projected deforestation provided by the reference level and this reduction is what is accredited, there are no discounts due to leakages. So, for example as per the agreement with Norway, this issue has yet to be addressed, but if there were any discount to be paid on their part, it would be done more out of uncertainty of the data, because there is always a calculation if uncertainty, while there are no planned discounts for leakage or non-permanence

For the case specific to Tambopata, there is an analysis of leakage, additionality and permanence. This is why REDD is transitioning to a national scale because people were questioning the lack of guarantee or certainty in determining whether a reduction is not just a displacement which is why these types of projects that function via voluntary methodological standards such as VCS which is now known as Verra do have in have within their methodology a section of risk analysis and of leakages which must be discounted. There are various types of risks: financial, natural disasters, social factors, etc. The result being that from the total reductions generated, the percentage corresponding to risk must be taken away.

MINAM is currently in a process of Prior Consultation (the 5th phase has already concluded), which is a legal figure derived from Convention 169. They are in the process of Prior Consultation of the Regulations of Climate Change Law, and this regulation has a chapter on REDD in which work with the 7 national indigenous organizations on the REDD subject is mentioned. What truly worries them is that actors having no ethical standards might propose agreements resulting in inequitable results having no safeguards. This is why MINAM is designing a registry which shall restrict such practices that may result in their reductions not being taken into account. In order to access the registry, the company will have to submit formal documents in which the Native Community accepts, understands and approves the development of the project; such information will be verified by MINAM. On this point MINAM is taking particular care.

Non-categorized forests, that is to say those found outside the Protected Areas, community land, and forestry concessions account for less than one quarter of the entire area of forests, yet they account for half of deforested areas. It is thus concluded that it lacks an administrator, or responsible legal representation. Therefore, these forests are much more vulnerable and prone to illegal exploitation. Therefore, one of the objectives of the MINAM is to advance in the process of allocating rights (jurisdiction of SERFOR with GORE). The allocation of rights includes: community entitlement, creation of new protected areas or indigenous reserves, new concession programs, etc. And specifically for native MINAM communities, in the agreement signed with Norway and Germany there is a goal of entitling 5 million hectares of land to native communities, this is almost 40% of the non-titled native areas. This would reduce deforestation.

AIDER has an administration contract with SERNAMP, they report to SERNAMP and when they want to make a sale, they also report to SERNAMP. MINAM has no direct relationship with AIDER.

MINAM is working on developing the proposal for benefit-sharing and co-working with the GOREs, and they want to include representatives of the communities, producers, and farmers

because only through the inclusion of everyone will the design of the useful benefits be ensured. Benefits must be included in climate change actions (patrolling, market search, agroforestry).

MINAM can scarcely meet requests for benefits in areas of health, education, among others.

AIDASEC (asociación indígena de la Amazonía). Podría ser que tengan el tríptico con los principales problemas sociales. AIDASEC (indigenous association of the Amazon). It might be that they have the triple relationship with the area's main social problems.

In order for REDD to be successful, Jorge suggests that the design of the schemes be as less cumbersome as possible, having more common sense. This is after having talked with the beneficiaries who should be the main actors. The critical point is the field phase, constructing the project with members of the community.

**Which were the main economic, environmental, and social complications during the implementation of this REDD project?**

- Then implementation of the REDD Project in Tambopata began in 2010, but its design began in 2009. There was the first Project Design phase between 2009 and 2011 during which the project design documents for the VCS as well as the CCB standards were generated. Herein the greatest challenges according to Percy Recavarren were also presented.
- The first difficulties arose during the formulation of the Project. Tambopata was the first REDD project in Peru. The detail here is that the VCS methodologies were being formulated before the process had even been given approval. Work on the modular methodology was being done while AIDER began to develop the project in parallel. The methodology was for the referencing and measurement of emissions which at the time were being generated by VCS. Given that it had yet to be approved, AIDER began to work on the first draft of the methodology. AIDER had to create protocols and methodologies, practice on carbon measurements and on how to interpret deforestation; including how measurement of post-deforestation, line base, and reference scenarios were to be performed; all of this as well as how to calculate risks and information leaks. The VCS methodology demanded all this to be done without providing any guidelines as to its execution. So it was here that AIDER developed much of the work. This had been the main problem confronting AIDER. After a year and a half, the modular methodology was approved. Still, certain elements had to be modified due to variations in VCS's methodology, resulting in a 3 year delay in the project's design. Furthermore, this modular methodology had been developed for an African project, in a scenario very distinct from that to be encountered in the Amazon. The entire process demanded much time and was quite costly.
- The project was approved by AIDER in 2012, and it was then that the monitoring reports began. With the methodology completed and validated, the monitoring protocols (interpreting of deforestation, quantification of changes in social characteristics, biodiversity and reporting), basically the job was to implement and record the activities. There were complications as to the interaction with the region due to the fact that at that time, between 2013 and 2014, REDD began to function at the national level, which had been motivated by the regions. In Madre de Dios's case there were 3 REDD projects underway in 2014, but there were a total of 10 initiatives, plus around 15 REDD projects destined solely for Madre de Dios. Everyone wanted to work within the regional reference zones led by all of those involved in the REDD projects plus the Regional



Government. As a result it was here that the base line and regional reference scenarios were developed in order to align all of the projects. Yet, it was somewhat complicated since each project had already developed its own reference scenarios, so the resulted in it being “difficult” to align them as each one had its own methodology, supply, and historical deforestation studies. All the same, a regional reference scenario in which AIDER participated was established.

- Another difficulty they experienced took place with the first commercialization of carbon credits. Problems arose within the negotiating environment since everyone wanted to participate economically. There was not a high sales volume (2014) as it was a purchase made in order to neutralize an insurance company’s carbon footprint, which amounted to 200,000 carbon credits (200,000 tons), half in the first year, the rest in the following. This caused problems with i) populations of the local environment (that is to say within the region including the areas adjoining the reserve, such as the nut growers who have concessions in the area, and the native communities who reside around the buffer zone, yet believe that the reserve belongs to them, ii) the insurance company, which had given the impression that it had purchased all of the reduced emissions generated by the project, but in reality had only bought 4% of emissions to be generated. AIDER began the REDD project via an administration contract signed with the Peruvian Government in 2008. Tambopata’s case involves a partial administration which includes the research and biological monitoring components. AIDER won the administration contract because its bid not only included the research and biological monitoring components, but also the ecosystem services component. AIDER saw within the project an opportunity to capitalize on income that would finance these 3 components of the administration contract.
- The REDD project covers a total area of 525,000 hectares within a protected nature reserve and 300,000 hectares of buffer zone.
- As per deforestation, AIDER performed a study measuring the carbon held within the nature reserve and the buffer zone. Stratification and measurements were done, creating field inventories; provisional parcels of carbon were assessed, and carbon measurements as per forest types were performed. Following this, a historical study of deforestation from 1990 to 2010 was done, and with this resource an analysis of the causes of deforestation was executed.
- A study of the factors driving deforestation revealed farming, agriculture and mining as the activities having the greatest impact (2010). Using these research results, a deforestation projection model, without REDD, was made applying historical situations. This was the reference scenario, and with this the REDD project was constructed, predicting how deforestation is going to be diminished, and how the much of the

emissions generated are to be avoided during the course of the project. This was done and validated up until, after which the project was implemented.

- When the project was begun there was a zone within the reserve and project area known as the Jorge Chávez el Briolo zone in which extensive deforestation (basically due to agricultural activities) of between 1500 to 1800 hectares had occurred. The REDD project put a complete stop to this as it had strengthened the control of surveillance. In 2015 mining began to have a significant (indeed the strongest) impact. Prior to 2015 mining was already present within the buffer zone (which does not form part of the reserve nor the REDD project. In 2015 mining reached the borders of the project area, in the area known as La Pampa, and it is here that problems from mining began. Between 2016 and 2017 some 500 hectares of forest were lost due to informal mining. It was challenging to face mining because the regional governor supported them, and the park rangers were unwilling to confront the problem as the situation provoked significant social complications, including talk of mafia involvement. Nonetheless, expulsion of the informal miners was achieved after 2 years with support on the Peruvian Navy. Part of AIDER's responsibilities was to strengthen control of surveillance, which helped to diminish areas being deforested. The number of park rangers was increased and the logistical system was improved with money generated from carbon credits. The project has "leaks" which are measured by AIDER, but these leaks should not exceed the projections. There have been leaks less than what was estimated. At the beginning of the project deforestation due to agriculture and farming was halted. Part of this agriculture migrated to the buffer zone but was not greater than what AIDER had projected. There are agriculturists who have indeed integrated with the REDD project with whom the agroforestry system has worked in order to prevent them from expanding their land.
- Leaks have always been less to what has been projected, i.e. the actual result of leaks in terms of deforestation has been lower to the estimates from the beginning of the project.
- Work has been done with agriculturists towards improving livestock production (grazing lands), agroforestry systems, and improvement nut harvesting. From the beginning the funds for these projects were for projects which AIDER had formulated for International Cooperation, during the time in which there was no income generated from carbon credits which only began to figure 5 years after the having begun the design of project, which is when work with Althelia has begun.
- Althelia is an investor, a financial agent of the REDD project, entering approximately in 2015. Althelia has provided funds to AIDER accepting carbon credits as collateral, like an advance purchase of carbon credits.

- AIDER works on agroforestry projects with 3 of the communities of the region: CC Infierno, CC Palma Real, and CC Sonene. When AIDER designed the project, it created its REDD strategies which designated the areas where work should be done in order to avoid deforestation either via surveillance control or productive activities so that each zone has its work strategy.
- The project has detained deforestation (those 1500 hectares which today are 0), the project as well assists in obtaining a mechanism for the monitoring of deforestation via which the areas where there is a greater risk of deforestation (risk zones). Currently, according to AIDER expectations have been exceeded as per the control of deforestation, with the exception of 2015 and 2017.
- There is room for improvement, most significantly concerning the effects of mining, which is considered to be a governmental problem. Mining is considered to be the principal threat.
- According to AIDER there are no social problems. Apparently social perception is good. For example, they have begun work on cocoa production in the area, and in the third year it has become a serious proposal. Currently some 1250 hectares have been cultivated, some of which are producing.
- During the first 2 years much more money, as well as time, were invested than what was planned. In many cases third parties had to be contracted. The design phase was financed with funds that the World Bank had provided INRENA (currently SERNANP) via seed capital.
- Additionally: the focus has been made from the economic stand point since the REDD project has been implemented in such a manner for it to serve as a mechanism serving as a financial agent of the administrative contract which AIDER maintains with SERNANP. It also serves as a barrier in relation to the difficulties encountered when working to avoid the loss of forest within the protected natural area as there is already evidence of forest being lost due agricultural and livestock invasions.
- Permanence: The methodology addresses subject of buffer credits, which according to risk level, Tambopata's being 14%, carbon credits are saved to be used as insurance in the event that it becomes necessary
- Currently AIDER sells all of the carbon bonds that it generates, a fact of which Althelia is aware.
- The price of per ton of carbon was US\$2.
- There has been no work in relation to and tenure seeing that the protected natural area is free and clear. The carbon credits belong to the Government. Every time AIDER generates carbon credits they are transferred to Althelia, permission is given to SERNAMP and Althelia as to the sale of carbon credits, permission is also given to

SERNAMP through AIDER in order to know to whom, how much, and at what price they are being sold. The Government does not charge, but AIDER has to inform the Government concerning every operation.

- Currently the major costs are those associated with surveillance control, which are paid directly by the head of the reserve (the arm of Sernamp) which manages the Tambopata reserve. Tambopata is second only to Machu Picchu as the reserve generating the most money.
- The beginnings of the project were the most difficult. There were two years, following the first sale, during which the REDD project survived with small donation funds, until the arrival of Althelia.
- There were also complications with the market. There was unfair competition between regulated and unregulated carbon credits, and between the MDL and the volunteers. Everyone accessed the MDL credits while volunteers were remained relegated the others, so the market was difficult. In addition, one of the difficulties experienced by Althelia is that they are formulators, developers and implementers of projects, but they are vendors.

**Can you please talk to me about REDD+ project?**

Early initiatives in network projects, presented to SERNANP in the framework of seeking sustainability in management contracts are a way in which the state promotes participatory management in which organized civil society is involved in the management of protected areas is a tool, a mechanism to make this support tangible. We always use a figure, we have more than 17 million hectares protected nationally, and in order to maintain this is, an army of people would be required; 17 million hectares of ANP. You'd have to have a lot of people and we only have 700 park rangers and SERNANP as an institution consists of 1200 people but even then that wouldn't be enough. So what we're looking for are partnerships with the public and private sector, communities with business associations that help us through resource utilization, community surveillance, we make collaboration agreements and administration contracts. Management contracts are first awarded to a civil nonprofit for a period between 5 and 20 years, so it first helps that someone commit to a long period. What one of the most important points of an administration contract is a long-term alliance, between 5 and 20, years then the executor has a signed document with the government stating is the one who will help you implement the results of the area's master plan for the protected area. In this case AIDER has to ... of the TAMPOBATA and BAHUAJA RESERVE in Madre de Dios. The management contract does not require that the Government of provide money, but that you obtain the money in order to comply, then AIDER when is presented as the executor of the administration contract, they then take over the contract, and through PROFONAM they give AIDER a seed fund to start the contract which is about \$1.6 million. PROFONAM is the fund of protected areas since there was a project called GEPAM - participatory management of protected areas. So this project promoted management contracts, productive economic activities, and this money I think was World Bank funds, I believe so, but we will find out. So when an administration contract is requested the executor, in this case AIDER, they have to submit a technical and economic proposal, and AIDER at that time had participated in some events where the RED mechanism was being promoted. We are talking about RED with a single D, because RED was born with a single D, (Reduction of Emissions by Deforestation), later Degradation was added, it's has a story of evolution. Then the idea here was that AIDER said, "Look there is this potential in financing" because there was a lot of talk that through conservation they were going to be able to finance activities and in this case they were a good fit with the administration contract because you could decide that I am retaining this for this and this and because of this and because it is so profitable or so interesting to do a project in protected national area with a single owner.

**Aren't there any issues of land tenure because the land is 100 % by the state?**

In some cases, for example in TAMBOPATA there are private dwellings inside, within the area. So you have to do one of two things, either exclude or hinder them. But one of the things that make the RED project work and is easier to do, because a single owner is not like a community where you have to reach a consensus or where there are several properties or you have to grab all of them, no, just one owner. Next, find large areas, 500 thousand hectares which of course helps make the feasibility of the project greater, plus the added value of the issue of climate change. Now that there is an entire policy that endorses the protected natural areas, the law of areas protected recognizes this. Years later there's the law of retribution for ecosystem system services that says the executors can be part of an administration contract and can be considered as taxpayers. So the law already recognizes this and obviously when you, as taxpayers, that is to say they are considered as taxpayers because they help to preserve and conserve, the retributory is the one who pays. And besides, when you do a RED project you need a fairly large amount of information, of course, in order to establish the reference level, the project design document, and in the protected natural area there is a technical file. You have a diagnosis and all this constitutes to say that at that time it is permitted to do a RED project in a protected natural area. Then Jaime Nalvarte with AIDER and the whole team proposes it and the government says "fine" even though not much was known because this was a conversation from 2006, and the contract was signed in October 2008, back then everything was like that. So then AIDER approached, this was still INRENA, then AIDER comes and tells the SERNANP look I am going to do the RED and I already have a partner which was the English MANU SFM company. An English company and Amazon forests that was the Peruvian counterpart and what SMF BANK wanted was that I give you the money for you to develop the contract for 7 years, because the contract first requested AIDER participate for 7 years, they started in October 2008 and lasted 7 years. I provide the money which was like 7 million dollars so that you can finance everything and you give me the credits. But that was not included in the contract that was an agreement between INRENA, AIDER and SFM BANK. So the contract is signed and then gradually the project is developing but at that time the state had no standard for commercializing credits and there was no procedure. So AIDER continues doing the project as RED, they had no methodology, they had nothing recognizable as a RED project, nor way to implement it nor how it was going to be marketed who was the owner of the credits, there was nothing, yet the Government said, let's go on with the RED project and develop it as we go.

The oldest I believe that the three have started is that of the blue mountain range and AIDER with Tambopata in 2006 - 2007, because the RED project of blue mountain range started in 2008, the Tambopata project starts 2010, the first could be blue mountain range, the protected Altomayo forest is from 2012, no forgive me, they have worked from 2008 to 2018 with



international conservation, and then as a baseline the RED was born as a proposal for sustainability of administration contracts and therefore the management of protected areas, the legal mechanism of how RED projects entered into protected natural areas has been through management contracts which is, if SERNANP has a procedure for granting and monitoring contracts, with a tender, it can be at the request of a party or SERNANP can tender, so that's how RED projects are initiated.

What were the problems of the RED projects? The first was having dispersed information, there was no population database, no DRAIL, deforestation then at the time the limitation was that the information was everywhere and was inaccessible compared to now. You have databases, models, you have a lot of stuff. I remember that when we were doing the RED project we gathered biodiversity information and I think it was the quickest and easiest, but population information close to the area deforestation was difficult, not like it is now with the conservation program of forests and others. Satellite image access was difficult and expensive because you had to buy the images and technology was too because the software was limited used by few people. I knew how to use it but it was expensive and you have to leave it to run on a modeling computer and it took two days. now it takes about a half a day, or two hours depending on the computer you have and we had problems there in the area. In Madre de Dios access to the internet was limited. There were constant black outs because they were just integrating Madre de Dios's electrical system with the grid. Lack of light, thunder storms, it was difficult. Those were the main problems during the design of the project, which is why AIDER had delays in completing its project. There were two alternatives, you develop the project as AIDER, with your capabilities at hand, or hired a company as third a third party that should elaborate the whole DP. AIDER decided to carry it out by itself, in house, which meant that AIDER had to send in professionals specialized in using some specific software and pay some consultancies to guide us. Understanding the formulation carbon calculations for example, all that really is that's why AIDER took a little longer than the others.

They worked with BCS and CCB community climate and biodiversity. The first is the BCS which is a more quantitative standard in the way that it measures the impact of the production project and presents a record of the carbon credits where you can record the credits and calculate what the reductions are and how much they can diminish. CCBA is a more qualitative standard because it tells you how you're your production works on the climate within communities, what your

contribution to the community is, something that complements it and then the moment when you said why am I going to work with an xq network project, if you're going to charge in RED ecosystem services, when you're going to start charging for air, there was a lot of philosophical discussion, and there was also much talk it was perverse, because RED works in threatened

areas because in areas that are not threatened it is not viable, this was an area threatened by mining.

The first master plan of the RNT which is from 2004 or 2006, if I am not mistaken, demonstrates the threat of mining, which could be considered the biggest driver of deforestation in Tambopata and then also in those years the indigenous factor was significant. How are indigenous populations, what are you going to give and you have a lot of expectations, people expected that AIDER was going to get rich, what are they going to give me.. there's the Madre de Dios federation, if you go, you can go and interview the people there because it is ancestral territory, but many expected money to be given and RED took a long time to say they were not actually going to give any money. I'm going to help you with actions to reduce the deforestation and there you're going to get money to handle it and have to decide if it's for you to do a communal surveillance program, then there was a lot of expectation and at that time there was talk that every carbon credit was going to be worth \$20 per ton.

We made the calculation for the project, you have a 10-year provision, AIDER in 10 years was going to raise 5 million of credit, i.e. 100 million dollars, but AIDER actually said was that SFBank is going to give me the money and I'm going to give you the credits. On the way to implementation at INRENA they realized that they had made an agreement with an NGO and a private company in something that was not standardized, they realized that that company was going to over-earn. Then the Government says a wait a minute, let us think this through and INRENA dissolves the agreement that was signed between AIDER and ... because this is still not clear enough to do this, you realize why someone did the analysis. In 2010 I caused problems for AIDER because the financial alliance was already putting money into the project, Jaime and AIDER had to talk with INRENA, at that time SERNANP in order to solve this. So that's where the talks started and they said, well this covenant is not really going to happen but we're going to design a procedure to be able to commercialize carbon credits in the future, so this relationship continues with a commitment to recognize what's going to be invested, SFBan bows out in 2010 or 2011, then only Ban remains, and SFan had made investments in several countries which was not the best thing. So RED was unclear and in that year 2010 they began to release articles against the projects of ... because they started talking about carbon cowboys, people who were going to convince a community that knows nothing about RED, sign this and 30% of money is for you and people signed without knowing. In some places there had been excess. We consider that in protected natural areas there was reason for a normal regulatory framework.

In 2010 this project began and it was expected that it could be sold and this mechanism would work, but it did not happen, we realize that it is one thing to generate the credits and another thing is that they buy them from you because you expected to sell it at that exorbitant price but

the market was demanding and second that was a new and very little-known mechanism in Peru and from the outside you didn't have anyone to promote it, then you were authorized in 2011 2012 2013 and these NGOs are not specialized in marketing credits, then it was a lot of expectation and in 2014 AIDER makes its first credit sale with PACIFICOS, a slightly precarious situation because you needed them to join the fund because you had a commitment with the Government, the RED project was working but you needed to cover the expenses, then Jaime suspends the credit sales contract and he does it quite boldly because there was no rule that tells you how to market the credits, so after that sale SERNANP says what's going on? And then in 2014 SERNANP puts forth a directive for the commercialization of carbon credits that is 036 of 2014 and that tells you how the RED project is registered, what the procedure is for recognizing how it is implemented and how it is monitored. So from there this is let's say it that it's clear that these RED projects and as it's to be marketed at the time had to be recognized by SERNANP so that every time you commercialize credits you have to submit an application to SERNANP because the credits are the Government's but the AIDER charges for them, and they also tells you that the projects have to present a credit market study, so that's where at least to my understanding what criteria were to be used to market credits, two criteria were used:

- 1) The international price, and, if there is one, the national price of carbon credits with the goal of not selling them for less than the market price.
- 2) These projects set a base price, a minimum. The fixed price was set by AIDER more or less like this: my technical financial proposal per year is \$1 million, how many credits do I have that year? Ah, I have about 300,000 credits per year, so \$1 million out of \$300,000 was the flat price of the project credit, which was basically what it cost for you to implement the management contract.

These are the two criteria used to market credits, and the sale of carbon credits was very slow, some were sold in Tambopata very slowly and it is still slow. In 2014 AIDER was looking for another financial partner, Livelihood appeared which is an investment fund and they came and said: "Look, I want to work because I'm interested in carbon credits, but I'm also interested in working on sustainable economic activities for example: agroforestry" seeing as it could be a profitable business.

So Livelihood makes a proposal to AIDER, who they did not convince because they wanted to put up only half and that AIDER handle the rest, and at that time it was very complicated, so the relationship with them did not prosper. In 2014 Althelia appears and there has been N conversation with them during the year 2013 and 2014, it is a climate and environmental investment fund, so they make the proposal to AIDER to work on the REDD project, and Althelia proposes some interesting things to AIDER:

- 1) I'm not going to buy you 100% of the credits, I'm just going to ask you for 75% of the credits.
- 2) I'm going to fund only part of your technical proposal, so that you also make an effort to get money.
- 3) We need a commitment to agroforestry because I too intend to recoup my investment through agroforestry.

One challenge for AIDER was to see the technical capabilities in order to develop an interesting economic proposal for agroforestry. It was a challenge for AIDER, mainly because of inexperience.

After the talks with ALTHELIA, AIDER had the challenge of presenting the proposal to SERNANP because ALTHELIA was not the final buyer, and in the regulations of this issue were not clear since the buyer was not the final destination. Second, the future sale price had to be defined.

Then ALTHELIA and AIDER agreed that ALTHELIA would pay AIDER at least the floor price (which I think is US\$2.82 per Ton of carbon) and with that AIDER could execute the management contract. And what if ALTHELIA sells the carbon credit at a much higher price?

A discussion on this subject was had, and ALTHELIA submitted a proposal for benefit-sharing or balance-sharing, which in summary stated "if the total profit is sold for ALTHELIA, but if they sell at 4 to 5 dollars, 10% of the difference goes to SERNANP and 90% to ALTHELIA, and thus the price rose to 20 dollars where SERNANP received 80% and ALTHELIA 20%".

The area of the project is the ANP, and the leakage belt is the buffer zone. The buffer zone prevents a bit of the impacts from reaching the ANP. In Madre de Dios the main detractor was the Indigenous Federation of the Madre de Dios River and its tributaries (FENAMAD or PENAMAD) because they said that AIDER and SERNANP were abusive and that they were making millions of dollars, even though this date no credits had been sold. In addition, other institutions gave these indigenous institutions money to oppose the REDD project. From that time until 2014, it was also obvious that the country was unclear where it was going with REDD, and in 2015 this was clarified because the country decided to opt for a national REDD scheme and the national strategy of forests and climate change was born. And from that date it could be said that there would no longer be pilot REDD projects because the country was moving towards the national REDD strategy. **The good thing about REDD pilot projects is that they are highly efficient and have their own methodology, but they are points on a map**, so the world realizes that REDD projects have not had the attraction that was expected and because they covered small spaces yet made no global changes, larger projects were needed that were accompanied by policies and commitments.

Peru has to implement its national strategy by the end of 2020. The country is committed to reducing emissions to a conditional 20%, which means with Government money, and an additional 10%, if there is foreign intervention or financing.

That is to say, the Government is committed to reducing emissions by up to 30% in 2030. So, the national reference level is very different from the reference levels of pilot projects, because the assumptions are different, for example if with a REDD pilot project I could say that in Tambopata it had half a million tons a year, with the national reference level the project can verify say 70,000 tons of credits per year... that's how critical the situation is.

This is because we work with another methodology, what the national reference level does is historical and from the historical a linear projection, while with the REDD pilot project, one projects the historical, but includes deforestation drivers, how the mining is increasing, how agriculture is increasing, so it's done like this... and the projection is very different. Reference levels are therefore greatly affected. This is one of the main problems the projects now face.

**What will happen?** Since 2017, a process of conversation has been initiated with the Government to harmonize early initiatives, analyses are being carried out to see how these early initiatives are at the national baseline and can participate in reductions in emissions, yet there are many things that are unclear, i) what will the allocation of reductions be like by region or jurisdiction, and within the region what will the allocation of reductions to ANPs be like?

From SERNANP'S point of view, the REDD project has contributed to the reduction of deforestation, but we will have to see at what percentage!! Checkpoints have been set up, rangers paid, strategies are implemented, and agroforestry has been done with ALTHELIA since 2014.

SERNANP has a letter from MINAM that says REDD projects in ANPs can continue until 2018, can verify carbon credits until the end of 2018 and can market credits until the end of 2020.

The harmonization process is currently focusing on extending this period until 2019 or the end of 2020, but there is still no answer. The process of harmonization with the national strategy is a complicated process, if this does not happen the feasibility of the project will be undermined. The REDD+ project has also had disagreements with the Regional Government because the governors have been pro-mining, so they were always against NGOs with a conservation policy, therefore it was difficult to generate synergies with them.

**When did Althelia sign the contract with AIDER? / Can you please talk to me about the participation of ALTHELIA in this REDD project?**

ALTHELIA signed a contract with AIDER in 2014 but had begun working with AIDER on the co-design of the project in 2013. Prior to this alliance, AIDER had already performed the carbon studies, finished the (PDD), and begun the validation and verification process. AIDER was given project approval in 2012 by the VCS and CCB.

The project had already been approved by the time ALTHELIA joined. Their first collaboration was on the development of an investment strategy which involved the use of carbon as collateral in order to finance activities within the buffer zone as part of the REDD strategy. Then they had to identify what type of activities would be carried out. As AIDER's proposal was to create agroforestry systems using crops which had no current market attraction, it had to incorporate a commodity. This is how they arrived at the proposal of an agroforestry system employing cocoa.

AIDER has a complete REDD strategy which includes the strengthening surveillance control, the implementation of sustainable production activities within the buffer zone where part of such activities are being carried out by ATHELIA. Included within the strategy at some point was the effort to convince the miner's associations to limit the use of mercury. This proved to be unsuccessful. Initially, AIDER had a pilot project with a mining association called "Pailón" which was funded by The Fund of the Americas, but as they were informal miners and informal mining had been declared an emergency situation, the financial source refused to fund the project due to the fact that they were involved in an illegal activity (informal mining). All of these are REDD strategies aimed at reducing the rate of deforestation.

The REDD project has the national reserve of Tambopata as its target area, however REDD strategies are also focused on the buffer zone which is an area that has been putting pressure on the protected natural reserve. ALTHELIA finances projects both within the reserve (biological monitoring and research, surveillance and control) and outside the protected natural area (recuperation of areas damaged by migratory agriculture and intensive livestock production). Their efforts have included the promotion of agroforestry systems employing mainly cocoa production. This does not mean that AIDER, within what is the REDD strategy, does not seek financing via other activities which complement what they are doing within the reserve.

ALTHELIA has a loan contract with AIDER employing carbon credits as collateral. On one hand they have signed a loan agreement using carbon credits as collateral, and on the other they have signed an agent contract. The agent contract provides ALTHELIA the right to



commercialize carbon credits. So ALTHELIA lends money but at the same time they are responsible for the sale of carbon credits in order to repay the loan they have with AIDER, which is like an advance purchase of carbon credits. (this financing extends until 2021).

All of the protected natural areas are financed via administration contracts. The institutions holding these contracts are NGOs. So if the Peruvian government says; "Listen up, forget the REDD projects, you have to find another source of financing," how can the private sector become involved? So I don't believe, if MINAM has to remain open to this type of investment, how will these protected natural areas be managed. The entire budget is not supplied by the Government. The Government does not apply this budget to ANPs.

The REDD project has been successful as a model of how to involve the public and private sectors as well as the participation of the region's population. Methodologically, there is uncontrollable deforestation, such as that caused by mining, and methodologically this cannot be accounted for within the models created by Percy with the AIDER team. But if you go with the field results that are verified every year, we can say that during its 9 years of life, 80% of projected deforestation has been avoided, so I would say it has been very successful.

We basically rely on 5 indicators, i) what are the emission reductions to be met? Because if emission reductions have been generated, carbon credits have been generated which are based on what was originally projected; ii) reduction of deforestation, for this you have the documentation verifying what has been done which is public and within the Standards (VCS), from 2010 to 2017. More than 6,000-7,000 hectares of deforestation has been avoided, and it had been projected that within the protected natural area approximately 1,000 were deforested per year. It appears to me that in the methodology this calculation is function of migratory agriculture and livestock, because informal mining is something which AIDER cannot avoid. This is mandated by the Peruvian Government, that is to say that included within what AIDER is capable of controlling via its intervention are migratory agriculture and raising of livestock. It appears to me that mining has not been considered because it is something that neither AIDER nor ALTHELIA can resolve. Were this not the case, the generation of carbon credits would have been much greater.; iii) environmental impact, this is something that is a function of AIDER's activities within its contract with the Government, those being biological monitoring, research within the ANP, species conservation, the 1,250 hectares of land damaged by agroforestry systems, habitat conservation. AIDER each year an Annual Biological Monitoring Report to the Peruvian government; iv) social impact, in order to be part of the project, the local population makes a commitment to not continue deforesting, and works to recuperate areas already deforested. If on average an agriculturist has 40 hectares of land, whether or not under their ownership, of these 40, 20 have already been deforested, but the other 20 remain as virgin or old growth forest. So to work with the project they are told; Ok, we are going to

recuperate that which has already been deforested with a commitment that the other 20 shall be maintained and not deforested. Around 340 agriculturists are working within the buffer zone, probably during the time that has passed there have been some who have given up, this has been part of the challenge from the beginning, that is to say that initially, finding farmers who were willing to take part in the project was complicated due to regional politics as the governor was pro-mining and had disparaged the NGOs. As a result, there were people who did not want to take part in project, there were people who said; “no, because I have a so many hectares, and you can tell me not to deforest.” So we have worked with those who have been aligned with the proposal, and obviously after 2 years they have begun to receive income from their short term crops (cassava, plantain), or their cocoa production, and from there the project began to expand significantly. We now no longer are seeking farmers as they are coming to us seeking to take part in the project, and the conditions are such that those who wish to take part already know what to expect.

We work with farmers who hold free and clear title to or certified possession of their land. There have been situations where the farmer has an overlapping concession were they say, “No, but we have an arrangement with the owner...”, but they will not be considered to form part of the project until they can demonstrate title or certified possession of the property. Efforts have been made to assist them in the municipality, but only up to a certain point, it’s basically just to point the way.

The deforestation dynamic is as follows: a farmer can only manage up to 2 or 3 hectares, to produce food for their table or to be sold on the weekend at the local farmer’s market? After 2 years, their soil begins to degrade due to use of chemicals, 3 more hectares are cut down once and again until they are left with no arable land. What happens after they are left with no land? They have to invade or purchase more land and cut down more forest, and as a consequence, they continue deforesting more forests. This is how they approach and put under threat the RNTAMB reserve. So, in order to promote these types of projects, we seek to stabilize soil use, no longer cut down forests and recuperate native soil by planting nitrogen fixing plant species. Once the soil is regenerated, cacao, a crop which is internationally marketable, is planted. The work is carried out according to organic standards (certified), and the farmers work as an association or co-op in order to improve negotiations with the buyer. This has worked and has reduced deforestation.

What ALTHELIA has done is to create a cooperative, they have hired a manager of the cooperative and have paid for nearly 3 years of service to a company specialized in cooperatives in order to strengthen and to consult with issues related to cooperatives. The project is financed by the REDD+ project from the cacao thats put in the ground, to the strengthening of the cooperative, to the cooperative’s installations, the collection center... all

which has been 100% financed by the REDD+ project. The farmers obtain financing from MINAM-CAF in order to implement their quality control laboratory, which is the only thing not financed by the project. They even have purchased 6 hectares of land to create cloning gardens and genetic material. These 340 farmers are basically from CC Infierno. The CC Palma Real does not work with cacao because of the 6 hour river trip, for them AIDER's REDD strategy to develop sustainable tourism, ALTHELIA provides no funding here.

The REDD+ generates around 4.5 million tons of reduced emissions, but by discounting the buffer, what can be traded (the Verified Carbon Units VCU) is 4 around million.

The VCS methodology proposes that a risk assessment be made. So, you have a reduced emissions total, you perform a risk assessment and according to this result you make a discount in order to see what % can be sold, and this buffer remains as a standard, as insurance. For example, if the reserve is burned due to some anthropogenic accident, then obviously the tons of carbon that had been projected for the life of the project will not be generated, but there are buyers such as ALTHELIA who have purchased futures, so this buffer serves as an example of the type unforeseen event that may happen. The projects have commitments so that is way there is a buffer.

There have been complications since the beginning with the project's design as AIDER in Madre de Dios experienced a series of problems accessing the internet, electrical energy that did not allow them to perform projection work, in order to make projections, it was first necessary to perform some field work which was done in 107 test locations within the ANP which was done also in order to determine what type of forests there were, the amount of carbon present according to type of forest within the ANP, the base line of carbon basically. The project has almost 750,000 hectares. What has been difficult is to perform these test, it has been costly. This investment was financed by PROFONAMPE. In 2008 SERNAMP launched the tender for the management of the Tambopata ANP in which AIDER made a technical-economic proposal for biological monitoring, a research proposal, and a bid for the financial sustainability of the area; so, in this last point, AIDER planned to make an ecosystem services project. This third part was financed through a seed fund that PROFONAMPE had granted to AIDER. PROFONAMPE managed GEF (Green Environmental Facilities) funds, and with this money they were provided a seed fund for the installation of the entire administrative contract. With this fund they performed the carbon studies, the base line and the Project Design Document (PDD). What AIDER did basically was purchase satellite images from 2000 to 2008. With this information they projected deforestation rates in relation to the forest types and the drivers of deforestation. And with this information AIDER made projections from 2008 until 2030. So, doing all of this was quite complicated, due to the use of satellite images and software used to calculate deforestation, the team in Madre de Dios had no

internet access and the each satellite image took a whole a day, so it literally took weeks perform deforestation projections. That was the first complication. The methodology was from VCS, this methodology involves the evaluation of a series of modules must be completed, for example how additionality is demonstrated, how leakage is demonstrated, the issue of risks requires a series of projections and tests. In other words, it's not simply about "this is what will happen" but rather, provide a demonstration, and if a demonstration cannot be provided, the highest risk must be assumed. Furthermore, the country risk must be assumed which is in function with the governance data emitted by World Bank, and there are also many other indicators coming from all sides.

It is a great help that the project is situated within an ANP, not only because of the titled farmland but also because it ensures the permanence of the project or the commitment to the project's activities. Therefore there is a commitment to permanence and perpetuity because the Peruvian government that guarantees this, commitment permissions from the communities are not required.

There were limitations during the implementation as well. There were many challenges with the genetic material upon implementation of agroforestry activities in the field. Madre de Dios is not an agricultural zone; most of the population are immigrants, many of whom arrived to the area in order to carry out mining operations as a result of the construction of the Interoceanic Highway. 60% of the population are not involved in agriculture, furthermore cacao cultivation is new to the region seeing as it has never been a region of cacao production. The seeds are imported from Cusco which must be grafted on sticks brought in from Tingo Maria, all of which is complicated. What must first be done is to fill bags with soil and organic material, then the seeds are planted which germinate and grow for a month and a half. After this, it is grafted which basically involves inserting a branch from one tree (the product) into that of another, this process must be done using a seed stick (the cacao seedling attached to a special stick), a process which be completed within 48 hours, otherwise the stick becomes dry and will not "take." Bringing these sticks from Tingo María to Madre de Dios was at the beginning very complicated due to logistics which resulted in additional costs because the sticks dried out during shipment, due to a lack of flights or mismanagement. This complication continued during the first 3 years, until the first plants began to grow and there was enough to source the graft materials locally, avoiding the necessity to ship them in.

The project continues to be successful, nevertheless there have been complaints on the part of some of the local population as the agroforestry projects are a result of financing and are not gifted to the community. The sale of the product is made through the cooperative with the support of ALTHELIA. On the 3<sup>rd</sup> of July the first export of cacao will be made. Last year only 20 tons were produced and this year 200 tons are expected. The first contract to export cacao

to an Italian chocolate maker is ready. Economically speaking the farmers lives have improved to a certain extent, and seasonal work has also been generated. The economic evaluation of the impact the project is having on the farmer will be seen this year and the following years. There is also a feeling of permanence, the people what to continue with the project, there are even people among the mining population who have begun to develop agroforestry projects. Currently there are 1200 hectares under production, and the idea is to reach 5000 hectares under agro forestry production.

Interview: 07/02/2019 - President of the RNTAMB Management Committee

- After 19 years of the Tambopata reserve's existence, the Committee numbered 18. More or less after 1 and a half years after this committee was born, part of Bahuaja Sonene National Park of Madre de Dios was included. Since 1990 Victor Zambrano has been involved in its activities in order that the people will believe in the Tambopata Reserve and the Bahuaja Sonene National Park.
- The Management Committee of Tambopata contributes to all who participate within the buffer zone: the local rural population, indigenous people, forestry and mining concessionaires, the villages... as well as the local and regional health workers, the police, the navy, everyone. The area's commercial centers (CC): Infierno, Palma Real, Sonene, Coximba, Agasaer, are native communities found within the buffer zone and form part of the Management Committee's responsibilities
- The Committee takes part in the sustainable development activities, surveillance/control and monitoring of illegal activities, and the search for alternative sustainable development. Logically, any one thing cannot be done if it does not stabilize the others. The Committee has promoted sustainable economic activities within the context of various projects which have been within the World Bank's trajectory. One of the first proposals managed by the committee was that of **strengthening organizational structure** of the communities located everywhere within the buffer zone. These were the initial activities done in order to be able develop awareness among the residents of the value the Protected Natural Areas and their buffer zones. The following are projects of the World Bank which are more than anything related to compatible activities: agroforestry, fish farming, tourism, etc. The Committee has promoted an average of 15 such projects via a project called GEPAN, and through this proposal the people began to get involved in those activities that they needed (agroforestry, ecotourism management, and promotion of economic activities in Lake Sandoval). These activities had been promoted by the Committee until the phenomenon of illegal mining arrived.
- The issues that the Committee manages are: i) surveillance control, ii) sustainable activities development proposals, iii) support of those defending the environment.
- Illegal mining began to become very strong during Toledo's government, a 15 year process during which the National Government did not assume any responsibility. The Committee made surveillance and control proposals, nevertheless, the National Government never demonstrated any political will to solve the problem. From 2000 to 2005 areas such as Guacamayo, Pacal were intact, and beginning in 2005 impacts of an explosive manner began to appear in this area as well as those with the Reserve's



area of influence. And after 2006 enter the buffer zone. The Government never demonstrated any interest.

- To a certain degree the construction of Interoceanic Highway contributed to the illegal mining explosion. The highway brought positive and negative things, since the highway brought development seeing as the town was Puerto Maldonado was completely disconnected, and via the highway people could transport themselves and transport our farm products; but the bad thing was that the highway aided in the migration and augmentation of illegal activities. The investment (the highway) is justifiable; however it contributed in attracting illegal miners and to make the removal of gold much easier.
- The REDD project's effort to detain deforestation has been great, yet it confronts a concrete and brutal reality. It may be of good will, but in contrast, who will be responsible for enforcing the legal **provisions to be met?** Humala's government brought forth many decrees and resolutions in order to treat illegal mining which, nevertheless, they weren't able to apply. So the REDD proposal complied, but not as they had desired. In a normal situation perhaps the indicator of success would have been greater, but the project has developed within an entirely complicated situation, amidst a scenario which no other area in Peru has, because it's a unique scenario. So this has been quite a challenge, applying the project in a convulsed area, nevertheless there has been significant progress. That a project of this nature is able to progress in its most basic elements within such a convulsive reality is truly an achievement. Another point that we should take into account is the continuation effort that has been made throughout all of this, the care that has also been taken in order to promote this beyond all of the situations. I am aware of the sacrifices involved: arriving, transporting and equipping the control posts amidst an ever-present scenario of threats and danger, so I can say that the project has fulfilled its role.
- The project has assisted in equipping the control posts, and has even generated the infrastructure in order for the Navy to install itself in Checkpoint Blue, where the mining is taking place. This aspect of the project has been useful in surveillance control, improving the equipment for the park rangers.
- The Committee has proposed the IV Forum of Protected Natural Areas which the system for the selection, promotion and consolidation of the park rangers should be done through a school; it should be institutionalized. And since this is no longer operating under a completely unreal legal figure, a park ranger cannot be under a CAS regime. The park rangers must be considered as an authority.
- The park ranger's job is not 100% effective. There are 2 scenarios: the scenario which confronts **informal mining** (La Pampa), and that which cohabits areas of **tourism**. Logically for those who confront informal mining, there are occasions when they are

unable to stop the mining; Mr. Zambrano proposes to arm the park rangers. There is a proposal to create an elite group of park rangers, prepared to intervene in risky situation, who would be armed. Don Víctor wants specialized personnel to carry out the duties of park rangers

- Surveillance control has improved, but it has yet to become 100% effective. Se ha mejorado el control de vigilancia, pero aún no llega a ser 100% efectivo. The Committee has experienced interference at local, regional, national and international levels. The Committee had a complete intelligence system that they applied and demonstrated to be effective in surveillance control within the buffer zone during Humala's presidency. There has always been criticism of the Management Committee's management, seeing that in the absence of the Government they have had to mobilize themselves in order to reveal mining outbreaks or deforestation in general
- The previous GORE, the Otsuka government was a strong opponent of the NGOs, mainly because it was pro-mining.
- The 2012 Governance project which the Fondo de las Americas had, was a request of the Committee, but due to a lack of legal staff it was unable to execute the project so it was left to AIDER carry it out, at this point various initiatives were put forth. One of these was the process of the organizational strengthening of the Management Committee, and here also the Management Committee of the Tambopata Reserve's Board of Trustees initiative was born. This governance project sought to organizationally and economically strengthen the Committee, and it is here that it was proposed that it assume the SPDA, and now the Committee is constituted ("Los Tambopatas" and "Tambopata Libre").
- Launching the agroforestry project was not easy because people usually pass on projects. They think they are going to be cheated. This is why there had to be an awareness program. At the beginning it wasn't easy, there had been so many hoaxes from so many institutions with the "I'm going to help you" and they always fell short, and never closed the loop in the way that the agroforestry project has done.
- There have been disagreements CC Palma Real.
- During the phase of the project's implementation, when there were no sales, there was a series of concerns on the part of people who desired immediate economic projects and immediate results,
- The previous GORE opposed the NGO, "I commit myself to the expulsion of all the NGOs of Madre de Dios", this pressure has been part of all these elements that, thankfully, did not prosper. AIDER had to withstand such pressure.

**The regional government (GORE) promotes the development of REDD projects like the one led by AIDER?**

GORE Madre de Dios has no intervention in the Protected Natural Areas because it is directly administrated by SERNANP and the administration of the ANPs are not functions of GORE. I am relatively new to the position (6 months) and I have not had contact with AIDER.

Outside the ANPs, that is to say in the buffer zones, GORE does have jurisdiction via the various authorities. For example, within the Tambopata Reserve, in the buffer zone there are agricultural properties, conservation concessions, reforestation concessions, etc. And their GORE does have jurisdiction, for example if DRAG (Regional Agrarian Authority), the regional forest wildlife authority, DREM, among others are present.

**Which are the main drivers of deforestation inside the Tambopata reserve?**

The main drivers of the Tambopata National Reserve are mining and, recently, the coca plantations. I don't know if you have seen the the ProjectMap page which the ACCA (Association for the Conservation of the Amazon Basin) manages. They provide information about the causes of deforestation. In Bahuja Sonene National Park the drivers are also illegal mining and coca plantations.

**Has deforestation increased in the last years?**

Deforestation has increased because the REDD+ project is narrowly focused (only in ANP), and the increase is due basically to mining activities. According to MINAM's GeoBosque platform, in 2016 17,000 hectares were deforested, in 2017 23,000 hectares, for 2018 there is still no data. Beyond mining, there are also farmers, it would be good to calculate how many farmers there are, because one farmer deforests an average 1 hectare/year, and if for example there are 10,000 farmers in a particular space there are 10,000 hectares deforested. This annual deforestation data includes the region as well as all the activities (it is not limited to - mining)

In the previous administration, from 2015 to 2018, the Governor was a miner as he held various mining concessions. He made no effort to confirm AIDER's agreements with GORE. With the new administration commencing in 2019 until 2022, AIDER had already presented its proposals for agreements which have yet to be signed, the strategies of which the interviewee does not know as he has yet to read them.

From the month of January in which the new governor, Luis Guillermo Hidalgo Okimura, began his term, meetings with private organizations aimed at gathering forces in order to promote the

elaboration of a **regional development strategy to lower rural emissions** were called. In March he publically signed the regional executive resolution which establishes the group promoting the formulation of the development strategy for the lowering rural emissions, and he signed a memorandum of compliance with the institutions desiring to join the initiative. AIDER has signed this document.

Basically the reduction of greenhouse gases is more than anything germane to the sector known as “Land use, change of land use and forestry.” Here are found 2 lines, 1 line is adaptation and the other is mitigation but both aim to reduce deforestation.

What is happening now is that in the forests in which there are forestry concessions, there is a management plan, an operational plan, as well as an environmental impact study and GORE hopes that the forest are not reduced, because with the removal of commercial species, they are reduced. With agricultural practices, forests are cut, slashed and burned, then planted with something that produces for 2 or 3 years. What GORE seeks is that these areas used for agriculture be recuperated, productivity will increase because, for example in Madre de Dios 1 hectare of cacao produces between 600 and 700 kg/ha, while in San Martin they are currently achieving production of up to 4 T/ha. Augmenting productivity will diminish deforestation in order to increase areas having greater cacao production. All of this is the aim of the **regional development strategy to lower rural emissions**.

It appears that the REDD+ projects in Madre de Dios are doing well, all indicators support this since they have begun selling their carbon credits. These projects do manage to reduce deforestation in the areas where they implemented (study area). There is a project promoted by through the **National Forest Conservation and Climate Change Program** where 10 soles per hectare per year are paid to members of native communities. Native communities commit to conserve for example 10,000 hectares and receive 10 soles/ha/year which amounts to 100,000 (on average \$30,250), and present an investment plan specifying what they need in order to ensure that these 10,000 hectares are preserved (motor, motorist, fuel). This is not a REDD project but it is financed with REDD funds (Norwegian fund). I don't know of any case in Madre de Dios where payment has been implemented for an environmental service that has failed.

In the AIDER program's case, there have been no displacements of deforestation drivers. In contrast to the native communities program with the **National Forest Conservation and Climate Change Program** in which it can be said that there actually is displacement of deforestation since the communities can focus on preserving a certain area so as to move deforestation activities to other areas.

When an institution such as AIDER receives funds under the REDD framework, these funds must be employed to conserve the area because they are required to do so, and through the agreement with SERNANP factors such as park rangers and other strategies used in order to conserve the ANPs will be treated.

As of now there has been no discussion with MINAM concerning implementation of the national REDD+ strategy. However in the **National Forest and Climate Change Strategy**, there is mention of REDD, and furthermore this document is aligned with the Paris Accord which includes the reduction of and within the framework of the Paris Accord there is a part called Group of Governors for Forests and Climate in which speaks to working with the REDD program at the jurisdictional level, since what is sought within a region are not isolated actions which do not contribute to the region's conservation but rather those intervene in order to enact change, in this case the reduction of deforestation at a jurisdictional level so that it has a larger impact on the region and the country. The jurisdictional focus allowing the interventions to have a positive regional impact.

Interview 07/02/2019 - SERNANP representative

- Before the REDD project there were 9 checkpoints, with the birth of the REDD project an additional checkpoint is added, in total there are currently 10 checkpoints: 9 in Tambopata and 1 in Bahuaja Sonene National Park.
- . It was not difficult to implement this new checkpoint, the only difficulty at the time was due to a situation created by mining, and as a means of preventing further encroachment the post is built, because there were 2 posts that were very far away, some 60 km from each other, it was best to put one halfway between the 2 in order to strengthen surveillance.
- The personnel who work in the posts are mostly technicians (80%) from various types of work such as ecotourism, guides, and the other 20% are in high school.
- The 10 checkpoints are enough to do the job. We haven't seen the need for further increase, plus we won't have the number of staff to fill more checkpoints. While it has theoretically been estimated that there should be a total of 60-70 park rangers at the 10 checkpoints, they are currently only 40 park rangers. Right now there is barely the need for the existing posts, what is currently needed is more personnel to perform the duties of the park ranger such as patrolling the area. 1 or 2 new personnel is all that is required at this time.
- One of the difficulties confronting park rangers is logistics. In order to cover the 30 km between each checkpoint, faster equipment is required, more efficient boats, more fuel, and a sufficient food supply. Meeting these requirements is like being in a state of war, and when there's a war the expenses are astronomical, and that's just what it's like here. Fuel disappears like water, food disappears like water; then there is maintenance, parts, spare parts. So when a civil organization doesn't have the capacity for planning, the logistical requirements for a mobilization of this size are not understood. For example patrolling each sector on motorbike can take 1 entire day. Someone has to understand such basic facts, this is another difficulty. There are no sources of funding from the government that encompass or what is needed.
- Currently when dealing with mining, the annual Budget can increase 3 fold. If there were no mining and nor other illegal activities that put pressure on the area, the annual budget provides enough for daily activities. But if illegal activities like logging, mining, fishing, hunting, have to be dealt with then you're no longer going to do 2 or 3 daily patrols, this can become 7 or 8 patrols and that's going to be reflected in fuel consumption, boats, motorbikes... and as we are part of the government, this also involves the issue of mobility because you need to be capable of water travel, which can triple the man-hours.

- The work of park rangers is perennial, between 4 and 5 park rangers per control point. Only the Otorongo and Azul checkpoints have 6 park rangers because illegal mining is very intense there.
- The problem is that the Army was not available to participate because the regulations do not allow it, only in cases of i) war, or ii) emergency. And even though it was requested to declare a state of emergency, the order was not carried out. But the Navy has provided support, because there is a natural link between the Navy and the Amazonian protected areas because the Navy controls the rivers and the boundaries of the Protected Areas are usually rivers. That's why there has been an rapprochement with the Navy who at some point have deployed to address. In fact they have been providing continuous supporting for 2 years and 7 months, and SERNAMP has very good relationship with them (the Navy).
- Resources for park rangers come from 3-4 sources: (i) resources directly allocated by SERNANP, (ii) a trust funded by taxes collected by MINAM, (iii) through NGOs (including AIDER), (iv) the fund generated by the sale of carbon bonds for example, for example funds for the construction of checkpoint 10 were possible thanks to carbon bonds.
- What financing from REDD project basically covers are the implementation of checkpoints, maintenance, infrastructure; they are also contribute to staff salaries (payment for 7 park rangers. Funds targeted for specific activities such as mining are not within the budget, but for example funds designated for infrastructure expansion by military visits fall within the scope of financing. Other institutions which are supported are the Zoological Society, the Peruvian Society of Environmental Rights (SPDA), ACCA, among others.
- The price per ton of carbon is US\$2.29. The importance of the money being raised from the sale of carbon is not so much focused on monitoring but rather on cocoa agroforestry projects (approx. 1200 ha.) that have been developed in the buffer zone. This is the highest value.
- The REDD project has decreased deforestation. Before the project, pressure from illegal mining was no so strong; there was more pressure due to the extent of agriculture and livestock activities. After the project began both agriculture and livestock were reduced, but during the same period mining increased, and this activity has done more damage than that done by agriculture and livestock, so mining is the currently main driver.
- Deforestation has been mitigated within ANPs, but within the buffer zone deforested areas have increased. Within the area of the project the control of mining was achieved



after 2 years of hard work, mining began in 2016 and withdrew in 2018, it is officially recognized that 759 ha have been recovered.

- Deforestation has increased In the buffer zone not only through mining activity but also because of agriculture and livestock.
- At the beginning talking about the REDD project was a challenge for the region because explaining it was complicated. The difficulty in making people understand was due to the nature of the project (carbon quantification). It was difficult to understand how the REDD project worked. In addition, a rumor was spread among the inhabitants by organizations that were against the project, saying that the project was going to damage the lands, that it would prohibit the use of resources. Then over time the difficulty was that the population settled in the buffer zone without understanding the nature of the project and what the objectives were (as well as their importance). Currently, significant progress of the project has been made "restoring degraded areas via agroforestry systems based on the promotion cocoa production". People began to see the economic potential of the REDD project, and now are starting to see financing arriving in order to conserve and recover areas that have been taken for granted, They have begun to see the value of conservation not only from an environmental point of view, but also and mainly from an economic standpoint.
- Mostly people residing in the buffer zone own their land. Agroforestry area restoration projects are looking for farmers who have the land in order, and who they own their land. No investments are made on non-owners. Likewise the project has expanded with other institution in order that the Government or GORE have the obligation to promote entitlement at the regional level, and even more so with the Management Committee whose priority are the farmers within the buffer zone.
- Deforestation has increased at the regional level but within the reserve and its buffer zone if it has been made to slow down a bit. The REDD project is capable of decreasing activity in the ANPs but not within the buffer zone.
- Up until last year the Government proposed that all the REDD projects implemented in different parts of the region had to align themselves with the national REDD strategy; that is to say that for the sale of carbon, the projects would no longer be able to sell their bonds to the market paying the highest price. This means that they can't search for buyers and also that the sale has to go through the national fund before reaching each project. This national strategy could compromise the profitability of REDD projects such as Tambopata's. In addition, in the case of ANPs, the state will not do annual monitoring, those coming from an external institution will not be paid and will be supervised, and those payments will actually come out of the sale of carbon bonds. So if these REDD projects located in ANPs submit to national guidelines, the

administration contracts that SERNAMP currently has with different NGOs such as AIDER shall cease to exist, because the money shall no longer be administered by AIDER but rather the Government.

- The project began in 2009, the field phase begins. Between 2010 and 2011 the certifications such as projects (VCS and CBB) are obtained, at this point implementation begins seeking a market. And in 2013 the first carbon sale was made, before that the REDD project was financed with financing.

**When did you start working with AIDER?**

The community has already been working with AIDER for many years. Currently they have a “carbon footprint” contract. They have an agroforestry project with ACCA which has benefited 17 members of the community.

**How many inhabitants are in the community? / Do you know about the REDD+ project? / What do you know about AIDER?**

The total number of inhabitants in CC Infierno is between 600 and 700 of whom 176 are active community members. ACCA's is a small project which can benefit only 17 community members.

The carbon footprint contract is with AIDER, yet they have not received anything from AIDER. They have previously had an agroforestry project (AIDER) with the entire community in which they provided with cacao saplings, tools and supplies, but there was no technical assistance nor was there any work coordination. Currently there are 8 farmers how are actually producing cacao. The entire community began working with the project, but due to the lack of technical assistance only 8 are producing. These 8 farmers members of the **Cooperative** with AIDER. The work involved in cacao production is a bit difficult, the pruning and other activities make it difficult to maintain production.

Every 2 years they change the **Board of Directors**. Last year there was a Board change. The 17 beneficiaries of the ACCA project attend community meetings organized by the Board of Directors.

**Have AIDER worked with you on the development of projects?**

AIDER provides the community with logistical assistance for activities in which a group of artisans travel to Lima to exhibit their handicrafts. AIDER helps them with the cost of travel and lodging.

The community has been working on various things with AIDER, for example they have been able to develop our **Life Plan**; AIDER has also consulted with them in order to establish the Community Title. Every 5 years the Life Plan is presented in which various aspects are addressed concerning the advancement of social issues, tourism, agriculture, etc.

Within the community they have a Board of Directors; there is also a **Control Committee** which is exclusively dedicated to tourism activities. Decisions are made by a **Communal Assembly**, within the community the main activity practiced is agriculture, and the second is tourism. Within the community there is a tourist circuit consisting of a culture center,

handicrafts, a fish farm, and a restaurant. Also, within the community there is a project known as Bawaaja Expeditions Ñape which is managed by the community, they also rely on the assistance of Rainforest Expeditions. There is also a concession dedicated to ecotourism which currently has problems over the last 12 years with invasions of illegal loggers.

#### **Which are the main economic activities within the community?**

We have been working with ecotourism for nearly 24 years. We are currently working with MINAM's **Forest Conservation Program** via which the community is becoming conscious of not damaging the forest. Payment received through the program is 10 Soles (on average approximately \$3.25) per hectare. The community receives 63,000 Soles (approximately \$20,500) per year from program.

The execution of different projects has allowed them to progress as a community, the support has been useful for the community; nevertheless as far as social matters are concerned, progress is hampered by the fact that they live near the city of Puerto Maldonado, which has brought social problems to the community's youth (vice, drugs, alcohol). Traditional customs are also being lost; they are even losing their own dialect. In general, the community has been experiencing substantial changes, some good, some bad. For example, on the negative side, the children are extremely vulnerable to social change, it is easy for them to go into the center of the city and adopt bad habits. On the positive side, the creation of projects, generation of jobs, and recognition of their handicrafts.

#### **Have mining activities affected the community?**

Ecotourism activities have allowed them to stay away from illegal mining. These activities make these aspects visible, creating a focus on tourism and at the same time benefitting the fight against illegal mining.

**When did you form the Agricultural Cooperative of Tambopata?**

On 10/19/2014 the Cooperative was formed under the charge of the REDD+ project and AIDER. Initially the area's farmers were called to a meeting, but when they began to realize that it was an investment project with money acquired through a loan, many of them withdrew. The project began with 21 farmers (out of a total of 60), all of whom are from the buffer zone.

When things got underway, and the Board of Directors was named, seeing as originally the people thought it would be a gift, and once they realized this wasn't the case, half of those interested withdrew and only 11 farmers remained.

AIDER consulted with formation of the Cooperative, ALTHELIA is the financier, but the image and those who truly helped were those from AIDER.

They began by creating a foundation of work with the farmers, which included an initial technical element. By 2017 we had already increased in number, and by 2018 there were 300 farmers, always with some resistance from the people to pay off the loan because they wanted it to be free.

**How many farmers are currently?**

Currently we are 339 farmers, 70% of whom understand that the project is well underway and has a future. The remaining 30% are not completely convinced and require more training.

**Have you received technical assistance by AIDER?**

At the general level, technical assistance has been provided by AIDER up to 2018. As of August, I decided to organize the training at the Committee level. I believe that indeed he has done a good job and that the farmers are committed to move the cacao agroforestry project forward.

**Do you think the cooperative is working well?**

I might be exaggerating but I believe we are the most organized cooperative of the department. We are the only cooperative within the buffer zone. We still are not solely dependent on cacao, since the project is very new, yet we can state that cacao could reach an annual economic percentage on the order of 30-40%.

**Which were the main economic activities before the agroforestry project?**

Prior to the agroforestry project and even now, the farmers dedicated themselves to other crops, even now these other crops mainly include: plantain, cassava, rice, corn; as well as livestock. Another part of the Committee's farmers take part in logging, nut harvesting, and to

a lesser degree, mining as well. But now I can say that cacao is attracting more interest than mining.

Cacao is being planted on completely deforested land which, furthermore, has been abandoned due to soil depletion. As I mentioned, many people like myself are dedicated to extensive farming. This is because the Government promotes this and I thought that farming was best, but we were mistaken. I now believe that farming is good, but we shouldn't be destroying virgin forest. So when I realized I couldn't even cook because I had no firewood, I began to reforest some areas even before the arrival of the agroforestry project.

### **Has this project stopped deforestation?**

This agroforestry project has detained a lot of deforestation. The thing is, everyone wants to first see how goes before getting involved in the activity. There has been a lot of criticism of the cacao project; there is always a lot of negativity. Yet, in spite of this, we continue. The project began to take off and now there are people you want to join the committee, but there are requirements which must be met in order to join.

### **What conditions have ALTHELIA and AIDER placed on you in order that may help you?**

At the **economic level**, the guarantee is the reserve area's carbon bonds. But within this we have the commitment to repay the amount invested in our farmland. This is the commitment we have with AIDER-ALTHELIA. At the **social level**, we have the commitment to not deforesting virgin forest. We have to stop right there, so there can no longer be the extensive raising of livestock. The training and the incorporation of cacao are improving agriculture.

### **As far as this social commitment, are there people who have failed to comply?**

This depends each person's conscience, there are always people how behave without considering the deforesting agreement. So we, as a Committee identify and speak to them in order that they comply. We also tell them about the importance of the buffer zone. We also have the hope of earning money through the sale of carbon credits by way of the reforesting of our farmlands, but we still don't know how to do this nor how to calculate carbon. But we are reforesting and taking care.

### **In order to create the Cooperative, AIDER worked on the training?**

Though AIDER, ALTHELIA contracted EcoTierra in order to orient us socially. They trained us on how to organize ourselves and form our Committee. Right now, we are doing our own training, we also have our own farmers who understand and share the knowledge.

For anyone who wants to belong to the Cooperative, registration is open, but they'll have to wait until there is further financing from either ALTHELIA or other organizations.

**When do you have to pay back the loan?**

The loan will be repaid to ALTHELIA but there is no deadline. For example, we have a policy to give back 1 sol per kilo of our product. The package given to us by ALTHELIA amounts to 4,860 soles per hectare; this is what we have to repay.

**Do you know how much the loan was?**

We don't exactly know how much the loan to begin the cacao project is. But they invested around 4,860 soles/hectare. They didn't give it to us as cash, but rather as saplings, tools, fertilizer and supplies. During these 4 years I have invested an approximate 16,000 soles/hectare.

They gave us an initial investment (4,860 soles/hectare) but we have paid the rest from our own pockets.

**Is cacao more profitable than the crops you are used to planting?**

We don't know yet because we have recently begun to harvest. One year from we will know what the economic income is. Meanwhile we continue to dedicate ourselves to our regular activities. Our goal also is to produce organic cacao. The deforestation has indeed stopped.

My idea is that cacao will become one of the pillars of our department's economic progress. I also have a chestnut concession which provides enough to live for 4 months, the rest of the year get by with my other activities. I have to find way to generate income. I spend more or less 60 soles a day on for day labor.

**How many tons per hectare do you think you will harvest?**

The project estimates a minimum of 300 kg/hectare, but this depends on the management of the farmland. At that amount the project will not be profitable. In order to be so, it will be necessary to produce at least 1,500 kg/hectare.

For the exportation of cacao, ALTHELIA has help us in contacting an Italian buyer. What I need to know is how much we are investing from harvest to export. As a committee we are selling directly.

**What is the cacao's price?**

Cacao is selling for as much as US\$2,713 per ton (including certification from FareTrade).



**Which were the main economic, environmental, and social complications during the implementation of this REDD project?**

- The implementation of the REDD Project began in 2010 and was approved in 2012. The design of the project began in 2009, during which the presentation of information, a calculation of carbon and an historical analysis of deforestation, projected until 2030, were performed.
- As a base of historical deforestation, information beginning in the 1990s was taken, and in 2012 the project was approved with VCS and CCB.
- The first carbon credit sale was carried out in accordance with the Ecosystem Services Law which was approved in June of 2014. Previous to this law very few were sold as there was neither any mechanism nor legal basis of support due to the fact that no legislation concerning this system existed. Since 2014 the largest percent of sales has been with ALTHELIA, indeed almost 75% of carbon credits have been committed to ALTHELIA.
- At the time the project was being designed the price at which carbon would be fixed was unknown. At any rate, the higher the sales the lower the price, and when fewer credits are sold the price rises.
- At that same period, around 2013 and 2014, the carbon credit price was between **US\$5 and \$7**. The current relative price, depending on demand, is **US\$2.50**.
- The project has been in operation for almost 9 years; however the total amount which it has raised is unknown. AIDER's contract with SERNANP, which includes the entire REDD strategy, has provided around **US\$1.5 million** per year, reaching an approximate total of **US\$15 million**, and has sustained the project since its inception.
- From 2010 to 2014, before the sale of carbon bonds, AIDER had managed donation projects employing various sources of finance, such as USAID, ICCA, Fondo de las Américas, GEPAN, PROFONAMPE, among others; all of which was immersed in the Tambopata ANP or within the buffer zone where the implementation and execution of these activities were permitted. There were practically 4 years during which the contract had been self-financed through donation projects.
- Have these projects reached a total of a million and a half dollars per year? We have had close to 10 projects concerning various issues, including that of governance. Nevertheless, the investment is aimed at implementing projects of this nature (not at the REDD project).
- When the administration contracts bid opened with SERNANP, the Government authorized a seed fund (the amount of which we are not sure), and with this fund AIDER

was able to initiate and implement the creation of its base line for the equipping for biological monitoring, as well as the REDD Project. At this time the installations were purchased with this Government fund, which was provided for 2008 and 2009 (for the design). There was also a technical team who helped devise these projects and perform diagnostics in order to determine the requirements and how they should be implemented. All of this identified any potential threats which might arise.

- The threats that were identified include: **i)** the approach to the area from Macuso to km 86, the existing threat was the mine, **ii)** from km 86 until Puerto Maldonado the threat was migratory agriculture and, **iii)** in areas approaching the Native Communities, the threat consisted of native populations migrating toward the city. As a result, alternatives had to be provided via communal rural eco-tourism within these communities plus the strengthening of the capacities of the community's directors. Furthermore, within the sector where migratory agriculture was present, production initiatives incentivizing the implementation of new marketable crops whereby the farmer no longer destroys the forest, thereby **i)** avoiding deforestation, **ii)** re-allying the farmers with conservation protecting the area, and **iii)** avoiding pressure being placed on ANP.
- These strategies are employed via the REDD strategy. Initially, from 2010 to 2014, the financing from donation funds employed to address these threats was limited. With the recent entrance of the Athelia Investment Fund (July 2014), after the enactment of the Ecosystem Services Law, these funds have been exclusively designated to all of the activities included within the REDD strategy (biological monitoring, research promotion, strengthening of control and surveillance). Control and surveillance are the Government's responsibility; AIDER only assists and strengthens the system logistically. The financial mechanism is comprised of the REDD Project and the production initiatives, the strengthening of control and surveillance through the construction, implementation and maintenance of new control posts, salaries for park rangers (currently 7), strengthening the Reserve's and National Park's Management Committees, one of the representatives of which is Mr. Victor Zambrano. We (AIDER) make monthly disbursements in order to keep the Reserve Committee operational. We provide same monthly support for the National Park Management Committee (Pres. Wilber Canahuire), SERNANP's environmental education program, communication costs, the recuperation of areas damaged as a result of agro-forest systems.... all of this is financed via the sale of carbon bonds. Prior to 2014 there were donation projects destined solely to assisting the CC Infierno with its REDD Project, strengthening the capacities in the handling of maps, positioning equipment, environmental education, and consulting on the proper exploitation of reduced-impact-produced wood products.

- How was AIDER's productivity in these areas? AIDER is an NGO, a non-profit, whose goal is that the farmers achieve an economic income wherein no deforestation is necessary and puts pressure on ANP. As concerns the communities, what interests us is that they work well within their residential areas, in such a manner as to produce a minimal environmental impact.
- Is it true that there has been no technical assistance in the management of cocoa production in the CC Infierno? The detail is that, as a native community, the farmers were initially invited. This native community is very particular since their lands are communal (and therefore belong to the community), and have been parceled out among themselves. Upon being invited into the agro-forest project, it was initially requested that they enter under the recommendation of the Community (which is the guarantee). In this way the invitation was offered to everyone, and only those who were interested have participated. There have been farmers to whom at one point everything was given and who didn't respond to any of the recommendations provided by the technical assistance. As a result, many community members have failed to respond. Furthermore, they have dedicated themselves to another activity (tourism). As a result, they have become accustomed to receiving everything as a donation. What AIDER has done as a project is to work with those who have demonstrated an interest and have made an effort.
- Those agriculturists who have dedicated themselves to this agro-forest project have formed their Cooperative, which consists of agriculturists, people from the CC Infierno, professionals who live in Puerto Maldonado and have farmland. It is required that they own titled property.
- What have been the main limitations during the project's implementation? As with the initiation of any project, there is always a level of uncertainty due to lack of understanding. Opposition on the part of GORE further complicated the project; not so much at the beginning, but rather from 2014 to 2018, during which time the mining authority was present and while they were in opposition with AIDER "AIDER takes all of the carbon credits made available" and those carbon credits are not AIDER's, they are the Peruvian Government's.
- The Peruvian Government approves the REDD project which has been already appropriately authorized. They approve the activities that are to be carried out with these funds. For each five year period, a plan detailing what is to be completed during each year of the next five is presented.
- From an economic viewpoint, surviving the REDD project was quite difficult. From the moment they won the bid for the contract in 2010, they had to self-finance the project in order to be able to comply with the activities detailed by the terms of the

administration contract. It was assumed that upon signing, the Ecosystems Systems Law would have been in place in 2010, rather than in 2014. So financing of the project had to rely on donation projects. The 2 large donation projects were from USAID, which permitted AIDER to develop its work.

- Has the project been successful from the environmental perspective? I believe so, due to the fact that without it, these alternatives would not have been available. At the very least, because of the installation of the Control Posts, over 5,000 hectares of deforestation occurring within the Tambopata ANP has been reported.
- There is in fact deforestation within the ANP, more or less on the order of 700 hectares. This deforestation was already happening by the time the project began operating. The main force driving this is mining (within the Pampa area).
- In Bahuaja Sonene Park there are no reports of significant deforestation, but there is some illegal logging within the park.
- Deforestation has also increased within the buffer zone, however according to the project's projections; the deforestation would have been greater if the project had not been in place. Estimates are that more or less some 4,000 hectares of deforestation was averted. Here the principle drivers are agricultural activities (papaya growers) which have arrived from other areas... there is no coca production to be found here.
- REDD's main challenges include: consolidating what it already has and what is beginning to function, culminating the installation of the 4,000 hectares, continuing the strengthening of the activities it has within the project's REDD strategy. Make a political decision supporting this **early initiative**, since currently a national vision of ecosystem services already exists. Initially, the pilot REDD projects were to be valid only until 2018, yet the deadline for MINAM's submission of a response is being extended for a couple more years in order to continue working, which provides AIDER a limited respite to continue as well.
- How many tons of carbon are validated per year? It depends, it varies between 160,000 to 320,000.