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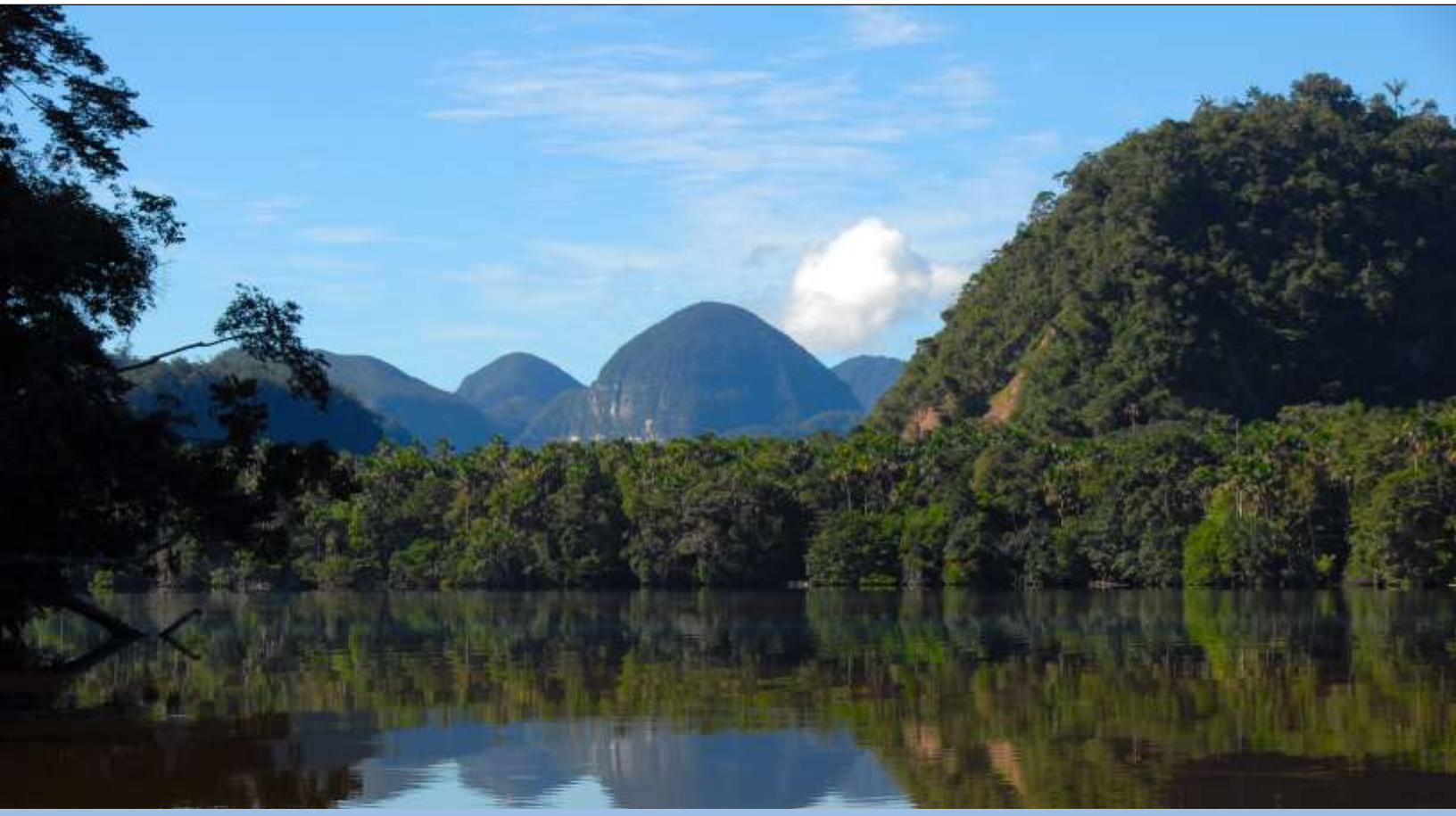

EVALUATION

Performance Evaluation of "Promoting Long-Term Sustainability of *Parque Nacional Cordillera Azul*" project – Award No. 527-A-00-08-00024

September, 2013

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PERFORMANCE EVALUATION: "PROMOTING LONG-TERM SUSTAINABILITY OF PARQUE NACIONAL CORDILLERA AZUL"

FINAL EVALUATION

September 30, 2013

527-A-00-08-00024-00

Contents

Acronyms

CCB	The Climate, Community and Biodiversity
CIMA	*Centro de Conservación, Investigación y Manejo de Áreas Naturales*
FMC	The Field Museum of Natural History, Chicago
GDA	Global Development Alliance
GOP	Government of Peru
ICC	Index of Conservation and Compatibility
MINAM	*Ministerio del Ambiente*
PDD	Project Design Document
PNCAZ	*Parque Nacional Cordillera Azul*
PROFONANPE	*Fondo de Promoción de las Aéreas Naturales Protegidas del Perú*
REDD	Reduce Emissions from Deforestation and Degradation
SCS	Scientific Certification System Global Services
SERNANP	*Servicio Nacional de Áreas Naturales Protegidas*
USAID	U.S. Agency for International Development
VCS	Verified Carbon Standard

EXECUTIVE SUMMARY

Evaluation Design

Evaluation Purpose and Evaluation Questions

The main purpose of this evaluation is to assess the results of the Promoting Long-Term Sustainability of *Parque Nacional Coordillera Azul* project. In addition, USAID/Peru is interested in learning from this experience, as some lessons may be useful to similar Parks or projects. Therefore, this performance evaluation will answer the following questions:

1. Was the *Parque Nacional Cordillera Azul* effectively protected?
2. Has the project contributed to the long-term sustainability of the Park and its management?
3. What are the key elements of this project that can be replicated in future initiatives to preserve biodiversity and avoid CO2 emissions?

Methodology

This evaluation uses the results of previous efforts to assess project results to conduct a desk review of the project's performance with regards to the evaluation questions. As a result, the evaluation relies on the logical framework from the project's Performance Monitoring Plan (PMP), which includes two main goals:

1. Protection of the 1.35 million hectares Park; and
2. Long-term sustainability for the Park and its management infrastructure

From the project monitoring system, two indicators served as principal results measures for the evaluation: the Index of Conservation Compatibility (ICC) and the sustainability benchmarks.

To complement the findings from secondary data sources, the researcher conducted semi-structured interviews. The main purpose of these interviews was to provide detail on information from the desk review and to inform the third evaluation question. These key informants were:

- Debra Moskovits, Chief of Party
- Maria Lourdes Bacigalupo, project Agreement Officer Representative
- Cinthia Mongylardi, CIMA's Program Director
- Frank Oyola, Park Chief – SERNANP

Limitations

This evaluation is based on the project monitoring system and is limited to the information provided by the project monitoring reports and the documentation supporting the PNCAZ REDD project.

Project Background

The Parque Nacional Cordillera Azul (PNCAZ) protects what is known as the tropical Andes –1.35 hectares of pristine, continuous mountain forest in Peru and home to an invaluable biodiversity. Located between the Huallaga and Ucayali rivers in the departments of Loreto, San Martin, Ucayali, and Huánuco, PNCAZ is Peru's third largest national park and is critical to the conservation of the tropical Andes.

Despite successful efforts, also under USAID support –to build protection infrastructure, train and implement patrols, remove illegal logging, and involve communities living in the buffer zone in Park-related activities– this remains a threatened region. People and their main activities are rapidly expanding in the buffer zone. In 2008, deforestation in the Huallaga valley was estimated at a 1-2% rate per year and was increasing in the Ucayali valley. Oil and mining concessions were (and still are) being planned in the Ucayali valley. Colonization, illegal logging, and poaching may result as a product of new roads in the area.

The project has been implemented through a partnership. With USAID funds, the Field Museum of Natural History (FMC) has partnered with the *Centro de Conservación, Investigación y Manejo de Áreas Naturales* (CIMA) –a local NGO that has worked on the Park's management since 2002 and has been granted a 20-year full management contract for the Park in August, 2008- in order to implement the activities planned in the project's Work Plan.

The original cooperative agreement was approved for three years: August 2008 – March 2011, for a total of $2,800,000. However, in January 2011, it was extended for two years with an additional budget of $2,017,491. Subsequently, a six month no-cost extension was approved.

Was the *Parque Nacional Cordillera Azul* Effectively Protected?

Yes. Despite minimal infractions reported inside the Park, the Park as a whole has been successfully protected from threats and drivers of deforestation. As reported by the ICC, during the execution of the project, the deforestation rate inside the Park has approached zero and the vast majority of the Park, more than 1.35 million hectares, is under active protection.

This conclusion is consistent with other assessments conducted by other institutions. During the validation and verification process to enter the REDD carbon market, Scientific Certification Systems –a company globally renowned in third-party environmental and sustainability certification– found that had the PNCAZ REDD project not been operating between August, 2008 and July, 2012, greenhouse gas emission reductions would be 2.1 million metric tons lower than what was estimated for that period of time. Similarly, SERNANP –the government of Peru organization responsible for overseeing the Park protection– estimates that the probability of finding an infraction only reaches 0.05% of the Park.

Has the Project Contributed to the Long-Term Sustainability of the Park and Its Management?

Yes. The project has made important contributions towards the Park's financial sustainability: the approval of the Park's Business Plan, the selection of the fiscal agency that will administer the endowment, the validation and verification of PNCAZ REDD project, and the offering of carbon credits

–over 5.7 million– on the REDD+ carbon market are noticeable accomplishments consistent with the expected results for the project. The project has helped put the Park in a position where it may be able to generate sufficient revenues to achieve financial sustainability.

What Are the Key Elements of This Project That Can Be Replicated in Future Initiatives to Preserve Biodiversity and Avoid Co2 Emissions?

- Protecting a park requires a comprehensive set of interventions that reach beyond the borders of the Park. A team of trained park guards and a system of patrols has to effectively detect and repel any illegal incursion into the Park, as well as mitigate the impact of such activities. Guard activities must be complemented by activities that address threats before they result in incursions to the Park. This means that working on the buffer zone is critical to the Park's protection.

- Ensuring that neighboring communities understand the benefits they obtain from the Park makes it is easier to involve neighboring communities in protecting the park. The approach used in PNCAZ aims at having communities care for the Park while cultivating a sense of ownership and an understanding that the Park is crucial to improving their quality of life.

- One way that CIMA has found to involve the neighboring communities is through progressive training in useful knowledge that targets residents of the buffer zone: the use of a compass and GPS devices, climate monitoring, data collection, etc. Through this training, neighboring communities learn to value the Park and its benefits while forming a favorable opinion about the work done in the Park.

- Involvement in the Park protection is also achieved via the system of communal park guards. If the neighboring communities are trained and work regularly in patrols, the force protecting the Park widens and spreads out through the buffer zone when they are off duty. A trained communal park guard may tend to adopt eco-friendlier habits and detect threats and report them to authorities when they are approaching the Park.

- To reach financial sustainability a project must diversify its fundraising approaches and avoid reliance on donations, especially in times of economic downturn. After internalizing that donor funding was not producing the needed results, the project had success pursuing other avenues. The recent sale of carbon credits by the Alto Mayo Forest shows that the REDD+ market may be a viable option to reach financial sustainability. Although it may be more limited in scope and funds, applying for grants has also been effective.

- Generating income from the park or natural resource's conservation can help reinforce incentives to preserve the park or natural resource. If stakeholders see that it is possible to obtain resources through protection of the Park, and that the resource level is directly correlated to the level of the Park's preservation, they may be more incentivized to support the park's preservation as a core source of income for their communities and themselves.

- Projects need to manage stakeholder expectations as they venture into new approaches, such as the REDD+ market, to raise funds. Local stakeholders have overestimated the benefits from the REDD+ market and expect results that cannot be achieved, whereas individuals sometimes even expect direct cash compensations. These unfounded expectations can seriously affect the Park managers' credibility, downplay the actual results of such initiatives and hurt the project results.

Recommendations

- CIMA should periodically update, every three years at most, the Park's map of risks and threats. This would help to refine the intervention and guide any geographical extension of the project. This should be done with the participation of neighboring communities. CIMA should consider dividing the Park into a number of sectors and holding workshops with the communities residing in each sector.

- CIMA and SERNANP should closely follow the legal proceedings against the Suarez brothers. Although the process may be very slow, it is important to set a precedent to this kind of infractions. Also, it is the only way to regain this land and achieve total forestation of the Park in the future.

- CIMA and SERNANP should closely follow the plans to build the *Ferrovía Interoceanica Peru-Brazil*, a railway and road that cut through the "neck" of the Park. After advocating for rerouting this project, the construction has been slowed down. However, it remains a permanent threat due to its categorization as a National Priority by law.

- CIMA should continue applying for grants, a source of funding that has proved to be more effective than searching for donors. This strategy can support the expansion of work in new areas and to support ongoing activities.

- The FMC, CIMA, and SERNANP should implement in full the communication strategy they designed to inform local stakeholders of the sale of credits in the REDD+ market and the distribution of this revenue. FMC and CIMA recognize the enormous importance of correcting existing and potential misunderstandings related to REDD+. This communication strategy will also reinforce the recognition that protecting the Park today will provide more revenues and quality-of-life benefits in the future, which could provide additional incentives to these stakeholders to commit to the Park's protection.

EVALUATION PURPOSE, EVALUATION QUESTIONS, METHODOLOGY AND LIMITATIONS

Evaluation Purpose

In August, 2013 the Promoting Long-Term Sustainability of *Parque Nacional Cordillera Azul* project finishes its operations after 5 years of implementation, including its original period and two extensions[1] under an award from the United States Agency for International Development (USAID.) In this period, the award adds up to almost $5 million in support to the project. USAID/Peru has commissioned this evaluation to assess the effectiveness of the *Parque Nacional Cordillera Azul* (PNCAZ) project in achieving its objectives over the last 5 years. USAID/Peru is also interested in learning from the process and identifying factors that may have contributed to the project's success or failure.

Thus, the evaluation responds to three main objectives: (1) to document the implementation process, (2) to learn to what extend the project's expected results have been achieved, and (3) to identify lessons learned from this experience that may be applicable to similar Parks or projects.

The USAID mission in Peru is the primary audience of this evaluation. Other important audiences are USAID headquarters, The Field Museum of Natural History (FMC,) and the *Centro de Conservación, Investigación y Manejo de Áreas Naturales* (CIMA.) Also, this report could be valuable to the Peruvian Ministry of the Environment (MINAM) and the *Servicio Nacional de Áreas Naturales Protegidas* (SERNANP.)

Evaluation Questions

As mentioned above, the main purpose of this performance evaluation is to assess the project's main results and learning from its implementation. Having these objectives in mind, the Statement of Work (SOW) established three evaluation questions that guide the analysis presented in this report:

1. Was the *Parque Nacional Cordillera Azul* effectively protected?
2. Has the project contributed to the long-term sustainability of the Park and its management?
3. What are the key elements of this project that can be replicated in future initiatives to preserve biodiversity and avoid CO2 emissions?

Also, USAID/Peru expects the report to address whether the project has contributed to the reduction of threats or drivers of deforestation in the Park. This assessment will be part of the analysis related to the evaluation question one.

[1] USAID provided a two-year extension beginning in January 2011 and approved a no-cost extension in 2013.

Methodology

The project had a comprehensive monitoring system and produced periodic reports summarizing monitoring data throughout its execution. Thanks to the efforts to enter the REDD+ carbon market, PNCAZ also undertook a scientifically rigorous validation and verification process, which included a substantial data collection effort supporting the estimation of future deforestation in the Park. Given its investment in these existing data sources, USAID/Peru determined that it was not cost-efficient to invest resources forming a team to collect new data. This evaluation was conducted by one person and relies primarily on the information found in program reports and monitoring systems as well as structured interviews with key informants.

Desk Review

The evaluation assesses project results mainly through a desk review of monitoring reports and project documents produced by the FMC, and PNCAZ's Project Description Design (PDD.) As a result, the evaluation relies on the logical framework from the project's Performance Monitoring Plan (PMP), which includes two main goals:

1. Protection of the 1.35 million hectares Park; and
2. Long-term sustainability for the Park and its management infrastructure

In order to monitor these goals, the PMP includes 6 outputs that it regularly assesses:

1. Number of jobs generated,
2. Number of benefiting families,
3. SERNANP score for PNCAZ management,
4. PNCAZ protection mechanisms,
5. Financial sustainability to secure long-term, efficient management of PNCAZ, and
6. The Index of Conservation Compatibility (ICC.)

Of these, the first three do not respond to the evaluation questions and are discarded.

The evaluation employs the information and results of indicator six, the ICC, to assess the level of protection of the Park. This index was designed in 2005, during the first USAID project in the Park and it responded to the need for a tool that would allow project managers to "*integrate across these disparate activities* [of protecting the wilderness and the quality of life of neighboring villages], *keep a sharp focus on the vision of intact wilderness with sustainable livelihoods, and guide our planning for maximum efficiency of limited efforts in a gigantic landscape*."[2] More detail about this index will be provided when assessing the Park's protection. However, instead of using the overall relative ICC, analysis uses a disaggregated report regarding the hectares at each Operational ICC level, as this is more sensitive to infractions inside the Park that do not affect its overall protection.

To complement ICC information, the evaluation considers information provided as support for the fourth indicator of the monitoring system: PNCAZ protection mechanisms. Although the indicator itself is not relevant, this report presents detailed information about infractions found inside the Park to describe the nature of the changes observed in the ICC.

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[2] The Field Museum of Natural History and CIMA, *Performance Monitoring Plan of Promoting Long-Term Sustainability of* Parque Nacional Cordillera Azul. P. 5.

The fifth indicator, which informs the second evaluation question regarding sustainability, is not a quantitative indicator. It establishes five milestones that the project was expected to achieve progressively as it became sustainable. These benchmarks are:

1. The Business Plan for PNCAZ is updated and formally presented to SERNANP
2. CIMA establishes the endowment
3. CIMA has seed funds pledged for establishing the endowment
4. The PNCAZ Business Plan is approved by SERNANP and enters implementation
5. The annual funds reach the level necessary to cover all management costs for PNCAZ

These benchmarks and a detailed description of the efforts made towards achieving them are used as sources of information to assess the Park's sustainability.

Interviews

Information gathered through semi-structured interviews complement the information obtained from project reports. These interviews focused mainly on the implementation process and the interviewees' perception regarding project results. The key informants are:

- Debra Moskovits, Chief of Party
- Maria Lourdes Bacigalupo, Project Agreement Officer Representative
- Cinthia Mongylardi, CIMA's Program Director
- Frank Oyola, SERNANP Park's Chief

Limitations

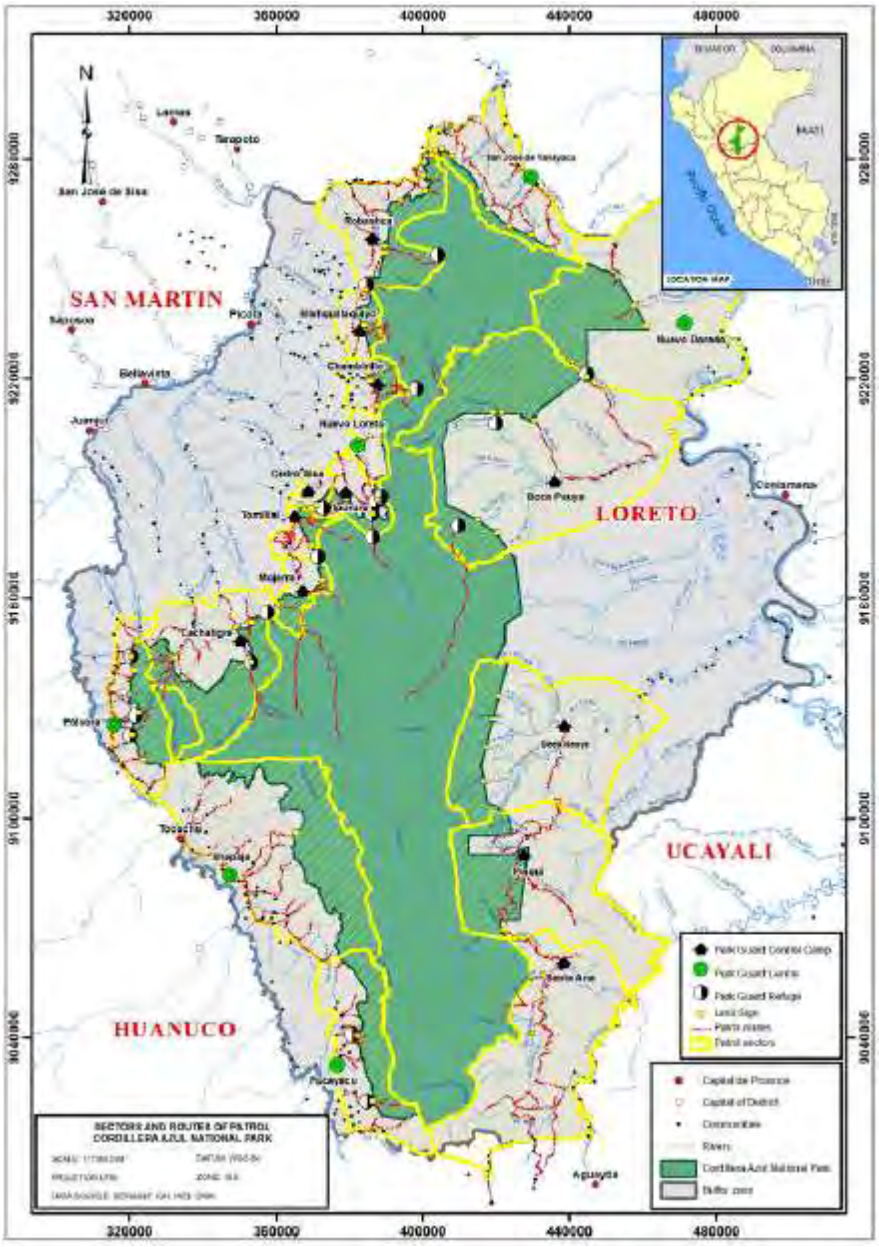
As explained above, this evaluation is limited to the information provided by the project monitoring reports and PNCAZ's PDD. Although the monitoring reports provide information very useful to assess the project results, it is still information from a monitoring system. As such, the monitoring reports do not provide information specifically collected to respond to the evaluation questions.

Following international protocols, the PDD provides scientifically sound, credible, and conservative information about PNCAZ deforestation rate, which is very useful to address the first evaluation question. However, the main purpose of the PDD is to estimate future deforestation in the Park and the quantification of Green House Gas (GHG) emission reductions and removals, as well as the environmental and community impact of the project. Thus, it informs this evaluation, but the purposes of the two reports differ in nature.

PROJECT BACKGROUND

PNCAZ protects what is known as the tropical Andes –1.35 million hectares of pristine, continuous mountain forest in Peru and home to an invaluable biodiversity: 6,000 species of plants, 800 of birds, 110 of fishes, 82 of amphibians and reptiles, and 71 of large mammals (as found in the Rapid Inventory of 2001.) PNCAZ is Peru's third largest national park and is critical to the conservation of these tropical Andes. As shown in Figure 1, the Park is located between the Huallaga and Ucayali rivers and comprises territories located in the departments of Loreto, San Martin, Ucayali, and Huánuco.

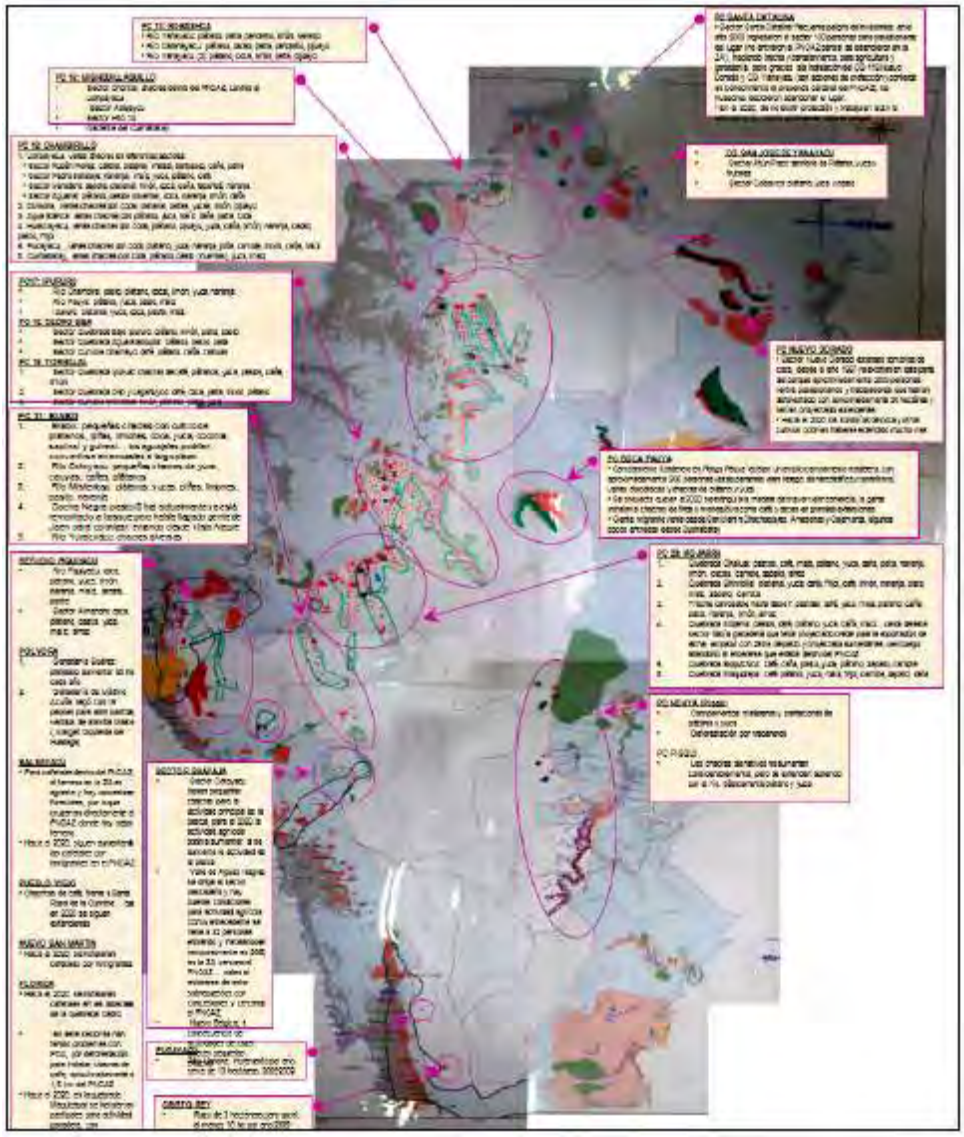
FIGURE 1:
PNCAZ map and its buffer zone. Location of patrol areas and park control posts



Source: PNCAZ PDD.

Despite previous efforts to support the Park's management, including USAID's first project in the Park, the region is under constant threat. In the first half of 2008, communities and their main activities were rapidly expanding in the buffer zone. Deforestation in the Huallaga valley was estimated at a 1-2% rate per year and was increasing in the Ucayali valley. Oil and mining concessions were being planned in the Ucayali valley. Colonization, illegal logging, and poaching were also expected as a product of new roads in the area. Figure 2 shows a map of the Park locating some of the risks that were identified in consultation with park guards in the northern part of PNCAZ.

FIGURE 2:
PNCAZ risk map*, 2009



Source: PNCAZ PDD

USAID support to this area began in 2003, when the FMC received an award to build infrastructure (guard posts, informative signs, etc.,) train and implement patrols, remove illegal logging, and involve

communities living in the buffer zone in the Park conservation area.[3] This first project showed promising results, as most of the infrastructure was built and the Park approached zero deforestation. But the Park faced new threats, e.g. new roads were being planned and agriculture in the buffer zone needed to be controlled.

It is in these conditions that the project began its operations in August, 2008. With USAID funds, The Field Museum of Natural History (FMC) partnered with the *Centro de Conservación, Investigación y Manejo de Áreas Naturales* (CIMA) –a local NGO that has worked with the Government of Peru (GOP) on the Park's management since 2002– in order to execute the project. One of the catalysts to the project was CIMA's 20-year full management contract for the Park, which was granted by the GOP in August, 2008. This contract recognizes the successful results achieved during the first USAID project in the Park. The GOP institution responsible for overseeing the Park's protection, the *Servicio Nacional de Áreas Naturales Protegidas* (SERNANP) is also a close partner. Although the GOP has delegated full management responsibilities to CIMA, it retains its non-transferrable responsibilities, principally law enforcement. In practice this means that CIMA is responsible for obtaining the funds required to cover operational costs, while the GOP, through SERNANP, designates a Park Chief and finances a small team of park guards.[4]

In 2008, USAID's initiated the project under evaluation with a 3-year cooperative agreement running from August 2008 – March 2011 with total estimated funding of $2,800,000. In January 2011 the project was extended for two more years with an additional budget of $2,017,491. In 2013, USAID approved a no-cost extension through August 2013.

The success of the previous agreement between USAID and the FMC (2003 – 2007) has attracted other funding to support the Park. This lead to the formation of a Global Development Alliance (GDA), engaged the Gordon and Betty Moore Foundation and the John D. and Catherine T. MacArthur Foundation with the initiative. In addition, other donors have come to support the Park and its efforts to achieve management sustainability during the execution of the project.

The project has two main goals: (1) protection of the Park, and (2) long-term sustainability for the Park and its management. The project's resource allocation is clearly delimited when it comes to protection of the Park, as USAID funding is being directed to conservation activities that take place in the Park, whereas other funding is being allocated to activities related to the buffer zone. However, the sustainability component receives support from all partners.

In order to achieve the first result the FMC and CIMA planned a set of activities focusing on: (1) border patrols, including set-up of the infrastructure for the Park, hiring and training park guards, and training volunteer guards; and (2) community strengthening activities, including building awareness of the Park and its importance to quality of life, building commitment from neighboring communities to protect the Park and modify their economic activities in ways that secure the Park's protection, generating an early warning system to eliminate illicit activities in the Park, strengthening CIMA, monitoring results, and securing financial strategies for long-term survival of the Park.

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[3] *Ibid*, P. 3.

[4] Approximately 10 official park guards of a total of 45. SERNANP has also covered some eventual equipment acquisitions.

The approach to park protection had already been defined during the first USAID project and has been reinforced during the project under evaluation. The park guards' force consists of 45 official park guards[5] and a system of communal guards. The project was responsible for hiring 36 of these official park guards, while SERNANP hired 9 of them. To complement this team of park guards, CIMA has established a pool of communal park guards of around 200 annually that are selected from neighboring communities. Between 20 and 30 of these 200 are incorporated into the guards force at one time. Their participation is based on a rotating system; someone who had been selected as a communal park guard would only join the guards for one month[6] and take a leave of at least three months before they can be reincorporated to the guards for an additional month, and the rotation cycle continues with another leave. These communal park guards also become a source of official guard candidates, as they have the knowledge of the territory and have been trained in the PNCAZ patrol system.

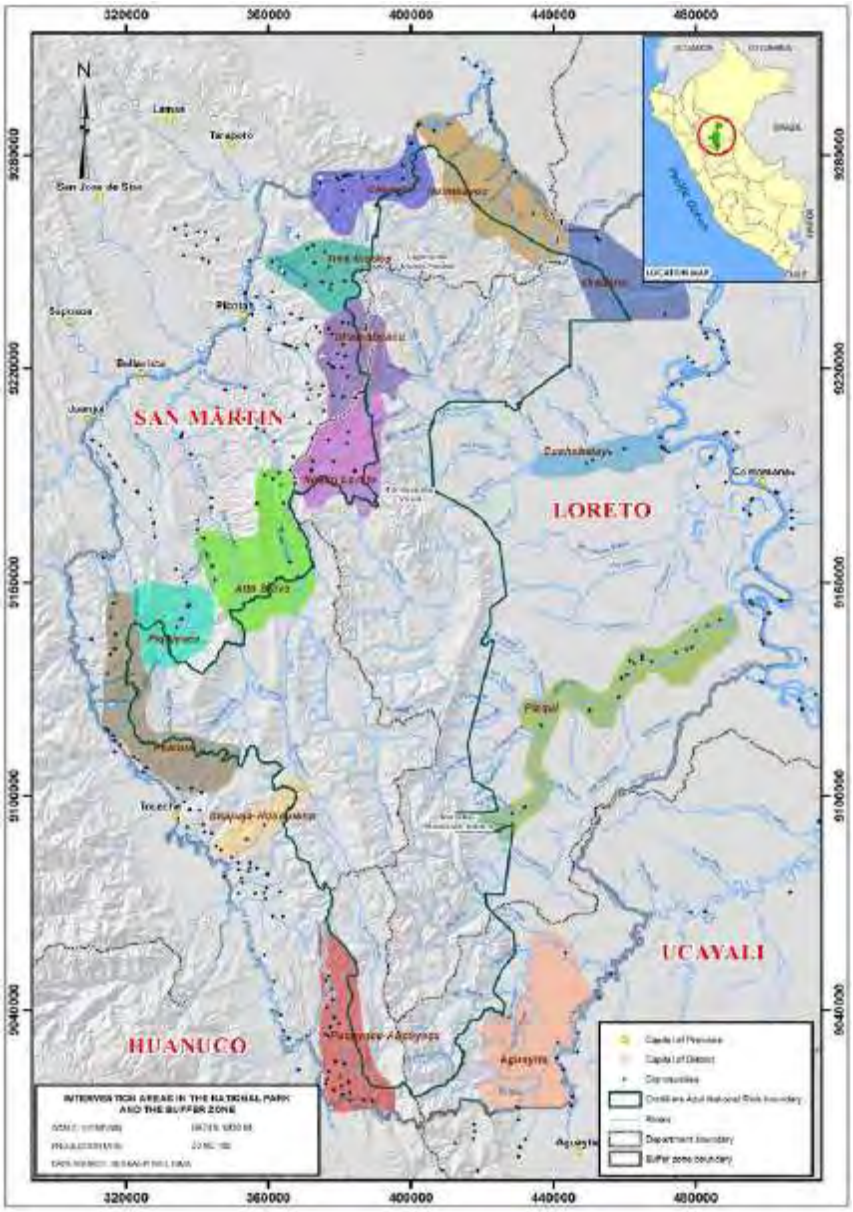
"*The system of park guard control posts and routes* [also] *remains the same and is being maintained. The park guards' routes are defined but special patrols are done periodically in response to potential threats being reported. Feedback from park guards and CIMA has been used to improve and streamline the reporting system.*"[7]

CIMA's intervention was designed to take place inside of the Park, i.e. patrols, and in critical areas of the buffer zone. Intervention areas (see Figure 3) were defined using the following criteria: proximity to the Park, ease of access into the Park, historic deforestation rates, evidence of previous narcoterrorism activities, and where the process had begun but not been completed during the first project.

As designed, long-term sustainability for the Park involved securing long-term financing, strengthening CIMA and GOP institutions responsible for the Park, and monitoring results, mainly the Index of Conservation Compatibility (ICC,) in order to adjust plans as needed in a rapidly changing environment. This report presents a detailed description of these activities and their result in the presentation of findings regarding the second evaluation question.

[5] Between August, 2008 and August, 2013, the project staff has averaged 44-45 official park guards, although there have been times when this number dropped by one to three.
[6] In practice, some communal park guards have been in the force for up to three continuous months, although most have only been active for one month at a time.
[7] CIMA (2012). Cordillera Azul *National Park REDD Project – 2012 Climate Monitoring Report*. P. 10

FIGURE 3:
Intervention areas in 2008



Source: PNCAZ PDD.

PROTECTION OF THE PARK (EVALUATION QUESTION 1)

Was the *Parque Nacional Cordillera Azul* effectively protected?

Main Threats

PNCAZ is a permanently threatened region. Economic activities are the main threats in the area: agriculture, roads construction, illegal logging, livestock raising, over-hunting, and over-fishing, among others.

An expanding agricultural frontier is the greatest driver of deforestation in the Park area.[8] There are two different farming styles present. On one hand, indigenous families use traditional agriculture techniques: slash-and-burn followed by the cultivation of diverse crops mainly for auto-consumption.[9] On the other hand, immigrants, who see agriculture as an economic endeavor, "*tend to clear an area and then farm until the land erodes or is unfertile. Once this happens, the family tends to move on to a new parcel of land and repeat the cycle*."[10] Many of these immigrants are attracted to the area by programs that promote large-scale agriculture of a single product, which often lead to severe land erosion and degradation.[11] Although this happens mainly in the buffer zone,[12] the lure of economic activity attracts new population to the proximity of the Park and increases the deforestation rate in the buffer zone.

Another important threat to the Park is the construction of new roads. Roads are critical to economic development, granting access to new markets for agricultural products and lowering the cost of economic activities. The most important threat of this nature is the *Ferrovía Interoceanica Peru-Brazil*, a railway and road running through Peru and Brazil to connect the Pacific and Atlantic Oceans. On November 10, 2010, backed by Congress, the President passed a law declaring the *Interoceanica* project a national priority. Because this project is designed to bisect the PNCAZ through its "neck", the most fragile area in the Park, it is a profound threat to the integrity of the Park. Local authorities of SERNANP, as well as CIMA, have advocated for a reconsideration of this project. There have been formal communications with the national authorities of SERNANP, members of Congress, and other authorities explaining the impact that such a project would have on the Park and requesting a rerouting of the road to circumvent the area. These efforts have successfully slowed implementation of the project, but it remains a threat that could be reactivated at any moment.

There are areas in the buffer zone where the GOP has assigned different kinds of natural resource concessions: forestry, petroleum lots, mining concessions and community lands[13] (see Figure 4.) These

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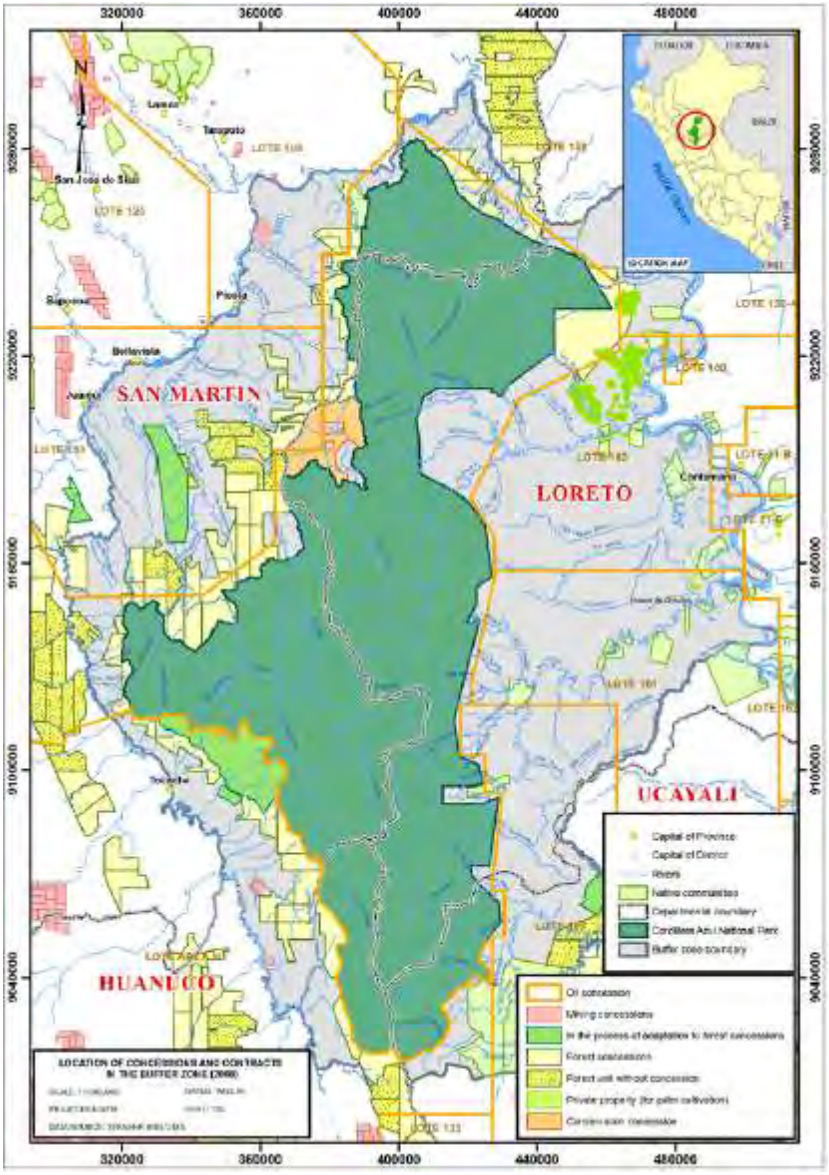
[8] All interviewees identify this threat as the greatest driver of deforestation.
[9] CIMA (2012). Cordillera Azul *National Park REDD Project*. P. 45.
[10] *Ibid*. Pp. 22.
[11] *Ibid*. Pp. 45.
[12] For example, the FY08 Q4 monitoring report accounts for 35 hectares inside the Park that were deforested for farming.. Other cases are presented in detail below, when supporting the changes in the ICC.
[13] *Ibid*. Pp. 42.

concessions present a challenge in that, despite being clearly delimited, the concessions often overlap, creating a conflict between the parties involved. Once the concession holders are embroiled in a dispute regarding a portion of the land they are allowed to use, they are likely to seek expansion to neighboring areas outside the original concession to compensate for land tied up in disputes. Considering the weak GOP presence in concession areas, limited law enforcement capacity leaves many of these violations unaddressed.[14]

FIGURE 4:
Location of concessions and contracts in surrounding the Park, 2008



Source: PNCAZ PDD

[14] Cinthia Mongylardi, CIMA's Program Director.

During the first USAID project in the Park, small-scale non-mechanized livestock raising became a popular economic activity adopted by almost every community in the area to some degree.[15] Cattle are the primary livestock, followed by sheep and pigs. The most threatening case is that of the Suarez brothers, cattle ranchers located inside the Park who were operating in the area when the Park was created. While they were unwilling to leave the Park, the ranchers agreed to halt expansion of the 220 hectares they already occupied and to consider relocating to areas in the buffer zone. Despite this agreement, the ranchers expanded their pasturelands in violation of the agreement. CIMA and SERNANP have made efforts to take the case to court, but legal complications and a bureaucracy in MINAM have slowed this process. Currently, the ranchers are working 250 hectares of pasture.[16]

As mentioned above, law enforcement against these threats is weak in the buffer zone. Even though park guards are viewed as authorities in the buffer zone,[17] park patrols can only detect and report infractions to the respective law enforcement institutions. However, inside the Park, park guards have the authority to repel invaders they discover.[18] This authority requires park guards to be prepared to detect threats early and take action to mitigate them before they become entrenched. This requires a comprehensive training program on issues such as legal issues and norms, surveillance and monitoring protocols, data collection, and conflict resolution, among others. CIMA is responsible for training all official park guards, who in turn train communal park guards that join the patrols. This training program has exceeded regional standards[19] and is key to the Park's successful protection[20].

A complementary approach involves working with the population in the buffer zone to prevent threats and mitigate the effects of violations. These activities are designed to slow, and eventually stop, the advancement of the agricultural frontier. "*Assisting communities in land-use zoning and development of sustainable agricultural practices allows families to use their land in ways that reduce erosion or depletion, permitting them to remain in the same location rather than move on and deforest additional lands every few years. Land tenure also helps stabilize land use: families with clear uncontested title to their land are much less likely to migrate or deplete their soils*."[21]

Despite the existence of these threats in the vicinity, they have not entered the Park, presumably due to the protection and patrol systems in the Park and the work done in the buffer zone. The main goal of the project was to maintain the level of protection in the Park, since it had approached zero deforestation before 2008, and not allow threats to enter the Park, including new roads or new oil exploration.[22] To accomplish this goal, the project had implemented "*a broad range of activities within the park and the surrounding buffer zone, including but not limited to the following categories of activity: demarcation of boundaries; installation of signs and guard stations; expanded guard programs; reporting and surveillance; legal enforcement; management planning; environmental education and community outreach in the buffer zone; social data collection and analysis; and development and support of relationships with government agencies*."[23]

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[15] *Ibid*. Pp. 45.
[16] Details of this case will be provided in the next section.
[17] Frank Oyola, Chief of PNCAZ – SERNANP.
[18] With the exception of the ranchers who were in the Park previously to its creation.
[19] Cinthia Mongylardi, CIMA's Program Director.
[20] Maria Lourdes Bacigalupo, Project AOR.
[21] *Ibid*. Pp. 22.
[22] Debra Moskovits, Project Chief of Party.
[23] SCS (2013). *Validation Report for the* Cordillera Azul *National Park REDD Project*. P. 12

The Index of Conservation Compatibility

The Index of Conservation Compatibility (ICC) is a "*results framework and evaluation scheme*"[24] that measures the level of conservation in each hectare of the Park. This index was created during the first Park protection project (2003 – 2007). It is a ladder of milestones with "*six levels, each denoting an incremental state of conservation success and providing a recipe for reaching the next level.*"[25] Given that this planning and monitoring tool has each hectare as a unit of measure, it provides the conservation/management status of each hectare inside and outside (buffer zone) the Park. Also, as these milestones are set for different levels of organization: institutional and operational, it allows for the disaggregation of these two levels. For the purpose of assessing the Park's protection, the data presented in this subsection refers only to the operational ICC inside the Park.[26]

TABLE 1:
Operational ICC definitions by level

LEVEL	ICC	QUALIFIER	INDICATOR
1	Altered areas inside the park identified	Areas denuded, overused, or otherwise threatened by humans (logging, cattle, farming, over-hunting and fishing) are georeferenced	Updateable map delineating human-altered sites and zones of high threat (critical areas)
2	Corrective action taken to allow natural recovery and restoration of fauna and flora	Mitigation of threats outside and inside the park allow areas in the park to restore naturally (given the enormous size of the park and the integrity of its natural communities and ecological processes)	Specific threats removed
3	Area under active protection	Because the park is so large and intact, management can be restricted to correcting misuse, preventing illegal entry, and ensuring that the park is a benefit to neighbors.	Trained, equipped, and empowered personnel are enforcing regulations
4	Benefits to local communities realized and, as a result, park protection is widely implemented	Neighbors recognize the benefits that come from the park via income opportunities (employment, ecotourism) and environmental goods and services (water, game)	Local residents value the park as a neighbor
5	Stakeholders engaged in sustaining the park at all levels – local, regional, national, and international	People willing to finance and lobby to keep the park protected in perpetuity; neighbors willing to forgo immediate economic gains and making choices that protect the park	Established endowment and support groups address the basic needs of the park

Source: Performance Monitoring Plan

In terms of the Park's protection inside its boundaries, the operational ICC defines 5 levels. Table 1

[24] CIMA (2012). *Cordillera Azul National Park REDD Project*. Pp. 68.
[25] *Ibid*.
[26] In terms of management, the Institutional ICC, all hectares in the Park have reached a level 4. The 20-year full-management agreement that CIMA has over the Park grants all its hectares this assessment. If financial sustainability that allows funding of all activities planned in the Park is reached, the whole Park would be assessed at an Institutional ICC level 5.

presents the definition of each of these levels.

Note that level 0 corresponds to the identification of a Biodiversity Reserve as a well the defined opportunity for conservation action, criteria that the PNCAZ meets. Using geo-referenced information gathered in the field and satellite images, each hectare inside the Park has been identified and classified, which qualifies all 1.35 million hectares as meeting at least the criteria of level 1. Level 2 is reached if a hectare had previously been used for any economic activity and is now in recovery, i.e. the specific threat has been removed. After a period of active recovery and/or protection, and without any new or recurring incursion, a hectare can be classified as a level 3. Level 4 implies that there is some level of protection afforded by neighboring communities, i.e. if conservation-compatible practices are being replicated and institutionalized by neighboring communities. In practice, PNCAZ is too young to achieve this level of institutionalization in neighboring communities, which means that no hectare in the Park could be classified at an Operational ICC level 4 or 5, since each level requires the previous level is achieved.

Table 2 presents a comparison of the Operational ICC at the beginning and end of the project (see Annex II for a detailed, quarter-by-quarter description of these changes.)

TABLE 2:
Comparison of the Operational ICC levels, 2008 - 2013

YEAR	2008	2013	Change
QUARTER	4	1	
ICC3: Area under active protection	1,352,936	1,352,756	-180*
ICC2: Corrective action taken to allow natural recovery and restoration of fauna and flora	35	185	150
ICC1: Altered areas inside the park identified	220	250	30
TOTAL	**1,353,191**	**1,353,191**	**0**

* Given the overestimation of hectares in 2008, the actual change in ICC3 is -85 ha and in ICC is 50 ha.
Measured in hectares
Sources: Quarterly Monitoring Reports, FY08Q4 - FY13Q1.

Several infractions were found over the course of the project. The main and persistent infraction is the presence of the ranchers that began with 220 hectares as pasture at the beginning of the project (Operational ICC level 1.) As previously mentioned, the Suarez brothers were using the 220 hectares as pasture for their cattle when the Park was created. They did not agree to leave the Park and could not be removed. Instead, they agreed to avoid expansion of their pasture hectares and consider relocating to areas in the buffer zone.[27]

[27] The Field Museum of Natural History (2008). Performance Monitoring Report, FY 2008 Q4.

In 2008, prior to the beginning of the project, four (4) hectares of crops were detected inside the Park. Also, 31 hectares of coffee plantations and pasture were previously detected. Given that these farmers were relocated and these crops destroyed, the threat affecting these 35 hectares is considered removed (Operational ICC level 2.) [28] Therefore, at the beginning of the project, 1,352,936 hectares faced no threats and were under active protection (Operational ICC level 3.)

In the third quarter of FY 2009, one (1) hectare was detected with coca crops in one of the critical areas: *La Polvora* (adding to the Operational ICC level 1 and subtracting from the Operational ICC level 3.) There were no detailed reports about the actions taken in this hectare. [29]

In the last quarter of FY 2009, park guards detected the loss of 81 hectares (adding to the Operational ICC level 1 and subtracting from the Operational ICC level 3.) [30] 12 of these hectares correspond to an expansion of the Suarez brothers pasture. Having violated their agreement not to expand the territory they occupy, SERNANP tried to give them an "eviction notice," but attempts were futile since their legal address did not exist. SERNANP then decided to initiate legal proceedings against the Suarez, but the process had to be authorized by MINAM. The other 69 hectares were crops located in the region of *La Bola – Polvora*. Trespassers were removed and crops uprooted, but the community reaction was negative and violent, which led to stop the intervention. Patrols were suspended and park guards retrieved from the area. In the second quarter of 2010 and after selecting a special team with experienced guards in this type of conflict, a special patrol went back to the conflict zone and removed all of the illegal crops.[31]

A reclassification of the hectares classified as Operational ICC level 1 was made in the last quarter of 2010. [32] Of the 35 hectares felled prior to the beginning of the project (and classified as Operational ICC level 1,) 15.5 hectares were found with secondary growth reverting to forest, and were therefore credited to Operational ICC level 3, while the other 19.5 hectares were pasture and take more time to recover, and were therefore credited to the Operational ICC level 2. Also, the 69 hectares that were found with crops in the region of *La Bola* were already recovering, further adding to the Operational ICC level 2.

In the second quarter of the fiscal year 2011, park guards, with support from the National Police, removed invaders in the region Nuevo Loreto who had felled 1.5 hectares and had bananas, coffee, and other corps (adding to the Operational ICC level 2 and subtracting from the Operational ICC level 3.) [33]

Approaching the end of the project, in the second quarter of 2012, seven (7) hectares were found deforested in *La Polvora* (adding to the Operational ICC level 1 and subtracting from the Operational ICC level 3.)[34] Only three (3) of these hectares had coffee plantations and were cleared during the intervention. Also in the same quarter, satellite images allowed some corrections to the ICC classification.[35] It was found that the Suarez brothers' previous expansion was underestimated by 10

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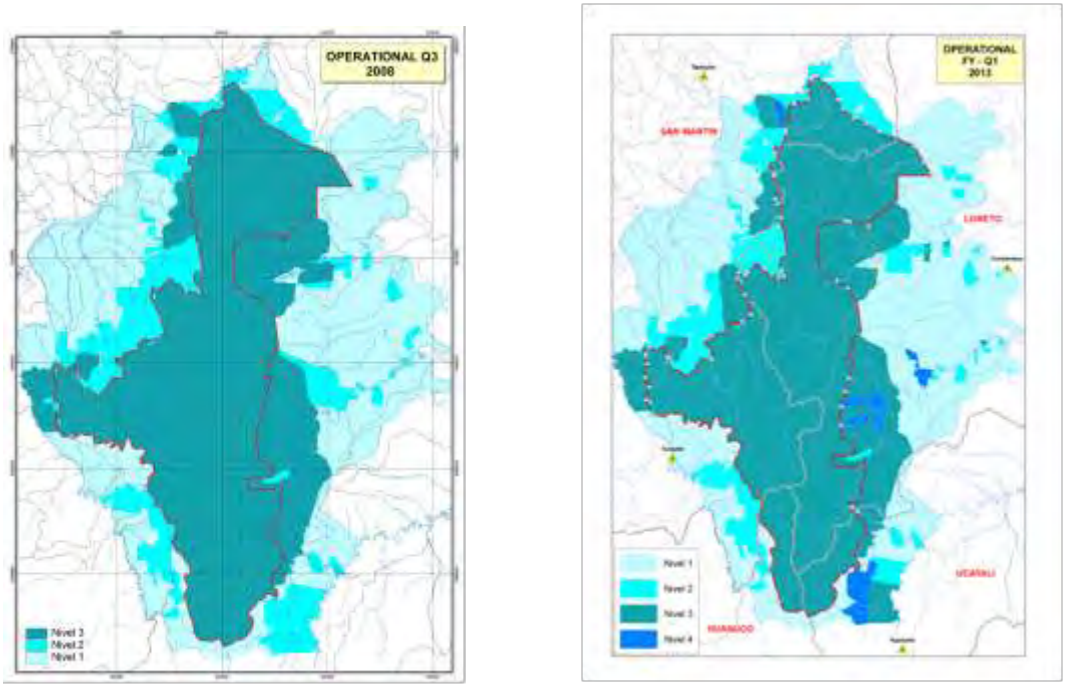
[28] *Ibid.*
[29] The Field Museum of Natural History (2009). Performance Monitoring Report, FY 2009 Q3.
[30] The Field Museum of Natural History (2009). Performance Monitoring Report, FY 2010 Q1.
[31] The Field Museum of Natural History (2010). Performance Monitoring Report, FY 2010 Q2.
[32] The Field Museum of Natural History (2010). Performance Monitoring Report, FY 2010 Q4.
[33] The Field Museum of Natural History (2011). Performance Monitoring Report, FY 2011 Q2.
[34] The Field Museum of Natural History (2012). Performance Monitoring Report, FY 2012 Q2.
[35] *Ibid.*

hectares (adding to the Operational ICC level 1 subtracting from the Operational ICC level 3,) which means that Suarez pasture area approached 250 hectares. Park guards had not registered this expansion because satellite images were required to provide precise measures of the gradual expansion. These images also revealed a significant number of hectares that had previously been deforested. [36] Park guards verified that 95 hectares of previously deforested hectares were already reverting to forest, these were added to the Operational ICC level 2 and subtracted from the Operational ICC level 3.

FIGURE 5
Comparison of the operational ICC, FY08 Q4 and FY13 Q1



Source: Performance Monitoring Report FY08 Q4 and FY13 Q1.

No further deforestation or recoveries were reported during the period of execution of the project. Project monitoring reports reveal that the Park lost 180 hectares at the Operational ICC level 3, although 95 hectares were likely deforested before 2003 but remained undetected until 2012. Given this imprecision in the baseline, the actual loss of hectares under active protection approaches 85, of which 55 hectares were classified as recovering (Operational ICC level 2) at the end of the project. Figure 5 presents a graphical comparison of each hectare's change in ICC status over the course of the project.

Finally, in a recent assessment of the conservation level in all protected areas in the country conducted by SERNANP, it was found that 99.95% of the PNCAZ was optimally preserved.[37] Had the Suarez brothers been already removed from the Park, PNCAZ would have reached 100% under SERNANP's standards. This resulted in PNCAZ being ranked as the second best preserved protected area in the country, which is indicative of the project's success in helping the park meet national standards.

[36] These hectares were probably in recovery since 2003, but were undetected due to gaps in satellite images or low resolution in the area.
[37] Frank Oyola, Chief of PNCAZ – SERNANP.

Estimation of Green House Gas Emission Reductions and Removals

The Park's protection is a means to preserving the biodiversity found in the Park, which includes the conservation of the forest. Protecting this vast forest is a way to compensate for carbon emissions due to economic activities in other areas of the world; tropical forests absorb carbon dioxide and emit oxygen. Thus, one way to assess the Park's protection success is through the measurement of emissions reductions achieved by the Park.

During the design of the PNCAZ REDD Project, the net emission reductions were calculated for the period 2009 – 2018 (see Table 3.) The report estimates that between 2009 and 2012 an annual average of 916,856 metric tons of Green House Gas (GHG) would be reduced or removed from the atmosphere had the project not been implemented. GHG emission reductions rise to almost 3 million metric tons being reduced or removed by the end of the REDD project: 2018.

TABLE 3:
Ex-ante Estimates of Net Emission Reductions from the PNCAZ REDD Project, 2009 – 2018

YEARS*	Estimated baseline emissions or removals	Estimated project emisions or removals	Estimated leakage emissions	Deductions for AFOLU pooled buffer account	Estimated net GHG emission reductions or removals
2009	1,834,510	183,451	488,456	165,106	997,497
2010	1,960,581	196,058	522,024	176,452	1,066,047
2011	1,337,026	133,703	355,996	120,332	726,995
2012	1,612,694	161,269	429,396	145,143	876,887
2013	2,040,030	204,003	543,178	183,603	1,109,247
2014	2,709,645	270,965	721,469	243,868	1,473,343
2015	3,396,760	339,676	904,420	305,708	1,846,955
2016	4,075,363	407,536	1,085,105	366,783	2,215,939
2017	4,642,225	464,222	1236038.4	417,800	2,524,164
2018	5,362,137	536,214	1,427,721	482,592	2,915,610
TOTAL	**28,970,972**	**2,897,097**	**7,713,804**	**2,607,387**	**15,752,683**

* A specific year refers to the period between August 8th of the previous year and August 7th of that year. For example, 2009 goes from August 8th, 2008 (the start date of the project) to August 7th, 2009.
An annual risk buffer of 10% was considered in these estimations
Unit of measure: tCO2e
Source: Validation Report for the PNCAZ REDD Project.

These estimates were recently validated by Scientific Certification System (SCS)[38], a globally recognized certifier and auditor selected by the Verified Carbon Standard (VCS) to conduct the validation and

[38] SCS, recently renamed as SCS Global Services, describes itself as a company "*providing global leadership in third-party environmental and sustainability certification, auditing, testing, and standards development for nearly 30 years*" (www.scsglobalservices.com/about-scs)

verification of the PNCAZ REDD Project. SCS followed VCS protocols and methodology to certify PNCAZ as a REDD project. They also validated the Park under the CCB protocols, although due to lack of funding the project could not be validated under the CCB protocols.

During the PNCAZ REDD project design, CIMA found that "*emissions from deforestation in the leakage belt were less than the projected emissions from deforestation in the leakage belt* [due to the project], *and thus no leakage from activity shifting within the leakage belt is accounted*."[39] And since "*leakage outside of the leakage belt has not occurred*,"[40] during the 2009-2012 period, CIMA determined that, due to the work done in the buffer zone, the project had generated no leakage. This is an important finding, since the SCS study projected that emissions in the leakage belt would have increased in the absence of project activities. This suggests that the project contributed preventing the increase of emissions in this area.

Based on these validated estimates, SCS found that the PNCAZ REDD Project conformed to "*the verification criteria without qualification or limitation*"[41] and that the PNCAZ REDD Project Design Description (PDD) presents an accurate description of the project implementation.

Furthermore, after sequestering some emission reductions for the buffer pool, they verified that the ex-post net GHG emission reductions increased to an annual average of 1,443,018 metric tons of GHG emissions reductions, which implies a gain of 526,161 metric tons. This means that the project has reduced the deforestation in the Park as compared with the SCS study projections, which in turn led to a 57% increase in net emission reductions of the ex-ante estimates. If the SCS projections are accurate, then the total gain from 2009 – 2012 is 2.1 million metric tons, a clear indication that the project had a positive outcome from August 2008 – August 2012.[42] In total, the Park accumulated just over 5.7 million verified carbon credits to sell in the REDD+ carbon market.

TABLE 4:
Verified GHG Emission Reductions from the PNCAZ REDD Project, 2009 – 2012

YEARS*	Baseline emissions	Project emissions	Leakeage	Buffer pool contribution	Net GHG emission reductions or removals
2009	1,834,510	82,850	0	175,166	1,576,494
2010	1,960,581	82,850	0	187,773	1,689,958
2011	1,337,026	82,850	0	125,418	1,128,758
2012	1,612,694	82,850	0	152,984	1,376,860
TOTAL	**6,744,812**	**331,400**	**0**	**641,341**	**5,772,071**

* A specific year refers to the period between August 8th of the previous year and August 7th of that year. For example, 2009 goes from August 8th, 2008 (the start date of the project) to August 7th, 2009. Unit of measure: tCO2e. Source: Verification Report for the PNCAZ REDD Project.

[39] CIMA (2012). Cordillera Azul *National Park REDD Project – 2012 Climate Monitoring Report*. P. 60.
[40] *Ibid*.
[41] SCS (2013). *Verification Report for the* Cordillera Azul *National Park REDD Project*. P. 13.
[42] This estimation excludes the last year of the project, 2013, because the field work was conducted in November, 2012.

LONG-TERM SUSTAINABILITY FOR THE PARK AND ITS MANAGEMENT INFRASTRUCTURE (EVALUATION QUESTION 2)

Has the project contributed to the long-term sustainability of the Park and its management?

Park Costs

In 2011, before the Park entered the REDD carbon market, annual management costs were estimated around $1.7 million:[43]

- $663 thousand were allocated to park protection, i.e. guards salaries, patrols, guard posts, and training.
- Land use, communications, quality of life, and extension activities in the buffer zone required approximately $612 thousand.
- Management costs, such as data collection and analysis, program development, coordination, and monitoring, were roughly $204 thousand.
- Administrative costs, i.e. government relations, fundraising efforts, and finance and office administration were about $221 thousand.

Once the Park enters the REDD carbon market and is able to sell carbon credits, plans include expansion of land use and other activities to a larger number of communities in the buffer zone. This will increase total operational costs to $2.1 million. This is the nominal amount the Park is expected to raise every year.

Project Strategies to Achieve Financial Sustainability

As described before, the project considered two main strategies to achieve financial sustainability. The first was to establish an endowment that could receive funds flowing towards the Park management. This was not uncommon during the 90's, but the trend changed in the new millennium.

The project made efforts to secure funding from donors. One donor, the Global Conservation Fund[44], pledged endowment funds of approximately $3 million. However, the Fund required a one-to-one match for the endowment from another donor. Since the project could not find another donor in a timely fashion, it began negotiating with the Global Conservation Fund to count costs toward programs as match. During these negotiations, the global economy fell into a recession and the pledged donation was withdrawn.

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[43] CIMA, *Cordillera Azul National Park REDD Project*, pp. 79.

[44] The Global Conservation Fund has been created under a grant from the Moore Foundation to finance the creation, expansion and long-term management of priority areas for conservation. (conservation.org/gcf)

Understanding that donor funding trends was changing, the project considered other strategies to complement funding. In 2008, the looming possibility of a mandatory cap-and-trade system made the carbon credits market a promising alternative. Entering these international markets required carrying out rigorous validation and verification processes to estimate the project's net emission reductions and removals, which are the basis for defining the carbon credits that the project would be allowed to market.

At the time the project was designed, the existing REDD market was still developing methodologies to calculate scientifically sound, credible, and conservative estimates of future deforestation. These were introduced or updated as the project was elaborating its Project Design Document (PDD,) the document required to initiate the Park's entrance to the REDD carbon market. The PNCAZ REDD project[45] anticipated entrance to this market by 2011, however methodological challenges and many roadblocks encountered during the process significantly delayed the PDD completion.

These methodological updates and changes in standards, validation and verification were the main source of delay in completing the PDD and preparing for the verification and sale of carbon credits. Noting that these were challenges faced by many REDD projects, the FMC took the initiative to bring together project-developers, methodology-developers, auditors (validators and verifiers), and the programs setting the standards, protocols, and methodologies: VCS and CCB, to review the process together. A series of meetings in Washington D.C. helped these stakeholders resolve many of these roadblocks. This initiative led to the development, validation and verification of many projects, including the PNCAZ REDD project. PNCAZ now has a little over 5.7 million tons of carbon credits ready to sell in the REDD+ market.

The Benchmarks

In order to monitor the progress related to the Park's financial sustainability, USAID/Peru decided to establish five milestones that the project was expected to reach as it progressed towards financial sustainability. These benchmarks are:

1. The Business Plan for PNCAZ is updated and formally presented to SERNANP[46]
2. The endowment is established by CIMA
3. Seed funds are pledged for establishing the endowment
4. The PNCAZ Business Plan is approved by SERNANP and enters implementation
5. The annual funds reach the level necessary to cover all management costs for PNCAZ

The challenging donor environment brought on by the financial crisis of 2008-9 provoked the project to diverge from the original plan on which these benchmarks were developed. The following paragraphs describe how the revised approach relates to the unchanged benchmarks for financial and management sustainability.

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[45] The PNCAZ REDD project includes the project under evaluation, but does not limit to it. This REDD project is CIMA's project over all the Park area and its buffer zone (which the project under evaluation does not include.)
[46] SERNANP is the National Agency responsible to oversee and manage protected areas. It establishes the technical and administrative guidelines for conservation of protected areas and preserves the biodiversity in these areas. In the PNCAZ, SERNANP oversees the execution of the management agreement and collaborates with CIMA on the Park's management.

Benchmark 1: The Business Plan for PNCAZ Is Updated and Formally Presented to SERNANP

Longstanding intentions on behalf of CIMA and the FMC to update the Business Plan were boosted with the pledge of donor funds conditioned on the completion of the Business Plan. In the first quarter of 2009 CIMA presented a draft of the Business Plan to SERNANP.[47]

Later in the third quarter of 2009, with funds from the Initiative for Conservation in the Andean Amazon project[48], CIMA hired experts from The Nature Conservancy[49] to start working on parts of the plan, including: developing different scenarios for management according to funding availability, analyzing options for diversifying fund sources (including corporations and other cooperative funds,) and focusing on steps required to implement the plan.[50] The consultants presented a complete plan and a 5-year implementation schedule to CIMA in the last quarter of 2010.

This benchmark was reached with the presentation of the 5-year Business Plan to SERNANP in the last quarter of 2011.[51] Despite actively looking for potential donors to pledge funds for 3 years with no real success[52], the plan includes this and other funding options.

Benchmark 2: The Endowment Is Established by CIMA

Starting in the third quarter of 2009, CIMA requested proposals from institutions with the potential to manage the endowment.[53] While CIMA explored a number of alternatives over time, it became increasingly apparent that the *Fondo de Promoción de las Aéreas Naturales Protegidas del Peru* (PROFONANPE)[54] was the best alternative.[55]

During the third quarter of 2012, CIMA narrowed down the potential fiscal agents of the endowments to only two institutions: PROFONANPE and FONDAM.[56] Finally, in the first quarter of 2013, PROFONANPE was selected as the agency to administer funds generated from the REDD+ market only, although the scope of this agreement between CIMA and PROFONANPE could be extended to include the administration of funds from other sources.

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[47] The Field Museum of Natural History (2008). Performance Monitoring Report, FY 2009 Q1.
[48] Funded by USAID, the ICAA project had as its main goals strengthening capacities and commitment to conservation, and the sustainable use of biodiversity and ecosystem services in the Amazon biome of Bolivia, Colombia, Ecuador and Peru.
[49] The Nature Conservancy a conservation organization working around the world (35 countries and the 50 United States) to protect ecologically important lands and waters for nature and people. (nature.org)
[50] The Field Museum of Natural History (2009). Performance Monitoring Report, FY 2009 Q3.
[51] The Field Museum of Natural History (2011). Performance Monitoring Report, FY 2011 Q4.
[52] As detailed in benchmark 3, the funds originally pledged by the Global Conservation Fund were reneged.
[53] *Ibid.*
[54] PROFONANPE is a trust fund that was created almost 20 years ago. It is recognized as one of the most important financial institution working on biodiversity conservation in Peru.
[55] The Field Museum of Natural History (2011). Performance Monitoring Report, FY 2011 Q2.
[56] The Field Museum of Natural History (2012). Performance Monitoring Report, FY 2012 Q3.

However, due to a lack of resources for this activity, the endowment has not yet been formally established.[57] Once revenue inflows begin, part of the funds will go to building an endowment for PNCAZ, as stated in the "revenue distribution" table in the REDD Project Documentation.

Benchmark 3: CIMA Has Seed Funds Pledged for Establishing the Endowment

Despite substantial effort to find donors, the Park received no significant donations.

The primary source of funding for the Park should be the Government of Peru (GOP.) However, as noted by SCS, "this alternative was not plausible because the Peruvian government does not have adequate funds to manage and protect the park."[58]

At the beginning of the project, the Global Conservation Fund pledged $3 million, but had a number of requirements. The most important was a one-to-one match for endowment from another donor. The donation made by the Global Conservation Fund was expected to work as seed funds that would attract other donors,[59] but despite efforts, none were found.

Cinthia Mondylardi, CIMA's Program Director, identifies one obstacle in international donors' understanding of protected areas. She mentions that international donors find it hard to understand that a "protected area", such as PNCAZ, requires funding, since they assume that by virtue of its "protected" status under the respective government, it must receive public funding.

Beginning to view endowment fund-raising as futile, the FMC negotiated with the Global Conservation Fund to count costs spent on programs as matching funds. In the meantime, the global economy fell into the 2008-9 crisis and the donor pool evaporated. At the end of 2010, the Global Conservation Fund withdrew its funding pledge.[60]

In the second quarter of 2011, the FMC targeted REDD credits as the main source of funding for PNCAZ management.[61]

To date, and despite the FMC and CIMA's efforts, there are no seed funds pledged for establishing the endowment. The benchmark has not been reached yet.

Benchmark 4: The PNCAZ Business Plan Is Approved by SERNANP and Enters Implementation

SERNANP approved the Park's Business Plan in the last quarter of 2011.[62] SERNANP included this 5-year Business Plan in the Park's 2009 – 2014 *Plan Maestro*.

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[57] The Field Museum of Natural History (2012). Performance Monitoring Report, FY 2013 Q1.
[58] SCS (2013). *Validation Report for the* Cordillera Azul *National Park REDD Project*. P. 18
[59] Conversations were held with the Moore Foundation to match these funds (FY09 Q2.)
[60] The Field Museum of Natural History (2010). Performance Monitoring Report, FY 2010 Q4.
[61] The Field Museum of Natural History (2011). Performance Monitoring Report, FY 2011 Q2.
[62] The Field Museum of Natural History (2011). Performance Monitoring Report, FY 2011 Q4.

Since approval, CIMA has looked for ways to implement the plan, including searching for donors but also increasing the base of supporters. CIMA began implementing the plan when it started submitting applications for several grants. Some of these have been successful; for example, funds were expected to come in January from the Blue Moon Fund, which targeted two communities in Ucayali.

With the approval of the business plan and the initiation of activities under that plan, the project reached the benchmark.

Benchmark 5: The Annual Funds Reach the Level Necessary to Cover All Management Costs for PNCAZ

This is the ultimate benchmark that assesses the Park's financial sustainability, however it was set as a long-term goal that will be in process at the end of the project.

Details of efforts to find funds committed to the Park have been described in the third benchmark. However, to complement these funds, the project decided to pursue the REDD carbon market as an alternative source of funding. This market works like a cap-and-trade market and allows participants to sell carbon credits to interested buyers. In 2008, when the project was designed, this market was very promising, since it was expected that cap-and-trade markets would become mandatory. The only problem with the REDD carbon market was that it required projects to present realistic, conservative, and scientifically sound estimates of future deforestation and carbon emission reductions and removals, for which it needed to develop the methodology.

Despite this lack of methodology, PNCAZ started interviewing carbon specialists to do an analysis of future deforestation in the Park since the second quarter of 2009.[63] The following quarter, the FMC, with funds from the Exelon Corporation[64], hired experts from TerraCarbon[65] to develop the Park's Project Design Document (PDD.)

Two events retarded the development of this income opportunity: efforts to make the cap-and-trade markets mandatory in the US failed; and, the global economy, especially in the US and Europe, entered into a profound crisis. This resulted in a continuous fall of the carbon market, which discouraged interested, serious buyers.[66]

The team's first draft of the PDD was reviewed in the first quarter of 2010 and its completion was expected for February – May, 2010. The team missed a deadline that would have allowed for the PDD validation and verification from April – July 2010, after some delays produced by a VCS requirement for double-validation of the methodology.[67] In the interim, VCS and CCB introduced more changes in their requirements and methodologies. In addition, the FMC proposed a new methodology that allows for

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[63] The Field Museum of Natural History (2009). Performance Monitoring Report, FY 2009 Q2.
[64] Exelon is one of the largest competitive energy providers with operations in most of the US and Canada (exeloncorp.com)
[65] TerraCarbon defines itself as "an advisory firm that supports the development of forest and land based projects and programs that generate measurable benefits to the world's climate, wildlife, and people." (terracarbon.com)
[66] The Field Museum of Natural History (2010). Performance Monitoring Report, FY 2010 Q2.
[67] The Field Museum of Natural History (2010). Performance Monitoring Report, FY 2010 Q1 – Q2.

the adjustment of deforestation estimates according to population growth, which was thought as critical for PNCAZ. These methodological changes delayed the expected completion of the PDD to early 2012[68] and then to late 2012. Delays finding resource donations to complete the PDD also contributed the regular postponements of the PDD.[69]

Then, as the proposed methodology by FMC was approved, VCS introduced updated standards that required additional delays to the PDD. These constant updates (and other methodological challenges) led the FMC to initiate a stakeholder meeting to review the process and identify solutions that would remove the roadblocks to entering the carbon market. Participants included: project developers, methodology developers, auditors (validators and verifiers), and VCS and CCB representatives.[70] The results of these meetings in Washington D.C. cleared the way for project development, validation, and verification. It expedited the PNCAZ REDD project, for which the validation and verification process began in the first quarter of 2013.[71] By the second quarter of 2013, the SCS and CCB completed the validation and verification process and PNCAZ REDD the project was entered into the Markit registry.[72]

After sequestering credits for the buffer pool, a little over 5.7 million carbon credits were put immediately for sale.[73] Although these credits have not been sold to date, having these offered in the market is an achievement that places valuable resources under Park management control. Even though this market is picking up, the main obstacle remains in finding a buyer for the carbon credits.

The FMC reports being in conversations with serious potential buyers: a European broker and a European investment firm. These buyers are not only interested in PNCAZ REDD+ credits, but also are suggesting a high price: $8 – 10 per metric ton, for quality credits. If either negotiation is successful, the Park should have enough revenues to cover management costs of $2.1 million per year. Any surplus from the sale contribute to the PNCAZ endowment managed by SERNANP, as specified in the REDD+ Project documentation.

Note that at the beginning of the project, the goal of this benchmark was to be in progress, which means that funds in the endowment would be at least partially covering the Park costs. Given this explicit goal, the project has not reached this benchmark, although there has been significant progress towards it.

[68] The Field Museum of Natural History (2010). Performance Monitoring Report, FY 2010 Q3.
[69] Cinthia Mongylardi, CIMA's Program Director
[70] Debra Moskovits, Chief of Party.
[71] The Field Museum of Natural History (2012). Performance Monitoring Report, FY 2013 Q1.
[72] The Field Museum of Natural History (2013). Performance Monitoring Report, FY 2013 Q2.
[73] The Field Museum of Natural History (2013). Performance Monitoring Report, FY 2013 Q3.

LESSONS LEARNED (EVALUATION QUESTION 3)

What are the key elements of this project that can be replicated in future initiatives to preserve biodiversity and avoid CO2 emissions?

Findings

- Protecting a national park requires a comprehensive intervention that does not limit to its borders. A team of trained park guards and a system of patrols has to effectively detect and repel any illegal incursion into the Park, as well as mitigate the impact of such activities, but it has to be complemented with activities that aim at stopping the threats before they enter the Park. This means that working on the buffer zone is critical to the Park's protection. According to Debra Moskovits, when the goal is to protect a Park, one should not just think about the Park, but also about the buffer zone.

- Having the neighboring communities understand the benefits they obtain from the Park is an important precursor to engendering their care for and protection of the park. The approach used in PNCAZ aims at having communities care for the Park while cultivating a sense of ownership and an understanding that the Park is crucial to improving their quality of life. The objective of convincing communities of the benefits of the park also provides a criterion for CIMA in selecting communities for participation. CIMA selects the communities that have the greatest incentives to commit to Park protection among those living in areas with the greatest identified threats.[74]

- One way that CIMA has found to involve the neighboring communities is through progressive training in useful knowledge that targets residents of the buffer zone: the use of a compass and GPS devices, climate monitoring, data collection, etc. Through this training, neighboring communities learn to value the Park and its benefits while forming a favorable opinion about the work done in the Park.

- Involvement in the Park protection is also achieved via the system of communal park guards. If the neighboring communities are trained and work regularly in patrols, the force protecting the Park widens and spreads out through the buffer zone when they are off duty. A trained communal park guard may tend to adopt eco-friendlier habits and detect threats and report them to authorities when they are approaching the Park. Although Cinthia Mongylardi suggests revising this system in PNCAZ, as working with immigrants has not generated the results expected. Immigrants following economic opportunities have other income generating alternatives that indigenous people do not have, and they find the compensation for guard duty insufficient to merit taking a month off of their regular activities.

- Despite being a good tool to monitor the Park's level of protection, the project found that the ICC is not sensitive enough to changes in small amounts of hectares, such as the ones that took place in PNCAZ between 2008 and 2013 as described in the third section of this evaluation. For example, the overall relative ICC in PNCAZ has always remained at 70%, despite changes occurring in the level of deforestation that reached almost 100 hectares from quarter to quarter. Using a

[74] Frank Oyola, Park Chief – SERNANP.

disaggregated version of the ICC, such as reported on tables 2 and 5, can provide a more useful gauge of changing threats as evidenced in small measurements of incursion among the different areas of the park than using the overall relative index.

- To reach financial sustainability a project must diversify its fundraising approaches and avoid reliance on donations, especially in times of economic downturn. The challenges to fund-raising came as a surprise. The global economic crisis that hit the U.S. and Europe, the main source of investors, and the voluntary nature of carbon markets challenged the Park's efforts to auto-finance operating costs. Sustainability plans need to include a diverse funding strategy contingency plans and in order to build in resiliency to unexpected funding challenges.

- It is important to prepare to take advantage of the fact that one source of funding usually leads to others. Before the economy entered a recessionary cycle, USAID funding was crucial to attract other funds that complemented the project from the start, which altogether formed the Global Developmental Alliance. This permitted the FMC and CIMA not only to finance activities inside the Park, but also in the buffer zone. The PNCAZ REDD project was other funding avenue to which multiple donors contributed funds.

- Generating income from the park or natural resource's conservation can help reinforce incentives to preserve the park or natural resource. For example, if successful, selling credits through the REDD+ market may reinforce the commitment of local authorities and neighboring communities to avert deforestation in the Park. If stakeholders see that it is possible to obtain resources through protection of the Park, and that the resource level is directly correlated to the level of the Park's preservation, they may be more incentivized to support the park's preservation as a core source of income for their communities and themselves.

- On the other hand, projects need to manage stakeholder expectations as they venture into new approaches, such as the REDD+ market, to raise funds. CIMA´s Program Director reported that some local stakeholders overestimated the benefits from the REDD+ market and expect exaggerated results, e.g. that the resources will allow for the construction of new roads, schools, or hospitals in the surrounding provinces (not part of the buffer zone.), The PNCAZ – SERNANP Chief, Mr. Oyola, identified the high risk of generating unrealistic expectations when informing communities about the REDD+ carbon market, including the expectation that community members will receive direct cash payments. These unfounded expectations can seriously affect the Park managers' credibility, downplay the actual results of such initiatives and hurt the project results.

CONCLUSIONS & RECOMMENDATIONS

Making an overall assessment, this evaluation finds that the project successfully achieved its objectives to protect the Park from drivers of deforestation and make substantial contributions towards financial and management sustainability.

Was the *Parque Nacional Cordillera Azul* Effectively Protected?

Yes. Despite minimal infractions reported inside the Park, the deforestation rate inside the Park has approached zero during the five years of project execution. As assessed through the Operational ICC, at the end of the project more than 1,352,756 hectares inside the Park are under active protection. Only 435 hectares, including 250 that belong to the Suarez brothers, are either deforested or in recovery.

In order to protect the Park, the project had executed "*a broad range of activities within the park and the surrounding buffer zone, including but not limited to the following categories of activity: demarcation of boundaries; installation of signs and guard stations; expanded guard programs* [which included an average of 45 official park guards and a system of rotating communal guards, who account around 200 people annually]*; reporting and surveillance; legal enforcement; management planning; environmental education and community outreach in the buffer zone; social data collection and analysis; and development and support of relationships with government agencies*."[75]

The validation and verification of the PNCAZ REDD Project estimated that the Park would have accounted for about 3.7 million metric tons of net GHG emission reductions or removals had the project not been operating between August 2008 and July 2012.[76] Instead, during the same period of time, the validation and verification study estimated that the net GHG emission reductions have reached a total of approximately 5.8 million metric tons.[77] This analysis implies that the project has been responsible for 36% of emission reductions over this period based on the SCS validated estimate that, in the absence of the project, deforestation in the park area would have been higher.

These conclusions were supported by observations made by SCS during the validation and verification:

- The deforestation rate in the buffer zone has significantly slowed down; it was lower than expected in the baseline model.
- Leakage[78] could have been very detrimental, but due to the work in the buffer zone, it was zero.

This result was reaffirmed in March, 2013, when SERNANP ranked PNCAZ as the second best preserved protected area in the country. Using an index of "*efectos por actividades*" SERNANP estimates

[75] SCS (2013). *Validation Report for the* Cordillera Azul *National Park REDD Project*. P. 12
[76] I*bid*. P. 21.
[77] SCS (2013). *Verification Report for the* Cordillera Azul *National Park REDD Project*. P. 13.
[78] Calculated as the difference between project and baseline emissions in the leakage belt (PDD, pp. 123)

that the PNCAZ has a probability of 0.05% of *efectos*[79] occurring in the Park, which implies that 99.95% of the Park territory is optimally protected.[80] In fact, this 0.05% of *efectos* identified, mainly refers to the land deforested and used by the Suarez brothers.

All evidence reviewed for this evaluation supports the conclusion that the Park has been successfully protected from threats and drivers of deforestation: the deforestation rate in the Park has approached zero, the REDD project has increased its measurement of net GHG emission reductions, the probability of an infraction occurring in the Park is almost zero, and similar progress has been achieved in the buffer zone. While it this study cannot attribute this success to the project, the fact that actual deforestation over the project period was far lower than the credible and certified estimates of the deforestation that would have occurred in the absence of the project strongly suggests that the project has contributed to preventing deforestation and degradation of the park.

Has the Project Contributed to The Long-Term Sustainability of the Park and Its Management?

Yes. The project has made substantial contributions towards the Park's financial sustainability and has put the Park in a position where it may be able to generate sufficient revenues to achieve this goal.

The project's efforts to raise funds from donors and establish an endowment have proved ineffective. Despite the many conversations with donors and receiving a $3 million pledge for seed funds from the Global Conservation Fund (who later withdrew its pledge,) the project raised no funds to cover the Park costs. The global economic crisis reduced donor giving towards the beginning of the project, making it a major factor in the failure to secure donor funds. The atypical nature of the park activities is likely another important factor, as illustrated by an observation by SCS in the validation report, "…*activities as extensive as those involved in the* [PNCAZ REDD] *project are not common and that funding for activities implemented by the project is not typically available*."[81]

Foreseeing that fundraising would not allow management to cover the Park's full $2.1M operations budget, the project considered efforts to enter the REDD+ carbon market. And at some point this market became the only realistic option. After many delays precipitated by the evolving methodologies and requirements of the relatively new validation and certification process, the Park has brought over 5.7 million tons of carbon credits onto the REDD market.

The recent sale of 437,000 of these credits to Disney for $3.5M by another Peruvian protected area, the Alto Mayo Forest, provides encouraging anecdotal support for the idea that the Park can reach financial sustainability through the REDD market.[82]

Progress on this front prompted the FMC initiative, with support from SERNANP and MINAM, to

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[79] SERNANP classifies these "*efectos*" as: over use of natural resources, pollution, habitat loss, displacement of native species by exotic species.
[80] SERNANP (2013). Reporte Técnico No. 01-2013-SERNANP-DDE – Análisis del estado de conservación de los ecosistemas dentro de las ANP mediante la evaluación de efectos generados por las actividades económicas – 2012. Pp. 16.
[81] SCS (2013). *Validation Report for the* Cordillera Azul *National Park REDD Project*. P. 19
[82] http://www.redd-monitor.org/2013/04/26/disneys-commitment-to-mickey-mouse-redd-conservation-internationals-trick-baseline-for-the-alto-mayo-project-in-peru/ (last access: 9/2/2013)

design a feasibility study for an environmental compliance market in Peru. An option to develop a strong voluntary market for REDD+ credits in Peru is also being explored.

CIMA developed a Business Plan for the Park, which SERNANP approved during the last trimester of the 2011 fiscal year. This 5-year plan is currently being implemented as CIMA is searching to broaden the funding sources, e.g. CIMA is submitting applications for different grants with some success. CIMA has also selected PROFONANPE as the institution that will administer the endowment, which will be established with the proceeds from selling carbon credits.

In sum, the project has made important contributions towards the Park's financial sustainability, the most notable of which are the approval of the Park's Business Plan and the selection of the fiscal agency that will administer the endowment; and, the validation and verification of PNCAZ REDD project and the offering of carbon credits – over 5.7 million – on the REDD+ carbon market. The project has put the Park in a position where it may well be able to generate sufficient revenues to achieve financial sustainability.

What Are the Key Elements of This Project That Can Be Replicated in Future Initiatives to Preserve Biodiversity and Avoid Co2 Emissions?

The conclusions drawn from the findings regarding lessons learned rely heavily on the anecdotal evidence provided by key informants that is supported by project documentation and other documents reviewed in the preparation of this evaluation. As such they are provided as insights informed by years of project implementation that are worthy consideration for the development of similar projects and activities and possibly further investigation to develop approaches that benefit from scientific rigor.

- Protecting a park requires a comprehensive set of interventions that reach beyond the borders of the Park. A team of trained park guards and a system of patrols has to effectively detect and repel any illegal incursion into the Park, as well as mitigate the impact of such activities. Guard activities must be complemented by activities that address threats before they result in incursions to the Park. This means that working on the buffer zone is critical to the Park's protection.

- Ensuring that neighboring communities understand the benefits they obtain from the Park makes it is easier to involve neighboring communities in protecting the park. The approach used in PNCAZ aims at having communities care for the Park while cultivating a sense of ownership and an understanding that the Park is crucial to improving their quality of life.

- One way that CIMA has found to involve the neighboring communities is through progressive training in useful knowledge that targets residents of the buffer zone: the use of a compass and GPS devices, climate monitoring, data collection, etc. Through this training, neighboring communities learn to value the Park and its benefits while forming a favorable opinion about the work done in the Park.

- Involvement in the Park protection is also achieved via the system of communal park guards. If the neighboring communities are trained and work regularly in patrols, the force protecting the Park widens and spreads out through the buffer zone when they are off duty. A trained communal park guard may tend to adopt eco-friendlier habits and detect threats and report them to authorities when they are approaching the Park.

- To reach financial sustainability a project must diversify its fundraising approaches and avoid reliance on donations, especially in times of economic downturn. After internalizing that donor funding was not producing the needed results, the project had success pursuing other avenues. The recent sale of carbon credits by the Alto Mayo Forest shows that the REDD+ market may be a viable option to reach financial sustainability. Although it may be more limited in scope and funds, applying for grants has also been effective.

- Generating income from the park or natural resource's conservation can help reinforce incentives to preserve the park or natural resource. If stakeholders see that it is possible to obtain resources through protection of the Park, and that the resource level is directly correlated to the level of the Park's preservation, they may be more incentivized to support the park's preservation as a core source of income for their communities and themselves.

- Projects need to manage stakeholder expectations as they venture into new approaches to raise funds. Unfounded expectations can seriously affect the Park managers' credibility, downplay the actual results of such initiatives and hurt the project results. In the case of REDD+, local stakeholders have overestimated the benefits from the carbon credit market and expect results that cannot be achieved, whereas individuals sometimes even expect direct cash compensations.

Recommendations

- CIMA should periodically update the Park's map of risks and threats. This would help to refine the intervention and guide any geographical extension of the project. Considering the rapid changes (migration, new road, etc.) in the area, this map should be updated, at most, every 3 years. This should be done with the active participation of neighboring communities. CIMA should consider dividing the Park into sectors and hold workshops with the communities residing in each sector.

- CIMA and SERNANP should closely follow the legal proceedings against the Suarez brothers. Although the process may be very slow, it is important to set a precedent regarding infractions that threaten the integrity of the Park and to achieve total forestation of the Park in the future.

- CIMA and SERNANP should also closely follow the development of the *Ferrovía Interoceanica Peru-Brazil*. If this road is built as planned, it may cause irrevocable damage to the integrity of the Park.

- CIMA should continue applying for grants, a source of funding that has proved to be more effective than searching for donors. This strategy can support the expansion of work in new areas and to support ongoing activities.

- The FMC, CIMA, and SERNANP should implement in full the communication strategy they designed to inform local stakeholders of the sale of credits in the REDD+ market and the distribution of this revenue. FMC and CIMA recognize the enormous importance of correcting existing and potential misunderstandings related to REDD+. This communication strategy will also reinforce the recognition that protecting the Park today will provide more revenues and quality-of-life benefits in the future, which could provide additional incentives to these stakeholders to commit to the Park's protection.
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- The FMC and CIMA should consider evaluating some of the unintended results produced by their intervention in the Park. Unfortunately, this evaluation has not been able to address these, but there are likely negative and positive unintended results of the project interventions that are not addressed in the documents available for this evaluation. For example, there are many positive effects produced by the system of communal park guards, but if there is a bias to recruit men, the project may be disadvantaging women from the buffer area communities.

- There is an opportunity to prepare for more rigorous evaluations of the Park's future activities. If the Park is divided in sectors in such a way that conditions of internal validity are satisfied, i.e. these sectors are statistically similar and share similar attributes vis-à-vis outcomes and independent variables, projects could incorporate experimental design to permit the measurement of impact, using some sectors as control and others and intervention areas.

ANNEX I: EVALUATION STATEMENT OF WORK

BACKGROUND INFORMATION

Identifying Information

Project:	Promoting Long-Term Sustainability of *Parque Nacional Cordillera Azul*
Award Number:	527-A-00-08-00024-00
Award dates:	August 2008 – August 2013
Funding:	$4,817,491
Implementing Organization:	The Field Museum of Natural History, Chicago, USA
Cognizant Officer Representative:	Maria Lourdes Bacigalupo del Corral

Development Context

The Parque Nacional Cordillera Azul (PNCAZ) protects what is known as the tropical Andes –1.3 hectares of pristine, continuous mountain forest in Peru and home to an invaluable biodiversity: 6,000 species of plants, 800 of birds, 110 of fishes, 82 of amphibians and reptiles, and 71 of large mammals (as found in the Rapid Inventory of 2001.) Located between the Huallaga and Ucayali rivers in the departments of Loreto, San Martin, Ucayali, and Huánuco, PNCAZ is Peru's third largest national park and is critical to the conservation of these tropical Andes.

Despite previous efforts, also under USAID support, to build infrastructure, train and implement patrols, remove illegal logging, and involve communities living in the buffer zone in Park-related activities, this is a threatened region. Population and their main activities are rapidly expanding in the buffer zone. Deforestation in the Huallaga valley is estimated at a 1-2% rate per year and is increasing in the Ucayali valley. Oil and mining concessions are being planned in the Ucayali valley. Colonization, illegal logging, and poaching may result as a product of new roads in the area.

Approach and Implementation

The PNCAZ project has been implemented through a partnership. With USAID funds, the Field Museum of Natural History (FMC) has partnered with the Centro de Conservación, Investigación y Manejo de Áreas Naturales (CIMA) –a local Center which has worked on the Park's management since 2002 and has been granted with a 20-year full management contract for the Park in August 2008- in order to implement the activities planned.

The original cooperative agreement was approved for three years: August 2008 – March 2011, for a total of $2,800,000. However, in January, 2011 it was extended for two years and an added budget of $2,017,491. Recently, a six month, non-cost extension has been approved.

The success of the previous agreement between USAID and FMC (2003 – 2007) has attracted other funding to support the Park. This has led to the formation of the Global Development Alliance (GDA,) which incorporates the Gordon and Betty Moore Foundation and the John D. and Catherine T. MacArthur Foundation to the initiative. However, activities are clearly delimited, as USAID funding is

being invested directly in activities implemented in the Park, whereas the two foundations funding is being allocated to activities related to the buffer zone.

The evaluation should limit its focus to those activities funded by USAID, which take place in the Park. Activities implemented in the buffer zone are excluded of this evaluation.

Finally, it is important to mention that as part of the activities of the project, efforts have been made to enter the Park to the Reduce Emissions from Deforestation and Degradation (REDD) carbon market. As part of these activities, a validation and verification process using the VCS and CCB protocols was conducted by Scientific Certification Systems (SCS.)

Intended Results

The project expects to achieve two main results: (1) protection of the Park, and (2) long-term sustainability for the Park and its management.

In order to achieve the first result the FMC and CIMA planned a set of activities focusing on: (1) border patrols: set up the infrastructure for the Park, hiring and training park guards, and training volunteer guards; and (2) community strengthening activities: building awareness of the Park and its importance to quality of life, building commitment from neighboring communities to protect the Park and modify their economic activities in ways that secure the Park's protection, generating an early warning system to eliminate illicit activities in the Park, strengthening CIMA, monitoring results, and securing financial strategies for long-term survival of the Park.

As planned, long-term sustainability for the Park involves securing long-term financing, strengthening CIMA and Government of Peru (GOP) institutions responsible for the Park, and monitoring results, mainly the Index of Conservation Compatibility (ICC,) in order to adjust plans as needed in a highly changing environment.

Existing Data

USAID and its partners will provide the evaluator with a package of documents, including:

- the SOW for the project,
- the project's Performance Monitoring Plan, and
- project quarterly performance reports, work plans, and other documents developed as part of routine monitoring, and
- SCS validation and verification reports.

EVALUATIONS RATIONALE

Evaluation Purpose

As the end of the agreement approaches, USAID intends to conduct a performance evaluation of the PNCAZ project. The evaluation responds to three main objectives: (1) to document the implementation process, (2) to learn to what extend the project's expected results have been achieved,

and (3) to obtain lessons learned and inform possible future initiatives in the Park. It is expected that a third of the evaluator efforts be allocated to each objective.

Audience and Intended Uses

The audience of this evaluation report will be mainly internal. The USAID mission in Peru will be the main target, and the USAID office in Washington, the FMC, and CIMA will also have access to the report. USAID will use the report to make decisions about future initiatives in the Park and others of similar nature.

Evaluation Questions

Given the strict validation process that the Park has undertaken in order to qualify for the REDD carbon market, the evaluation will mainly rely on this information and some complementary qualitative information to answer the following questions:

- Was the *Parque Nacional Cordillera Azul* effectively protected? (Estimated level of effort 40%)
- Has the project contributed to the long-term sustainability of the Park and its management? (Estimated level of effort 40%)
- What are the key elements of this project that can be replicated in future initiatives to preserve biodiversity and avoid CO2 emissions? (Estimated level of effort 20%)

As part of the first question, it is expected to address whether the project has contributed to the reduction of threats or drivers of deforestation in the Park.

EVALUATION DESIGN AND METHODOLOGY

Evaluation Design and Data

Although this evaluation takes place at the end of the project, this will be a performance evaluation. Due to the lack of a proper counterfactual, cause-and-effect questions cannot be addressed.

The evaluator will focus on the implementation process and the level to which the expected results have been achieved. Based mainly on project reports produced by CIMA, FMC, and USAID, as well as on the validation and verification reports by SCS, the evaluator will assess the goals of the project. Thus, the evaluation will highly rely on the set of outputs that the Performance Monitoring Plan (PMP) intends to monitor. The PMP and monitoring reports follow 6 indicators:

- Number of jobs generated,
- Number of benefiting families,
- Yearly update of SENANPE score for PNCAZ management,
- Improvement of conservation of PNCAZ,
- Financial sustainability to secure long-term, efficient management of PNCAZ, and
- Evaluation of management based on the Index of Conservation Compatibility (ICC.)

Further description of these indicators and the annual goals can be found on the PMP.

The PMP and other key documents are listed in the "Existing Data" section and will be made available to the evaluator. All quantitative data will be obtained from this review.

Semi-structured interviews will also be conducted in order to complement the information obtained from project reports. These interviews will mainly focus on the implementation process and the interviewees' perception about what worked and what did not, as well as what could be improved in future projects. Key informants are:

- Chief of Party and FMC Coordinator,
- USAID COR,
- CIMA Director and Monitoring Staff, and
- SERNANP Staff in the Park.

Methodological Strengths and Limitations

The main limitation to this evaluation is the impossibility to address cause-and-effect questions. When the project was designed, a control group was not considered. At this stage of the project it is no longer possible to find this control group or create/simulate a randomized experiment. Thus, despite being a final evaluation of the project, the lack of a counterfactual hinders the possibility of conducting an impact evaluation.

As mentioned above, a performance evaluation, which will rely heavily on the project's monitoring system and other monitoring reports, will be conducted instead. This information limits the evaluation to focus on the project's outputs considered on its monitoring system and implies that questions beyond the project's monitoring scope cannot be answered.

One strength to this evaluation is the rigorous validation and verification process conducted recently by SCS as part of entering the REDD carbon market. This process provides quantitative information that follows international standards regarding the Park's protection and other relevant information that will be of great value to assess the project's goals.

EVALUATION PRODUCTS

Due to the urgent need of this evaluation, there will only be two deliverables from this evaluation: a draft and a final report. The draft should already report the main findings, conclusions, and recommendations. This should be written in English and will be submitted to and discussed with USAID/Peru staff.

The final report will be submitted to USAID/Peru within one week of receiving and discussing the feedback provided to the draft. It should incorporate the evaluator's responses to USAID and other partners' comments. The final report will include an executive summary which adds to the other sections of the draft (e.g. findings, methodology, and recommendations.)

The evaluation will be conducted by one member who takes responsibility for assessing the project's implementation process and goals achievement. However, Evaluations staff will provide the evaluator

with supervision and will also help coordinating some of the activities related to the evaluation, e.g. briefings with USAID, interviews, etc.

EVALUATION MANAGEMENT

Logistics

USAID/Peru will provide overall direction to the evaluator. USAID/Peru will also identify and facilitate key documents to the evaluator, as well as assist coordinating and arranging the interviews with key informants previously identified by USAID and the evaluator. USAID/Peru staff will be available during the evaluation process for inquiries regarding information sources and other technical issues.

Evaluations will also provide technical supervision to the evaluator and assist in arranging meetings with interviewees and USAID. Evaluations is also responsible of arranging travels from/to sites for the evaluator or key informants, as needed; this includes airfare, hotels, and daily stipends.

Scheduling

The evaluation process is planned to take place in 6 weeks. The evaluation should be concluded, and the final report submitted, by the end of August; meaning that the draft should be submitted for USAID/Peru review and the feedback should be submitted the week of August 19th – 23th.
The following provides an idea of the activities to be taken and its timeline:

Activities	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Evaluation design	X					
Documentation review	X	X	X	X		
Analysis framework		X				
Interview preparation work		X	X			
Interviews			X	X		
Draft report				X	X	
Final report					X	X

ANNEX II: EVALUATION METHODS AND LIMITATIONS

THE INDEX OF CONSERVATION COMPATIBILITY (ICC)[83]

"The Field Museum, CIMA, and USAID developed the Index of Conservation Compatibility (ICC) as a planning and monitoring tool (Pequeño 2007). The ICC guides management activities and measures success or failure, based on geo-referenced information gathered in the field and synthesized onto maps. The ICC is a composite measure of cultural assets, quality of human life, threats to cultural and biological diversity, operational (on the ground) and institutional mechanisms, and biological diversity. The index has six levels, each denoting an incremental state of conservation success and providing a recipe for reaching the next level. Holding the ICC together is a system of information management that allows CIMA to scale across geography and across levels of organization. Because the ICC is spatially based, the tool successfully depicts the heterogeneity of a site, showing areas of progress and areas of setbacks.

The ICC is a results framework and evaluation scheme that integrates across disparate activities, keeps a sharp focus on the vision of intact wilderness with sustainable livelihoods, and guides planning for maximum efficiency of limited resources on a large landscape. The ICC capitalizes on the capacity of GIS to integrate field-collected data to reflect the management status of lands inside and outside the park. This framework is instrumental in guiding and organizing the project's activities: it shows different levels of progress in different sections of the landscape and allows CIMA to react quickly to new threats and assets.

Ecological monitoring should be a sustainable, iterative process for measuring progress toward conservation and management goals. Successful monitoring should allow the project's managers to evaluate whether the conservation actions are having the desired effect on threats to human communities, biodiversity, and the project. This ideal, however, is rarely if ever reached. Management decisions often must be made fast, even if adequate information is unavailable. The ICC is designed as a practical answer to the ideal monitoring program. The individual hectare-block in the area of focus becomes the unit of measure. Each hectare is assigned a level of conservation compatibility, according to overall defined parameters.

The ICC integrates across the varied programs, is visual and easily updatable, and portrays the differences in level of achievements, threats, and opportunities across the landscape of interest. As the ICC approach is improved, the ICC maps become as useful for evaluating progress toward conservation goals as for planning future actions and correcting the project's course midstream. The ICC allows CIMA to define spatially specific goals. The index allows the field team to track overall results easily and regularly throughout the year, for timely adjustments or modifications of plans and activities as needed (for example, when results are not reached even though all activities have been successfully completed; or when massive new threats or significant new opportunities appear and affect all other activities.)"

The definition of the ICC levels for the operational aspects inside the Park is presented in the Table 2 and an overall comparison between the beginning and end of the project is presented in Table 3.

[83] Excerpt taken from: CIMA(2012). *Cordillera Azul National Park REDD Project*. Pp. 68.

Table 4 presents a detailed, quarter-by-quarter comparison of the changes in the Operational ICC. The description of each of these changes is presented in the third section of this evaluation.

TABLE 5:
Comparison of the Operational ICC levels, 2008 - 2013

YEAR	2008	2009				2010				2011				2012				2013
QUARTER	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
ICC3: Area under active protection	1,352,936	1,352,936	1,352,936	1,352,935	1,352,854	1,352,854	1,352,854	1,352,854	1,352,869.5	1,352,869.5	1,352,868	1,352,868	1,352,868	1,352,868	1,352,756	1,352,756	1,352,756	1,352,756
ICC2: Corrective action taken to allow natural recovery and restoration of fauna and flora	35	35	35	35	35	35	35	35	88.5	88.5	90	90	90	90	185	185	185	185
ICC1: Altered areas inside the park identified	220	220	220	221	302	302	302	302	233	233	233	233	233	233	250	250	250	250
TOTAL	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**	**1,353,191**

Measured in hectares
Sources: Quarterly Monitoring Reports, FY08Q4 - FY13Q1.

ANNEX III: DATA COLLECTION INSTRUMENTS

Before starting asking questions, introduce yourself and the purpose of the interview. Also, present the objectives of the evaluation and the three questions it intends to answer. Finally, ask the interviewee if it s/he would give permission to use her/his name on the report.

The following questions should guide the interviews with key informants:

- How do you evaluate the Park's protection since August 2008 until now?
    - What are the main threats found in the Park?
    - What has the emphasis been in terms of protection? Training? Infrastructure? Programming guard patrols?
    - In your opinion, how successful has the project been in terms of protection? Has the expected result been achieved?
- What was the strategy to establish an endowment?
    - What were the main obstacles found?
    - When was it evident that this was not going to be successful?
- How do you evaluate the REDD carbon market experience?
    - How did this project originate? Why was this market chosen?
    - How important was USAID's contribution in this initiative?
    - What were the main obstacles found? What was done about them?
    - In your opinion, how successful has the project been in terms of achieving sustainability? Has the expected result been achieved?
    - If you had to start a new REDD project, what would you do differently?
    - If you were involved in the management of another Park, what strategies would you use/consider to achieve financial sustainability?
- What have you learned from your experience in this project?
    - Specifically in terms of management, what lessons can you get from this experience?
- Is there any comment or insight that you would like to share with us?

ANNEX IV: SOURCES OF INFORMATION

DESK REVIEW

CIMA (2012). Cordillera Azul *National Park REDD Project*. Pp. 198.

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The Field Museum of Natural History (2009). Performance Monitoring Plan of Promoting Long-Term Sustainability of Parque Nacional Cordillera Azul. Pp. 30.

The Field Museum of Natural History (2008). Performance Monitoring Report – FY 2008 Q4.

The Field Museum of Natural History (2008). Performance Monitoring Report – FY 2009 Q1.

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The Field Museum of Natural History (2013). Performance Monitoring Report – FY 2013 Q3.

Scientific Certification Systems (2013). Validation Report for the Cordillera Azul National Park REDD Project. Pp. 47.

Scientific Certification Systems (2013). Verification Report for the Cordillera Azul National Park REDD Project. P. 14.

SERNANP (2013). *Reporte Técnico No. 01-2013-SERNANP-DDE – Análisis del estado de conservación de los ecosistemas dentro de las ANP mediante la evaluación de efectos generados por las actividades económicas – 2012*. Pp. 16.

INTERVIEWS

Maria Lourdes Bacigalupo, Project Agreement Officer Representative.

Cinthia Mongylardi, CIMA's Program Director.

Debra Moskovits, Project Chief of Party.

Frank Oyola, Chief of PNCAZ – SERNANP.

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