AFB/PPRC.19/22
23 September 2016

Adaptation Fund Board
Project and Programme Review Committee
Nineteenth meeting
Bonn, Germany, 4-5 October 2016

Agenda Item 7 q)

PROPOSAL FOR PARAGUAY

Background

1. The Operational Policies and Guidelines (OPG) for Parties to Access Resources from the Adaptation Fund (the Fund), adopted by the Adaptation Fund Board (the Board), state in paragraph 45 that regular adaptation project and programme proposals, i.e. those that request funding exceeding US$ 1 million, would undergo either a one-step, or a two-step approval process. In case of the one-step process, the proponent would directly submit a fully-developed project proposal. In the two-step process, the proponent would first submit a brief project concept, which would be reviewed by the Project and Programme Review Committee (PPRC) and would have to receive the endorsement of the Board. In the second step, the fully-developed project/programme document would be reviewed by the PPRC, and would ultimately require the Board's approval.

2. The Templates approved by the Board (OPG, Annex 4) do not include a separate template for project and programme concepts but provide that these are to be submitted using the project and programme proposal template. The section on Adaptation Fund Project Review Criteria states:

> *For regular projects using the two-step approval process, only the first four criteria will be applied when reviewing the 1st step for regular project concept. In addition, the information provided in the 1st step approval process with respect to the review criteria for the regular project concept could be less detailed than the information in the request for approval template submitted at the 2nd step approval process. Furthermore, a final project document is required for regular projects for the 2nd step approval, in addition to the approval template.*

3. The first four criteria mentioned above are:
   1. Country Eligibility,
   2. Project Eligibility,
   3. Resource Availability, and
   4. Eligibility of NIE/MIE.

4. The fifth criterion, applied when reviewing a fully-developed project document, is:
   5. Implementation Arrangements.

5. It is worth noting that since the twenty-second Board meeting, the Environmental and Social (E&S) Policy of the Fund was approved and consequently compliance with the Policy has been included in the review criteria both for concept documents and fully-developed project documents. The proposals template was revised as well, to include sections requesting demonstration of compliance of the project/programme with the E&S Policy.

6. In its seventeenth meeting, the Board decided (Decision B.17/7) to approve "Instructions for preparing a request for project or programme funding from the Adaptation Fund", contained in the Annex to document AFB/PPRC.8/4, which further outlines applicable review criteria for both concepts and fully-developed proposals. The latest version of this document was launched in conjunction with the revision of the Operational Policies and Guidelines in November 2013.

7. Based on the Board Decision B.9/2, the first call for project and programme proposals was issued and an invitation letter to eligible Parties to submit project and programme proposals to the Fund was sent out on April 8, 2010.

8. According to the Board Decision B.12/10, a project or programme proposal needs to be received by the secretariat no less than nine weeks before a Board meeting, in order to be considered by the Board in that meeting.

9. The following fully-developed project document titled “Ecosystem Based Approaches for Reducing the Vulnerability of Food Security to the Impacts of Climate Change in the Chaco region of Paraguay” was submitted by the United Nations Environment Programme (UNEP), which is a Multilateral Implementing Entity of the Adaptation Fund.

10. This is the third submission of the proposal. It was first submitted as a project concept, using the two-step approval process, for the seventeenth meeting of the Adaptation Fund, and was withdrawn following the initial review by the secretariat. It was then submitted as a project concept to the eighteenth meeting of the Board and the Board decided to:

(a) *Endorse the project concept, as supplemented by the clarification response provided by the United Nations Environment Programme (UNEP) to the request made by the technical review;*

(b) *Request the secretariat to transmit to UNEP the following observations:*

a. The possible partner non-governmental organizations for the implementation of the sub-projects should be pre-identified in the fully developed project document, and their added value assessed;

b. In order to demonstrate the project’s cost effectiveness, the fully developed project document should prioritize among the number of adaptation activities identified under component 2, and revise the proposed outputs and outcomes accordingly to include concrete, measurable results, inter alia increased agricultural productivity, rather than non-quantifiable outcomes;

c. The fully-developed project document should provide a budget for the activities identified under component 2 and describe the number of beneficiaries or the targeted area, in hectares, for those activities, when relevant.

(c) *Request UNEP to transmit the observations in paragraph (b) above to the government of Paraguay; and*

(d) *Encourage the Government of Paraguay to submit through UNEP a fully-developed project proposal that would address the observations in paragraph (b) above.*

(Decision B.18/7)

11. The current proposal was received by the secretariat in time to be considered in the twenty-eighth Board meeting. The secretariat carried out a technical review of the project proposal, with the diary number PRY/MIE/Food/2012/1, and completed a review sheet.

12. In accordance with a request to the secretariat made by the Board in its 10th meeting, the secretariat shared this review sheet with UNEP, and offered it the opportunity of providing responses before the review sheet was sent to the PPRC.

13. The secretariat is submitting to the PPRC the summary and, pursuant to decision B.17/15, the final technical review of the project, both prepared by the secretariat, along with the final submission of the proposal in the following section. In accordance with decision B.25.15, the proposal is submitted with changes between the initial submission and the revised version highlighted.

Project Summary

Paraguay – Ecosystem Based Approaches for Reducing the Vulnerability of Food Security to the Impacts of Climate Change in the Chaco region of Paraguay

Implementing Entity: *UNEP*
Project/Programme Execution Cost: USD 570,000
Total Project/Programme Cost: USD 6,570,000
Implementing Fee: USD 558,450
Financing Requested: USD 7,128,450

Project background and context
The goal of this project is to reduce the vulnerability of the population (selected family agriculture producers and indigenous communities) of the Chaco Region of Paraguay to the impacts of climate change on food security.
In order to do so, the project plans to address the main barriers for adaptation in the selected region. Specifically, the project would seek to i) improve information and knowledge for climate resilience; ii) implement concrete cost-effective on-the-ground adaptation measures; and iii) strengthen the institutional capacities to adequately address climate change adaptation issues.
The project would be organized accordingly in three components: i) Knowledge management on vulnerability and climate change resiliency improved; ii) adaptive capacity in rural areas of greatest vulnerability strengthened through concrete agro-ecosystem based adaptation measures; and iii) capacity development and awareness to upscale effective implementation of adaptation measures at the national and local levels.

Component 1: Knowledge management on vulnerability and resilience to climate change improved with tools and instruments to implement cost-effective adaptation measures (USD 1,000,000).

The first component would addresses the barrier on information and knowledge for resilience against climate change. Based on a vulnerability and impact assessment conducted by UNEP, the project would i) improve the breadth and depth of punctual analyses and ii) create the conditions for the provision of and providing regular analyses. On the first point, the project would conduct studies covering issues that were not covered with sufficient detail and issues that were not covered in the UNEP assessment.

Component 2: Adaptive capacity in rural areas of greatest vulnerability strengthened through concrete adaptation measures favouring an ecosystem-based approach (USD 4,480,000)

The second component would addresses the lack of integrated and informed adaptation strategies on the ground. This project would overcome this barrier by using the knowledge built through component one to build holistic priority action plans with their corresponding land use plans and implement the corresponding on the ground measures.

One community adaptation plan would be developed in each of the ten selected communities. These would be discussed and approved by all relevant stakeholders. Each plan would reflect the priorities of each community. As soon as the plans are approved by relevant stakeholders, adaptation measures would be implemented on the ground according to them. The project would carry out activities to conserve and restore forests, including protective forests, and other ecosystems, in line with the forest standards developed in component 1, and in coordination

with INFONA, SEAM, the department and district governments and the communities. In addition, the project would promote agro-ecological production in both farming and livestock.

Component 3: Capacity development and awareness to implement and upscale effective implementation of adaptation measures at national and local levels (USD 520,000)

The third component addresses the third barrier by increasing the technical capacity of national and local stakeholders to implement climate change adaptation plans and projects. First, the project would ensure that the SEAM staff receives detailed training on mainstreaming climate compatible development across sectors, with a specific focus on ecosystem-based approaches. To this end a training plan would be elaborated, based on a needs assessment, and two workshops would be conducted. In addition, the project would provide training to partner agencies at the national and local levels. This training would be more general than the one provided to the SEAM. Stakeholders would include ministries and agencies from different sectors to integrate climate change adaptation in all laws, policies and plans, departmental and district governments and other stakeholders, such as universities, NGOs and the private sector.

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project

Country/Region: **Paraguay**
Project Title: **Ecosystem Based Approaches for Reducing the Vulnerability of Food Security to the Impacts of Climate Change in the Chaco Region of Paraguay**
AF Project ID: **PRY/MIE/Food/2012/1**
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): **$7,128,450**
Reviewer and contact person: **Arati Belle**
Co-reviewer(s): **Mikko Ollikainen**
IE Contact Person: **Gustavo Mañez Gomis**

Review Criteria	Questions	Comments on 22 August 2016	Comments on 12 September 2016
Country Eligibility	1. Is the country party to the Kyoto Protocol?	Yes	
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	Paraguay is an upper middle income country. The Paraguayan economy is significantly dependent on climate vulnerable sectors such as agriculture and saw a dip in growth (e.g. in 2015) due to impacts to this sector. The proposal indicates that the Chaco region is more vulnerable in the country.	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme ?	Yes. Letter from Designated Authority is attached to the proposal.	
	2. Does the project / programme support	It is recommended that the proposal be revisited to ensure greater consistency	

	concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	between the various planned activities. **CR 1:** Please clarify the following issues related to project design: a) The geographic spread is 10 communities spread across a very large region of the country. It is not clear how these communities were chosen and what the specific vulnerabilities of these communities are, with regard to food security, which is the objective of the project. b) The problem analysis would have to be strengthened. The lack of clarity in problem analysis is reflected in the objectives. The project appears to address a number of objectives (food security, reduction of climate change vulnerability, ecosystem services) simultaneously without deriving the links between them in the specific case (the general case is made using a number of studies quoted extensively and in verbatim) of the communities – how do the investments and actions to be taken by SEAM address food security and ensure ecosystem services. It would be expected that significant investments would be needed in	**CR1:** Partly addressed. a) Further information is provided on the criteria for selection and some general information but with few specifics on how the communities fit those criteria. 2 of these communities have previous analysis (VIA) but it is not clear why the project does not start with implementation of these communities. Additionally, while it is stressed that the indigenous communities are more vulnerable, only of the 10 communities are indigenous. b) Not addressed. The main issue that the project will address by the project is not referred to explicitly till page 28 (where it is done in a clear way). Till then the document has a surfeit of general information (drawn from various documents) that is presented in a somewhat muddled and haphazard fashion. The storyline therefore does not appear strong and coherent. An example is that there is a listing of a number of institutions and regulations in the beginning with little to inform of its relevance to the project. Which institutions are relevant to this project and what they will do and which regulations will be affected? An analysis of the

		forest conservation or installing community infrastructure for water management or for promotion of sustainable agro-pastoral production. It is not clear how the small scale of this project (and even smaller actual investment in community activities) will actually make any significant impact on the proposed objectives. It is noted that water stress is low to moderate and that intact ecosystems are present. It is not clear what integrated ecosystems are being addressed in the 10 communities as they appear to be spread through the region. c) The institutional picture needs to be clarified, specifically with regard to the mandate of the Environment Secretariat. Is it an executing agency/ministry in the Paraguayan context? The project activities call for implementation as well as for planning. The proposal needs to clarify the mandates of different agencies regarding planning and regulation.	institutions and their roles would ideally be presented after the problem description and the description of the project. Another example is a listing of priorities from the 2nd communication under lessons learned. c) Not sufficiently addressed. While there is a lot of text added (somewhat curiously in the general context section), it is not specific to the project, i.e. roles of the different agencies in implementing project activities, sustaining project activities. How will the results be mainstreamed into the agencies for agriculture, water management etc. It appears to be oriented towards SEAM with a number of consultants but it is not clear how this will be embedded into the mainstream agenda of the govt. agencies for development. How is local government planning

			done for instance and how do these adaptation plans fit into them? Has this been done before in the country? If yes, with what success?
		d) Which regulatory instruments are to be addressed through this proposal? The proposal needs to strengthen the description of the activity on improving the regulatory framework and incentive structures.	d) Not sufficiently addressed. The references to policies have been replaced en masse with 'incentives and disincentives' with little further on information on what precisely is being undertaken. What would the regulatory framework be to ensure the operation of these Incentives and disincentives?
		e) The training component needs further elaboration (the section is non-specific noting technical, planning and communication trainings). What specific trainings will be conducted? How does this component contribute to adaptation and food security?	e) Not sufficiently addressed. While more info on the technical trainings have been added, it is not clear for e.g. whether maps would be produced as an output of the training on mapping. Further work is needed on justifying the training budget (particularly the information on the activities related to communication and planning could be strengthened) and its correlation with the rest of the project.
		f) The results indicators need to be revisited to have specific targets and clear indicators (additional comments on Results Framework are below).	f) (See below)
		CR 2: Given the large geographic scope	**CR2:** Not addressed.

		– 10 communities in 3 departments – please clarify how many investments per community can be adequately made. **CR3:** Please clarify the average size of the actual community investments. Given the kind of investments planned, unless they are of a reasonable scale it is unlikely that they can have significant impact on adaptive capacity.	**CR3:** Not addressed. While the specifics of each of the sub activities may not be fully developed, the lack of this kind of information (even as an estimate for such a small project) indicates the need for further preparation.
	3. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy of the Fund?	Table 7 provides a list of the economic, social and environmental benefits expected from the project. **CR4:** However, it is recommended that this section be strengthened considerably by providing more information on expected increase in crop yields and other economic benefits (also info on the current baseline). **CR5:** Please clarify the baseline in the communities regarding food security etc. **CR6:** It is recommended that the section be revisited to ensure that the claims made are reasonable. While a number of environmental and social benefits are listed including climate regulation and	**CR4:** Partly addressed. The table is in Spanish. Crop yields are provided generally for the chaco region. While this is reasonable, it would be useful to know what the expected increase or rate of increase would be. Since the project is focusing on food security, it would be reasonable to expect increase in yield as a likely outcome indicator or some other measure of increase in food security. **CR5:** Partly addressed. Only two communities have had any kind of analysis. Perhaps the project document could provide such info for these two communities, if not for the others? **CR6:** Not addressed. The table has not been fundamentally changed and needs further work to specify and strengthen it.

		decreased exposure to higher temperatures, it is not clear from the proposal or the scale of activities, as to how this will be accomplished.	
	4. Is the project / programme cost effective?	A small proportion of the total project is aimed at addressing community investments of considerable scope. The proposal does provide information at the national level on damages resulting from climate change. **CR7:** Please strengthen. The objective of the proposal is to increase food security. Please clarify in the proposal the current status regarding food security in the 10 communities and discuss the issues regarding the specific vulnerabilities.	**CR7:** Not fully addressed. This comment is still applicable in the context of the discussion of the weakness of preparation informing the document, the broad design which leaves the preparation, planning and implementation during the project period and also the broad geographical scope, given the small resource envelope.
	5. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications	The project is consistent with a number of national plans including the National Development Plan, National Climate Change Policy and National Climate Change Adaptation Strategy as well as the National Environment Policy and INDC among others.	

	and adaptation programs of action and other relevant instruments?		
	6. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	The project is listed as category C. **CR 8:** It is recommended that the screening be revisited. The proposal includes a number of activities – investments in water infrastructure, forest conservation, agricultural production, installation of weather stations that could trigger ES policies of the fund. Also, some of the communities are indigenous. In addition, the proposal notes that the project will address environmental compliance regulations, which may have economic impacts. The proposal does not have adequate information on possible economic losses that could trigger the involuntary resettlement policy of the fund. In all, the justification for category C does not appear valid.	**CR8:** Not fully addressed. Potential economic losses are not discussed. While the category c reference has been deleted, little has fundamentally changed in terms of triggering the policies.
	7. Is there duplication of project / programme with other funding sources?	The project has a listing of a number of relevant projects in the region but notes that they do not duplicate efforts by the proposed project. It does not appear that there is a similar project of this size but there clearly are a number of efforts in the sustainable agriculture and forestry space. What is not clear is how this project draws on and builds on the many efforts since they are in early stages of implementation. Institutionally, it is not clear how those efforts or their results	

		are coordinated. **CR 9:** It is recommended that the project provide a clear justification for the selection of communities based on their vulnerability, fit with project objectives, impact at scale and sustainability.	**CR9:** Not addressed. Given that there is little information on the communities, while there are some criteria listed, there is little justification provided.
	8. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	Most of the project activities are oriented towards knowledge management and learning. Component 1 largely supports technical studies, while component 3 addresses training at the national level (at the environment secretariat and to a lesser degree at partner agencies). Component 2 also has an activity on community training. **CR 10:** An area where information can be strengthened is an outline of national efforts to improve the enabling environment for sustainable agriculture and forestry. How do the efforts of this proposed project fit within the national effort to strengthen enabling environment, with specifics on which regulations will be addressed, what policies are expected to be changed or what targets and plans will be put in at the national level. Which institution has the mandate for planning and how will the project support those plans. The project at present notes in general terms, training of a few staff in partner agencies, with training at the national level focused on the environment secretariat. It does not appear likely that this will have long-lasting impact unless	**CR10:** Not adequately addressed. There is a lot of text on regulations and institutions which does now however provide a clear picture of how the results of this project can be mainstreamed into national or regional programs on agriculture or forestry or affect policy.

		the training in specific analytical tools, skills etc. are built in with adequate facilities (e.g. GIS labs etc.). **CR11:** Further, while there is provision in the project for installation of weather monitoring stations (and software) and plans to develop weather forecasts, there is no mention of training on forecasting or capacity of forecasters at present. Given the technical complexity of developing sound forecasts based on a sparse weather monitoring network, the lack of training will render this activity as not useful. It is recommended that the proposal outline the baseline for developing the weather services and include information on relevant needs beyond installation of infrastructure (e.g. How will forecasts be developed and disseminated?)	**CR11:** Not fully addressed. This activity's design needs to be improved. The document notes some training and the hiring of consultants but does not adequately explain how this will work raising a number of questions (such as the kind of met forecasts to be developed, to how many of the 10 communities would they be available, specific role of the met agency and its capacity, where data would reside, who would develop the forecasts after the project period, how will this activity link with the rest of the project, what impact can 7 AWS have in that region (are they all in one watershed, how many communities will they serve) and so on. The design and justification as presented does not provide a full picture.
	9. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations?	The project has had a number of iterations and recently conducted internal consultations within the Env. Secretariat and a broader consultation with partner agencies in July. A few stakeholders were also interviewed. **CR 12:** It is recommended that the proposal note any stakeholder consultations conducted with communities, both peasant and indigenous communities and strengthen the gender aspects.	CR12: Not adequately addressed. While it is repeatedly mentioned that gender aspects were given special consideration in the consultations, few details are provided. Community level consultations are expected to take place during implementation.

	10. Is the requested financing justified on the basis of full cost of adaptation reasoning?	While the proposal notes a UNDP study that estimates the adaptation costs in the agriculture and livestock sectors and has a qualitative analysis of the additionality of the components, one of the aspects of the "full cost of adaptation" criterion is that the goals should match the investment so that there is no risk of underfunding activities and thereby jeopardizing the overall outcomes of the whole project. Please see related comments on project design in CR1 above. **CR 13:** It is recommended that the project assess more carefully the potential impact on adaptive capacity of the communities. There is little information on the specific communities. In addition, please clarify if outputs 1.2-3, 5. 7-8 are focused on the 10 communities or have different geographical focus.	**CR13:** Not addressed, the issue remains unclear.
	11. Is the project / program aligned with AF's results framework?	The results framework notes the alignment with AF results. However, the results framework needs considerable strengthening. **CR 14:** it is recommended that the indicator for outcome 1 be revisited to make it more specific and clear. The 'number of knowledge gaps' is somewhat vague and the target of 'no knowledge gaps by mid-term' seems unrealistic.	**CR14:** Partly addressed. Outcome 1 indicator has been changed to the number of knowledge products, however no quantified targets are specified. There are 10 output indicators for outcome 1, 9 output indicators for output 2 and 3 output indicators for outcome 3, totalling to 22 output indicators for the project. It is recommended that the RF

			be revisited to rationalize the number of indicators and use the most useful ones that can monitor the progress and results of the project, as opposed to having a one-to-one ratio of indicators with the activities. In addition, the indicators for outcome 3, output 3.1 and 3.2 are essentially the same. This needs to be reworked.
		CR 15: It is recommended that output 1.6 be firmed up further to clarify its result. At present, as stated " Comprehensive and strategic study on the contribution to adaptation of the existing regulatory framework' is both non-specific and unclear. Which regulatory frameworks? What kinds of adaptation? What is expected as a result of such a study? Given that there is a recent National Climate Change Adaptation strategy (2015), why is this study needed? What additional information will be sought under this study?	**CR15:** Not fully addressed. The wording has been changed to incentives and disincentives but there is little discussion in the document about this.
		CR16: Based on the adaptation strategy, climate change plan, other agriculture sector, forestry, and water sector planning, please strengthen analysis on potential areas for strengthening the regulatory framework that is likely to be attempted under this project. Without such a gap analysis, the justification for 1.6 seems inadequate. Activity 2.2.4 notes 5 policies or plans	**CR16:** Not fully addressed. A clear gap analysis is missing.

		will be improved – which ones are these? **CR 17:** For the indicators for outcome two – Percentage of stakeholders claiming resilience. Please note the baseline – how many stakeholders in all? How will they measure or interpret resilience? It is recommended that this indicator be revisited to ensure its measurability and clarity. **CR18:** while the objective is food security through ecosystem services, there do not appear to be any indicators that monitor these. The indicator on additional crops to be produced is not clear. Are new crops going to be promoted by the project? If yes, which ones? Have these crops been researched and adapted to the local environment? Are market conditions suitable for the production of these crops? If they are for consumption, are they part of the traditional diet? **CR19:** For community training, please clarify why the number of sessions rather than the number of stakeholders being trained is measured? **CR 20:** Indicator for output 2.2 - Number of critical areas with increased resilience (in which communities or location). How are critical areas being defined? How is resilience measured here? What ecosystem indicators are to be measured? Please clarify this indicator. **CR 21:** It is not clear how staff who are trained under component 3 can 'respond	**CR17:** Not fully addressed. A baseline is not available. Please provide the reference for the footnote explaining the measurement of resilience. **CR18:** Not addressed. The selection of crops to be promoted is expected to be done during implementation. There do not appear to be any quantified outcome indicators that can track progress towards the perceived objective of the project, which raises questions both on the quality of preparation and the likelihood of impact. Honey production is mentioned but its contribution to food security is not discussed. **CR19:** Addressed.The indicator has been changed to number of stakeholders. **CR20:** Not fully addressed. The indicator has been changed to number of adaptation measures (please clarify what these mean) implemented. This reads to mean the number of community level subprojects implemented which is an output indicator. **CR21:** Not addressed. The response notes table 6 as being added but table 6 provides the project timeline information.

		to and mitigate impacts of climate change by mid-term'. This is very general and unrealistic. What are the staff expected to be able to do? Component 3 would need to be strengthened considerably to ensure training is justified and would contribute to longer term sustainability under the project. **CR 22:** Outcome 2 of the project is linked to oucome 4.2 of the AF RF (pg 74). However the indicator does not correspond with physical infrastructure but corresponds to number of stakeholders claiming resilience. Please address. **CR 23:** a number of indicators require surveys for the monitoring of outcomes. However no surveys are budgeted specifically in the component budget or project execution costs? Without a budget these indicators cannot be adequately monitored. It is not clear further how many surveys will be conducted and what kind of methodology used?	Please see above comment on providing specific page numbers in responses. **CR22:** Addressed. **CR23:** Not sufficiently addressed. While USD 4,000 is budgeted for the survey, it is not clear, how many surveys will be conducted, given there is no baseline. In addition, household surveys are noted but no further discussion on it is there.
	12. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	**CR 24:** The sustainability of project activities needs to be strengthened. For instance, barring a few instances, the links between studies under component 1, investments under component 2 and training of staff under component 3 needs to be strengthened much more. The contribution of project outcomes (and as measured by the indicators presented) to the objective of the project	**CR24:** Not fully addressed. It is noted that local governments have budgets to implement project activities (which ones?)? Do they lack the technical know-how? If so this is a salient point that should be highlighted upfront.

		are also not clear. **CR 25:** One of the rationales for sustainability is the comprehensiveness of the project. However, this is a critical concern as well since by attempting too much in too many places it is unlikely that long-lasting deep impact can be achieved. The proposal does not elaborate on who project activities will continue after the project period – for ex. are there commitments to budget for these activities in the institutional budgets of the agencies in the post project period?	**CR25:** Not fully addressed. Questions remain: How will technical assistance be provided in the post project period, assuming local governments can fund the implementation of the sub-projects? What is the availability of technical capacity in-country?
	13. Does the project / programme provide an overview of environmental and social impacts / risks identified?	**CR26:** This section needs to be revisited with a more thorough screening of ES risks and impacts. The project is labeled as category C but includes infrastructure investment, activities involving indigenous communities and natural habitats. The proposal also mentions changes to regulations – it is not assessed if there will be any winners or losers and whether there could be potential for social conflict.	**CR26:** Please see CR8 above.
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	Yes.	
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme	It is 8.5%.	

	budget before the fee?		
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget?	It is 8.7%	
Eligibility of IE	4. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes	
Implementation Arrangements	1. Is there adequate arrangement for project / programme management?	The project management framework is present with a project steering committee and Project management unit as well as local coordination committees in the three departments. **CR27:** One area which could be strengthened is how community representation will be addressed? How will activities be managed at the community level? How will resource allocation issues and potential conflicts addressed?	**CR27:** Addressed.
	2. Are there measures for financial and project/programme risk management?	**CR 28:** Financial risks are not discussed. Please address. **CR 29:** Project management risks are discussed. However, some of the mitigation measures for institutional risks need to be revisited. E.g. The mitigation measure for rotation of trained staff out	**CR28:** Addressed. **CR29:** Partly addressed. The particular example has been addressed in that the mitigation measure has been changed to have trainers develop training materials for new staff.

		of the agency is 'to request the departing staff to train replacement staff'. This does not seem adequate. **CR 30:** The issue of institutional mandates and any potential risks are not discussed. Agencies do not really act unless it is their mandate and the proposal is not clear on this issue. The Environment Secretariat seems to be operating as an implementation as well as regulatory and planning agency – planning, operationalisation, regulation, evaluation etc.	**CR30:** Not fully addressed. While there is a section on the various institutions, this comment is not fully addressed. The institutional incentives for the various agencies to participate in the project could be elaborated.
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy of the Fund? Proponents are encouraged to refer to the draft Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy, for details.	As noted above, it is requested that the ES screening be revisited, as a category C does not appear to be justified in light of the project activities.	
	4. Is a budget on the	**CR 31:** Budget amount is provided but	**CR31:** Addressed.

	Implementing Entity Management Fee use included?	no breakdown of implementing agency management fee is given.	
	5. Is an explanation and a breakdown of the execution costs included?	Yes.	
	6. Is a detailed budget including budget notes included?	Yes.	
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators?	Comments on strengthening the results monitoring have been noted above. The RF needs to be strengthened to make the indicators tighter and more relevant to measuring project objectives. Indicators need to be refined (how is resilience measured in this case.) The surveys needed for measuring indicators in the RF need to be separately budgeted.	
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	No.	
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator	Yes. However, core outcome indicators are not identified.	

	from the Fund's results framework?		
	10. Is a disbursement schedule with time-bound milestones included?	Yes.	

Technical Summary	The project has seen different iterations and has been revised based on recent consultations. However, there is further work needed to strengthen the proposal. A number of detailed comments have been listed above and they fit in three categories: 1) **Scope** – the scope of the proposed project is ambitiously large given the resource envelope available. This is both in terms of geographic scope (10 communities distributed over a very large region covering the majority of the country) and in terms of thematic areas – addressing such challenging areas such as forest restoration and conservation, water storage infrastructure, weather monitoring and forecasting, introducing new crops and addressing silvopastoral methods, training, technical studies etc. – all within USD 6 million (project management and implementing agency fee is not included here). Of this, only 1.5 million is focused on community activities. 2) Given that the project is trying to do so much, the **problem analysis** does not provide adequate justification. While considerable information has been gleaned from a 2013 UNEP assessment of two communities (and quoted extensively in the proposal), the proposal is weak in two specific areas. Strategic analysis – what are the key issues being addressed and what objectives are realistically achievable? It is not possible to regulate the climate (noted as one of the benefits) given the available resources and the wide scope of the project. Food security is listed as an objective but little is discussed about the food insecurity or crop yields or other external factors affecting food security in the project areas. The approach to food security is stated as being through an ecosystem approach. But this link is not explained or elaborated. What ecosystems are being affected (Which ones are degraded, to what extent, and how do they affect food security in the noted areas)? Some attention is paid to adaptive measures (roof based water harvesting, assessment of indigenous crops, etc.) but much more needs to be done in justifying how stakeholders can claim increase in resilience. The link between project activities and the increase in stakeholder or ecosystem resilience needs to be further strengthened. 3) **Institutional issues** - A glaring gap in the proposal is how the environment secretariat is expected to have long lasting change and sustain project activities without a clear discussion of its mandate and the roles and incentives for other agencies. Given its centric role as seen through this project covering management, implementation, planning and regulation in a variety of sectors – forests, agriculture, livestock, environment, land management etc., it is not apparent that this will be feasible. Component 3 reflects this lack of clarity as the training program is not defined, nor is it clear what will be achieved

through this training. The activity related to improving the regulatory framework appear ambitious (to the point of being unrealistic) and at the same time not well defined. For instance, the project aims to change 5 policies, but does not say which ones or how they will be changed? There does not appear to be a budget to support regulation change nor has the need for such changes been discussed.

The results framework reflects the weaknesses discussed above in the proposal as the indicators need further clarity in some cases, while in other cases, the links between outputs, outcomes and achievement of project objectives need to be developed. One important area in terms of stakeholder consultation that needs elaboration is whether the proposed activities have been discussed with the concerned communities or demand for these activities in these communities have been expressed.

The following corrective action requests (CARs) and clarification requests (CRs) were made by the initial technical review. It was also recommended that the proposal be revisited to ensure greater consistency between the various planned activities.

CR 1: Please clarify the following issues related to project design:

a) The geographic spread is 10 communities spread across a very large region of the country. It is not clear how these communities were chosen and what the specific vulnerabilities of these communities are, with regard to food security, which is the objective of the project.
b) The problem analysis would have to be strengthened. The lack of clarity in problem analysis is reflected in the objectives. The project appears to address a number of objectives (food security, reduction of climate change vulnerability, ecosystem services) simultaneously without deriving the links between them in the specific case (the general case is made using a number of studies quoted extensively and in verbatim) of the communities – how do the investments and actions to be taken by SEAM address food security and ensure ecosystem services. It would be expected that significant investments would be needed in forest conservation or installing community infrastructure for water management or for promotion of sustainable agro-pastoral production. It is not clear how the small scale of this project (and even smaller actual investment in community activities) will actually make any significant impact on the proposed objectives. It is noted that water stress is low to moderate and that intact ecosystems are present. It is not clear what integrated ecosystems are being addressed in the 10 communities as they appear to be spread through the region.
c) The institutional picture needs to be clarified, specifically with regard to the mandate of the Environment Secretariat. Is it an executing agency/ministry in the Paraguayan context? The project activities call for implementation as well as for planning. The proposal needs to clarify the mandates of different agencies regarding planning and regulation.
d) Which regulatory instruments are to be addressed through this proposal? The proposal needs to strengthen the description of the activity on improving the regulatory framework and incentive

	structures. e) The training component needs further elaboration (the section is non-specific noting technical, planning and communication trainings). What specific trainings will be conducted? How does this component contribute to adaptation and food security? f) The results indicators need to be revisited to have specific targets and clear indicators (additional comments on Results Framework are below). **CR 2:** Given the large geographic scope – 10 communities in 3 departments – please clarify how many investments per community can be adequately made. **CR3:** Please clarify the average size of the actual community investments. Given the kind of investments planned, unless they are of a reasonable scale it is unlikely that they can have significant impact on adaptive capacity. **CR4:** However, it is recommended that the section on economic, social and environmental benefits be strengthened considerably by providing more information on expected increase in crop yields and other economic benefits (also info on the current baseline). **CR5:** Please clarify the baseline in the communities regarding food security etc. **CR6:** It is recommended that the section on benefits be revisited to ensure that the claims made are reasonable. While a number of environmental and social benefits are listed including climate regulation and decreased exposure to higher temperatures, it is not clear from the proposal or the scale of activities, as to how this will be accomplished. **CR7:** A small proportion of the total project is aimed at addressing community investments of considerable scope. The proposal does provide information at the national level on damages resulting from climate change. Please strengthen. The objective of the proposal is to increase food security. Please clarify in the proposal the current status regarding food security in the 10 communities and discuss the issues regarding the specific vulnerabilities. **CR 8:** It is recommended that the environmental and social screening be revisited. The proposal includes a number of activities – investments in water infrastructure, forest conservation, agricultural production, installation of weather stations that could trigger environmental and social policies of the fund. Also, some of the communities are indigenous. In addition, the proposal notes that the project will address environmental compliance regulations, which may have economic impacts. The proposal does not have adequate information on possible economic losses that could trigger the involuntary resettlement policy of the fund. In all, the justification for category C does not appear valid. **CR 9:** It is recommended that the project provide a clear justification for the selection of communities based on their vulnerability, fit with project objectives, impact at scale and sustainability. Most of the project activities are oriented towards knowledge management and learning. Component 1 largely supports technical studies, while component 3 addresses training at the national level (at the environment secretariat and to a lesser degree at partner agencies). Component 2 also has an activity on community training.

	CR 10: An area where information can be strengthened is an outline of national efforts to improve the enabling environment for sustainable agriculture and forestry. How do the efforts of this proposed project fit within the national effort to strengthen enabling environment, with specifics on which regulations will be addressed, what policies are expected to be changed or what targets and plans will be put in at the national level. Which institution has the mandate for planning and how will the project support those plans. **CR11:** While there is provision in the project for installation of weather monitoring stations (and software) and plans to develop weather forecasts, there is no mention of training on forecasting or capacity of forecasters at present. Given the technical complexity of developing sound forecasts based on a sparse weather monitoring network, the lack of training will render this activity as not useful. It is recommended that the proposal outline the baseline for developing the weather services and include information on relevant needs beyond installation of infrastructure (e.g. How will forecasts be developed and disseminated?) **CR 12:** It is recommended that the proposal note any stakeholder consultations conducted with communities, both peasant and indigenous communities and strengthen the gender aspects. **CR 13:** It is recommended that the project assess more carefully the potential impact on adaptive capacity of the communities. There is little information on the specific communities. In addition, please clarify if outputs 1.2-3, 5. 7-8 are focused on the 10 communities or have different geographical focus. **CR 14:** It is recommended that the indicator for outcome 1 be revisited to make it more specific and clear. The 'number of knowledge gaps' is somewhat vague and the target of 'no knowledge gaps by mid-term' seems unrealistic. **CR 15:** It is recommended that output 1.6 be firmed up further to clarify its result. At present, as stated "Comprehensive and strategic study on the contribution to adaptation of the existing regulatory framework" is both non-specific and unclear. Which regulatory frameworks? What kinds of adaptation? What is expected as a result of such a study? Given that there is a recent National Climate Change Adaptation strategy (2015), why is this study needed? What additional information will be sought under this study? **CR16:** Based on the adaptation strategy, climate change plan, other agriculture sector, forestry, and water sector planning, please strengthen analysis on potential areas for strengthening the regulatory framework that is likely to be attempted under this project. Without such a gap analysis, the justification for 1.6 seems inadequate. Activity 2.2.4 notes 5 policies or plans will be improved – which ones are these? **CR 17:** For the indicators for Outcome 2 – Percentage of stakeholders claiming resilience. Please note the baseline – how many stakeholders in all? How will they measure or interpret resilience? It is recommended that this indicator be revisited to ensure its measurability and clarity. **CR18:** While the objective is food security through ecosystem services, there do not appear to be any indicators that monitor these. The indicator on additional crops to be produced is not clear. Are new crops going to be promoted by the project? If yes, which ones? Have these crops been researched and adapted to the local environment? Are market conditions suitable for the production of these crops? If they are for consumption, are they part of the traditional diet?

	CR19: For community training, please clarify why the number of sessions rather than the number of stakeholders being trained is measured? **CR 20:** Indicator for output 2.2 - Number of critical areas with increased resilience (in which communities or location). How are critical areas being defined? How is resilience measured here? What ecosystem indicators are to be measured? Please clarify this indicator. **CR 21:** It is not clear how staff who are trained under component 3 can 'respond to and mitigate impacts of climate change by mid-term'. This is very general and unrealistic. What are the staff expected to be able to do? Component 3 would need to be strengthened considerably to ensure training is justified and would contribute to longer term sustainability under the project. **CR 22:** Outcome 2 of the project is linked to outcome 4.2 of the AF results framework (p. 74). However the indicator does not correspond with physical infrastructure but corresponds to number of stakeholders claiming resilience. Please address. **CR 23:** A number of indicators require surveys for the monitoring of outcomes. However no surveys are budgeted specifically in the component budget or project execution costs? Without a budget these indicators cannot be adequately monitored. It is not clear further how many surveys will be conducted and what kind of methodology used? **CR 24:** The sustainability of project activities needs to be strengthened. For instance, barring a few instances, the links between studies under component 1, investments under component 2 and training of staff under component 3 needs to be strengthened much more. The contribution of project outcomes (and as measured by the indicators presented) to the objective of the project are also not clear. **CR 25:** One of the rationales for sustainability is the comprehensiveness of the project. However, this is a critical concern as well since by attempting too much in too many places it is unlikely that long-lasting deep impact can be achieved. The proposal does not elaborate on who project activities will continue after the project period – e.g. are there commitments to budget for these activities in the institutional budgets of the agencies in the post project period? **CR 26:** This section needs to be revisited with a more thorough screening of ES risks and impacts. The project is labelled as category C but includes infrastructure investment, activities involving indigenous communities and natural habitats. The proposal also mentions changes to regulations – it is not assessed if there will be any winners or losers and whether there could be potential for social conflict. **CR27:** One area which could be strengthened is how community representation will be addressed? How will activities be managed at the community level? How will resource allocation issues and potential conflicts addressed? **CR 28:** Financial risks are not discussed. Please address. **CR 29:** Project management risks are discussed. However, some of the mitigation measures for institutional risks need to be revisited. E.g. The mitigation measure for rotation of trained staff out of the agency is 'to request the departing staff to train replacement staff'. This does not seem adequate.

	CR 30: The issue of institutional mandates and any potential risks are not discussed. Agencies do not really act unless it is their mandate and the proposal is not clear on this issue. The Environment Secretariat seems to be operating as an implementation as well as regulatory and planning agency – planning, operationalisation, regulation, evaluation etc. **CR 31:** Budget amount is provided but no breakdown of implementing agency management fee is given. The final technical review concludes that the issues related to scope and problem analysis remain. In an effort to add information to address the review comments, the document has now become unwieldy without a coherent, succinct storyline providing a clear problem analysis and justification. It is unclear what the project is about till one reaches page 28 (as noted above). There is considerable useful information but it is often presented haphazardly and feels like information chunks rather than fully linked within a clear storyline. The basic problem analysis and justification can be strengthen further (not by adding additional verbiage but) by strengthening the framework of the project document with a clear, achievable objective, defined outcomes (with measurable indicators) and components that address the problem analysis. It is recommended that the project document be reworked in its entirety with a view to see what can realistically be achieved in the pilot communities (and whether such a geographic scope is necessary). The lack of information (or community level consultation) is also a limiting factor to expected outcomes since essentially much of the project design and preparation is to be done during project implementation. In the future, it would also be important to provide specific references in the responses to page numbers or footnote numbers. The final review finds that a number of clarification requests remain not sufficiently addressed. In particular, the proponent should pay attention to the following: • The proposal should substantiate the basic problem analysis and justification by strengthening the framework of the project document with a clear, achievable objective, defined outcomes and components that address the problem analysis. This should be done with a view to what can realistically be achieved. • The proposal should provide more comprehensive information on baselines at the community level. • The proposal should clarify the institutional roles and contribution to the project, including coordination during and responsibilities after the project. • The proposal should clarify what it would do to put incentives and disincentives in place. • The proposal should further strengthen the link between the training component and the rest of the project or the achievement of its objectives. • The proposal should further improve the design of the activity on weather monitoring. • The results framework of the project would need to be further strengthened.
Date:	September 12, 2016

Amended in November 2013

Formatted: Justified

ADAPTATION FUND

REQUEST FOR PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN P4-400
Washington, D.C., 20433
U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org

List of acronyms

Acronym	Description
AOP	Annual Operating Plan
ARP	Rural Association of Paraguay (SP)
CADEP	Centre for the Analysis and Outreach of the Paraguayan Economy (SP)
CFA	Collaboration for Forest and Agriculture
CNCC	National Commission on Climate Change (SP)
CONAM	National Environmental Council (SP)
DINAC	National Direction of Civil Aeronautic. Direction of Meteorology (SP)
DMH	Directorate of Meteorology and Hydrology (SP)
ECLAC	Economic Commission for Latin America and the Caribbean
ENACC	Paraguay's National Climate Change Adaptation Strategy (SP)
FAPI	Federation for the Self-determination of Indigenous Peoples (SP)
FCAA	Forest Conservation Agriculture Alliance
GDP	Gross Domestic Product
GNI	Gross National Income
HDI	Human Development Index
IIACA	Inter-American Institute for Cooperation in Agriculture
INAN	National Food and Nutrition Institute
IND	Intended Nationally Determined Contribution
INDERT	National Institute of Rural Development and Lands (SP)
INDI	Paraguayan Institute of Indigenous Peoples (SP)
INFONA	National Forestry Institute (SP)
INTN	National Institute of Technology, Standardization and Metrology
IPCC	International Panel on Climate Change
IPTA	Paraguayan Institute of Agrarian Technology (SP)
LCC	Local Coordination Committees
MAG	Ministry of Agriculture and Livestock (SP)
MIC	Ministry of Industry and Commerce
MTR	Mid-Term Review
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organization
NSC	National Steering Committee
ONCC	National Office for Climate Change (SP)
PAI	National Programme for Indigenous

Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified

	People Economy and Agriculture (SP)
PLANAL	National Plan for Food Sovereignty and Security (SP)
PMU	Project Management Unit
PNCC	National Climate Change Program (SP)
PPA	National Programme to Support Food Production by Family Agriculture (SP)
REGATTA	Regional Gateway for Technology Transfer and Climate Change Action in Latin America and the Caribbean
SEAM	Environment Secretariat (SP)
SEN	National Emergency Secretariat (SP)
SENASA	National Environmental Sanitation Services (SP)
SENAVE	National Service of Vegetal and Seed Health and Quality (SP)
SISNAM	National Environmental System (SP)
UNA/FCA	National University of Asuncion, Agrarian Faculty (SP)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States (of America) Dollar
VIA	Vulnerability and Impact Assessment
WCS	World Conservation Society
WSI	Water Stress Index
WWF	World Wildlife Fund

Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified

ADAPTATION FUND

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Regular project
Country/ies:	Paraguay
Title of Project/Programme:	Ecosystem Based Approaches for Reducing the Vulnerability of Food Security to the Impacts of Climate Change in the Chaco region of Paraguay
Type of Implementing Entity:	Multilateral Implementing Agency
Implementing Entity:	United Nations Environment Programme
Executing Entity/ies:	Environment Secretariat of Paraguay
Amount of Financing Requested:	7,128,450 (in U.S Dollars Equivalent)

Project / Programme Background and Context:

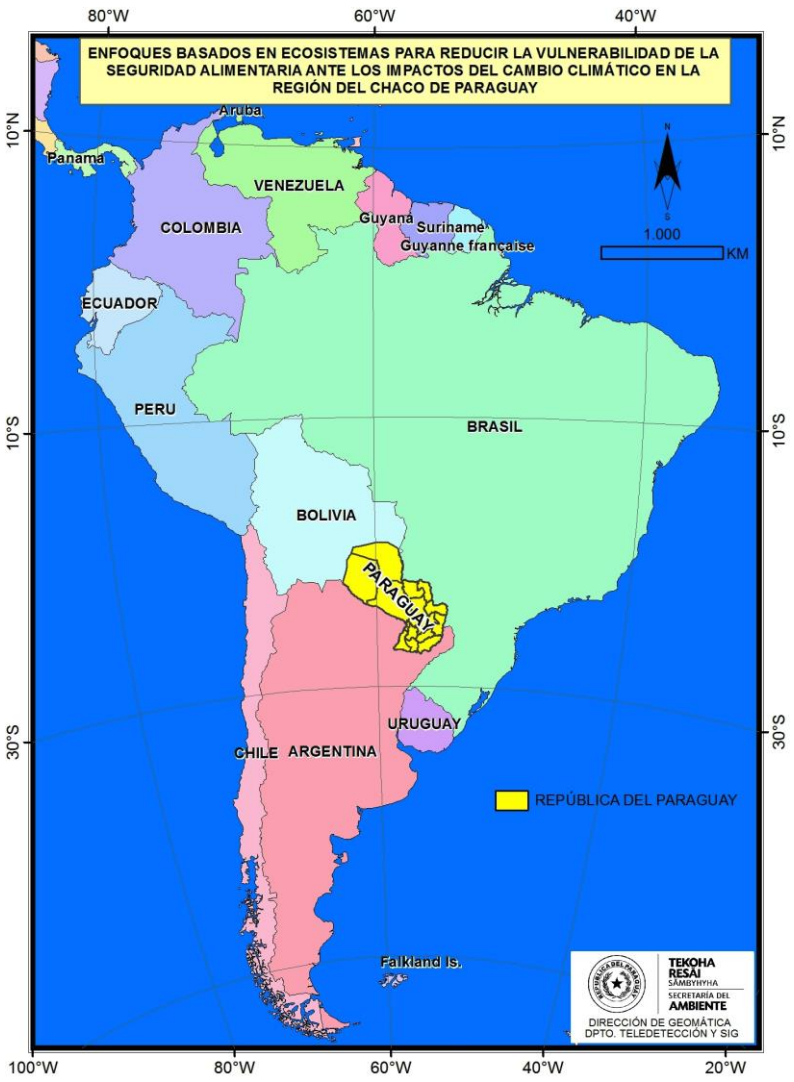
Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.

General context

Formatted: Font: Bold, Italic

As illustrated in Map 1, the Republic of Paraguay is a landlocked country in central South America, bordered by Argentina to the south and southwest, Brazil to the east and northeast and Bolivia to the northwest.

Map 1. Paraguay in Latin America.



The country is divided by the Paraguay River into two regions. To the east of the river is the Eastern Region, with 14 departments and the capital district. To the west of the river is the Western Region or Chaco, which represents more than 60% of the country's land

area and has 3 departments: Presidente Hayes, Alto Paraguay and Boqueron. The country is divided in 250 districts. Map 2 illustrates this.

Map 2. Departments in Paraguay

The country has nearly 7 million inhabitants, 60% urban[1]. The population is concentrated in the Eastern region, with 97% of the country's inhabitants. Great Asuncion, the metropolitan area encompassing the capital, Asuncion, and 12 surrounding cities, has more than 2.5 million inhabitants, that is, almost 40% of national population. The population of the country is expected to grow to almost 8 million by 2025[2].

In 2014, Paraguay's human development index (HDI) was 0.679, being the 112 out of 188 countries that year. Comparatively, Paraguay's HDI is above the average of 0.630 for countries in the medium human development group and below the average of 0.748 for countries in Latin America and the Caribbean[3]. Between 1980 and 2014, Paraguay's HDI value increased significantly (23%). The growth in GNI per capita was particularly high in the period, increasing 36%, and being the highest in Latin America. Over the last decade, the Paraguayan economy grew at an average of 5%, higher than its neighbours. Coupled with social policies, social indicators have improved in the country over the last two decades. Between 1980 and 2014, Paraguay's life expectancy at birth increased by 6.1 years, mean years of schooling increased by 3.1 years and expected years of schooling increased by 3.7 years. Income of the bottom 40% increased by 8% annually between 2009 and 2014 and the proportion of Paraguayans living below the regional poverty line (USD 4 a day) fell from 32.5% to 18.8%. According to the 2015 Households Survey, between 2011 and 2015, the proportion of Paraguayans living below the national poverty line decreased from 32.4% to 22.2%, with 1,534,000 Paraguayan considered poor in 2015. Poverty in rural areas continues to be higher than in urban areas. In 2015, 32.5% of the rural population or 895,000 people were living below the poverty line, well above the 15.4% in urban areas (640,000 people)[4].

The Paraguayan economy is however very volatile, as it is significantly linked to natural resources. The primary sector accounted for 27% of Gross Domestic Product (GDP) in 2015[5]. As shown in Figure 1~~Figure 1~~Figure 1, the importance of the primary sector has increased since 1994, while the percentage of the secondary sector has decreased in the same period, even if electric power is a huge business for the country[6]. As some of the activities included in the secondary and tertiary sectors are related to the primary sector (e.g. some processing, transport or commerce activities), agriculture and livestock are crucial sectors in Paraguay. According to the Centre for Analysis and

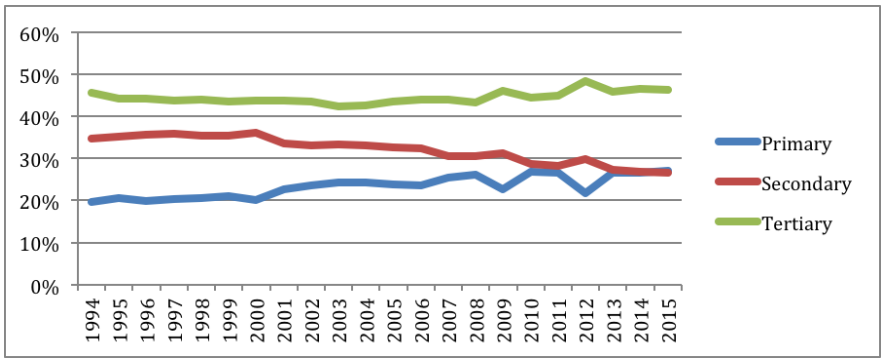
Formatted: English (United States)

Formatted: English (United States)

[1] General Directorate of Statistics, Surveys and Census (DGEEC by its Spanish initials) (2015): Continuous Household Survey 2015.
[2] DGEEC (2015): District Population Projections 2000-2025. 2015 Update.
[3] United Nations Development Programme (UNDP) (2016): 2015 Human Development Report. Work for human development. Briefing note for Paraguay, p. 2.
[4] DGEEC (2015). Main finding on poverty and income distribution of the Continuous Household Survey 2015. Asuncion, Paraguay: DGEEC. The poverty line is different in urban and rural areas in Paraguay.
[5] DGEEC (2015): Continuous Household Survey 2015. The primary sector includes agriculture, livestock, hunting and fishery. The secondary sector includes mining, electricity and water, construction and industry. The secondary sector includes services (e.g. commerce, transport, communications, financial and insurance services, hotels and restaurants and government).
[6] Paraguay is the world's biggest net exporter of electric power.

Outreach of the Paraguayan Economy (CADEP by its initials in Spanish), in 2015 80% of originally Paraguayan goods' exports were composed of agricultural and livestock products and their agro-industrial processing[7]. According to the 2015 Household Survey, 21% of the population of Paraguay worked in the primary sector, up to 47% in rural areas.

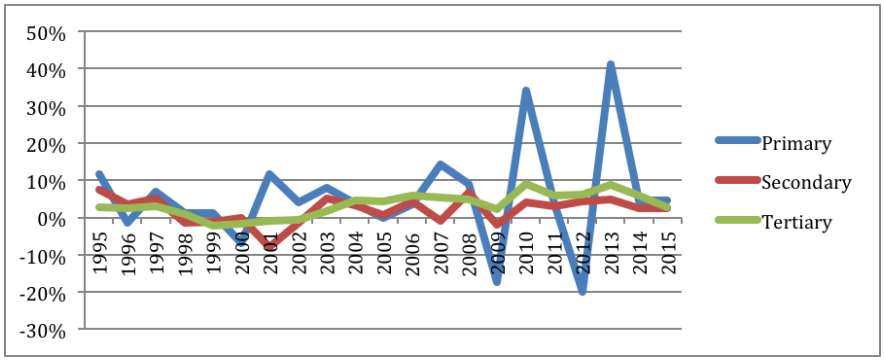
Figure 1. Paraguay. Sectoral Contribution to GDP. 1994-2015



Source: Own calculation based on Statistical Annex. Economic Report. May 2016. Paraguayan Central Bank.

Figure 2~~Figure 2~~~~Figure 2~~ proves, however, that the sector is highly volatile. While the secondary and tertiary sectors have not experienced great variations, the primary sector has experienced dramatic increases and decreases in the last 20 years, particularly acute in the last seven years.

Figure 2. Paraguay. Variations in sectoral GDP. 1994-2015



[7] CADEP: 2015. Crecimiento económico y el factor agro-alimentario.

Formatted: Justified

Formatted: English (United States)

Formatted: English (United States)

Formatted: Justified

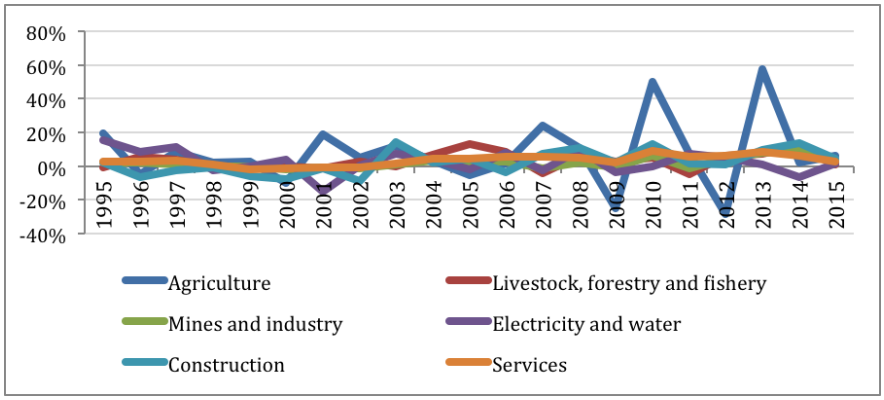
Source: Own calculation based on Statistical Annex. Economic Report. May 2016. Paraguayan Central Bank.

As shown in Figure 3~~Figure 3~~Figure 3, agriculture is particularly volatile. This sector shows the greatest variability, well above all other sectors, between 1995 and 2015, with significant volatility in from 2006.

Formatted: English (United States)

Formatted: English (United States)

Figure 3. Paraguay. Variations in sub-sectoral GDP. 1994-2015.



Source: Own calculation based on Statistical Annex. Economic Report. May 2016. Paraguayan Central Bank.

In this background, the Paraguayan economy is considerably dependent on weather conditions, in terms of production, and international commodity prices and the economic situation of some destination markets, such as Brazil and Argentina, which account for 40% of the country's exports and are the main source of foreign direct investment, in terms of income. According to the World Bank, growth decelerated to an estimated 3% in 2015 due to bad weather conditions and low international commodity prices. According to the same source, prospect of international prices for key commodities for 2016 and 2017 are far from great. The slowdown of Brazil and Argentina could weigh down on the outlook going forward.

Vulnerability to climate change

Formatted: Font: Bold, Italic

In the long term, given its nature, climate change may ~~be~~ have a more structural ~~driver of~~ impact in economic growth and, with an important complexity involving political priorities, the evolution of income and social indicators at the national level as a whole, and in rural areas in particular. Although the non-primary sector related secondary and tertiary sector activities are currently crucial and it is sensible to strategically invest in them, as reflected in the National Development Plan 2014-2030, both to reduce their vulnerability to climate change and increase their added value, and urban areas and population are also fundamental, Paraguay certainly needs to increase the resilience of

its primary sector and rural population. Indeed, climate change policies and studies have tended to focus on agriculture, livestock and forestry. These topics are prioritized in Paraguay's National Climate Change Adaptation Strategy (2015) (ENACC by its Spanish initials), in the study conducted in 2011 by the United Nations Development Programme (UNDP) on the investment and financial flows needed for adaptation[8] and in the assessment conducted by the Economic Commission for Latin America and the Caribbean (ECLAC by its Spanish initials) in 2014[9] on the economic impacts of climate change[10].

The vulnerability to climate change is particularly high for family agriculture (ENACC, 2015, p. 30), which in the last (2008) agricultural census represented 94% of the total number of farms in the country, with 83% of all farmers having less than 20 hectares. According to ECLAC (2013), while business agriculture would have an initial period of higher productivity, the productivity of family agriculture would register notable declines from 2010. Indeed, the UNDP (2011) study found that 99% of the additional USD 115.5 million[11] public investment needed for adaptation in the agriculture and livestock sector in the period 2010-230 would be for family agriculture[12]. This means that every year around additional USD 6 million, ~~around~~ (equivalent to approximately 1.5% of the GDP), would need to be invested by public institutions to increase the resilience of family agriculture. ~~The i~~Indigenous people are also very vulnerable, given their material and cultural link with natural resources. Although their main source of income is derived from occasional wage labour carried out outside their communities, indigenous communities also depend on ecosystems for food through agriculture, livestock, hunting and gathering activities, wood for housing and fuel, medicines and maintaining their traditional ways of life.

Vulnerability to climate change in El Chaco Region

Formatted: Font: Bold, Italic

The vulnerability of the primary sector and family agriculture and livestock makes the region of Chaco particularly vulnerable. The Chaco region is a vast area with slightly more than 200,000 inhabitants[13]. According to the climate change vulnerability, impact and adaptation (VIA) analysis ~~vulnerability and impact assessment~~ conducted by

[8] UNDP (2011): Assessment of the investment and financial flows in agriculture, health and forestry. Asuncion, Paraguay: UNDP. The assessment focused on the flows required for adaptation in agriculture, livestock and health and the flows related to mitigation in forestry.
[9] ECLAC (2014): Climate change economics in Paraguay. Santiago, Chile: ECLAC.
[10] Health has tended to be prioritized also as a critical sector. It is explicitly covered in the ENACC, and the UNDP and ECLAC reports. The ENACC also includes social issues (the activities related to the Social Affairs Secretariat), and has a more integrated closing section. The ECLAC report includes water resources and biodiversity in addition to agriculture, livestock, forestry and health.
[11] Constant at 2005 prices and with 3% annual discount rate. UNDP (2011), p. 15.
[12] In this study family agriculture covers consumption crops (i.e. cassava, peanuts and beans) and income crops (i.e. cotton, sugar cane and sesame), business agriculture covers corn, soya and wheat, and livestock covers meat and milk cows. Note that these investment flows do not include all financial costs; all agricultural and livestock subsectors; and the costs to be borne by the private sector. Significantly, they do not cover either the costs related to other critical sectors, such as health, forestry and infrastructure, including housing, productive infrastructure, transport or energy.
[13] DGEEC (2015): District Population Projections 2000-2025. 2015 Update.

UNEP[14] for the period 2011-2040, the Paraguayan Chaco is the most vulnerable area of the Great Chaco, a broader region including also 11 provinces in Argentina and 3 provinces in Bolivia. The three Paraguayan departments have great exposure, great sensitivity and low adaptive capacity.

According to the Paraguayan Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) (2011, p. 20), the Chaco is the warmest and driest region of the country. Average temperature ranges between 23 °C and 26 °C. Summers are very warm, with maximum temperatures going in average up to more than 30°C, reaching up to 45°C. In winter, the minimum temperatures go in average down to 12°C, reaching even 0°C.

The region is dry, with an average of 60 days of rain per year, but with very low precipitation levels. In the south of the region the annual average is 1,000 mm, while in the northern part the annual average is 600 mm. Rain is more frequent in summer, while droughts are predominant in winter (an average of 8 days with rain in January and 2 days with rain in July).

The UNEP (2013) VIA analysis ~~assessment~~ provided climate change projections up to 2040, using International Panel on Climate Change (IPCC)'s A2 scenario (significant increase in greenhouse gas emissions) and taking the period 1961-1990 as the baseline. As presented in

[14] UNEP (2013): Climate Change– vulnerability, impact and adaptation (VIA) analysis ~~Impact and Vulnerability Assessment~~ in the Great Chaco Region. Panama City, Panama: UNEP. Conducted by a consortium of three institutions: Universidad Nacional de Formosa (Argentina), Universidad de la Cordillera -Fundación la Cordillera (Bolivia) and Desarrollo, Participación y Ciudadanía (Paraguay) (UNF-UC-FC-DPC)

Formatted: Spanish (Panama)

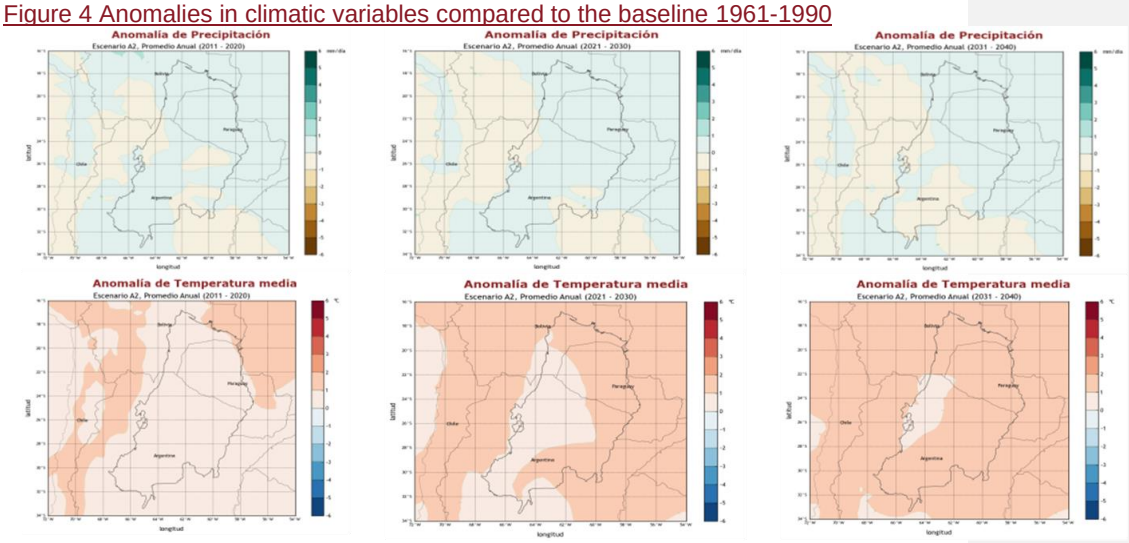
Formatted: Spanish (Panama)

Formatted: (none)

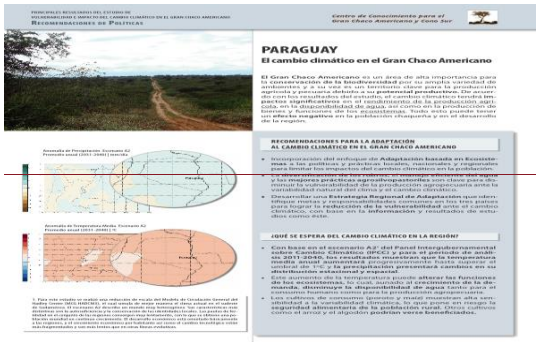
Figure 4 Anomalies in climatic variables compared to the baseline 1961-1990

~~Figure 4~~Figure 4, according to the study, average annual near-surface temperature would increase gradually to up to 1 more degree Celsius by the 2030, that is, 6% higher than in the baseline period, which given high baseline temperatures is quite significant.

Figure 4 Anomalies in climatic variables compared to the baseline 1961-1990



~~**Figure 4. Average annual near surface temperature change in the Paraguayan Chaco. A2 Scenario. 2031-2040.**~~



~~**Source: UNEP (2013): Climate Change Impact and Vulnerability Assessment in the Great Chaco Region. Synthesis for policy makers for Paraguay , p. 1**~~

Changes in average annual precipitation are more uncertain. TAs ~~shown in Figure 5,~~ the study projects a slight but gradual increase of average annual precipitation in the region. In terms of distribution, precipitation is likely to increase in winter and autumn in the three departments and decrease in Presidente Hayes and Boquerón in summer.

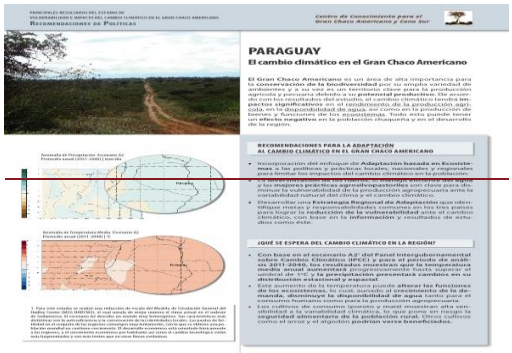
Formatted: Caption

Formatted: Justified

Droughts and floods are however projected to become more frequent and intense, with longer dry spells.

~~**Figure 5. Average annual rainfall change in the Paraguayan Chaco. A2 Scenario. 2031-2040.**~~

Formatted: Justified



~~Source: UNEP (2013). Synthesis for policy makers for Paraguay, p. 1~~

T

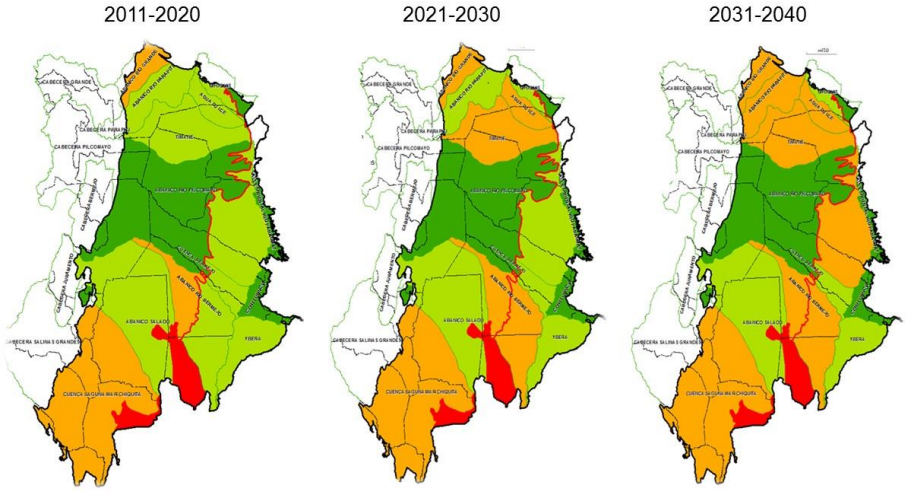
~~T~~hese changes in climate will affect water availability in a region where subsurface waters have limited use due to their high salinity level. Although in the region rainwater harvesting is relatively common[15], and, according to the UNEP (2013) VIA analysis, as illustrated in

[15] As a general rule the catchment system consists of the roofs of the houses. Pipes and filters are used to conduct the rainwater to a reservoirs or cistern used as a storage place. In addition, in some cases artificial ponds (tajamares) and tanks (particularly Australian ponds) are used.

Figure ~~Figure 5~~Figure 6, the water stress would be low until 2020, this will grow gradually to become moderate by 2030 in most of the region, with high water stress in the areas of low Chaco and riverside areas. This is in line with the Second National Communication's (2011, p. 65) concerns. Water scarcity would affect different uses, from water for human consumption to water for production, higher temperatures meaning increasing water demand.

Formatted: English (United States), Do not check spelling or grammar

Figure ~~65~~. Water stress in the Paraguayan Chaco. A2 Scenario.



S

~~S~~ource: UNEP (2013). Synthesis for policy makers for Paraguay, p. 3.

In addition, climate change will affect soil productivity. Increased temperatures and evapotranspiration, and more erratic precipitation, with longer dry spells, will increase the risk of desertification. This will affect significantly the production of most of the consumption crops, such as beans, sorghum and peanuts, and less significantly income crops, such as corn and sugar cane, and livestock production of meat and milk. The production of cotton and rice could benefit from climate change. In any case, the impact on consumption crops could negatively affect food security.

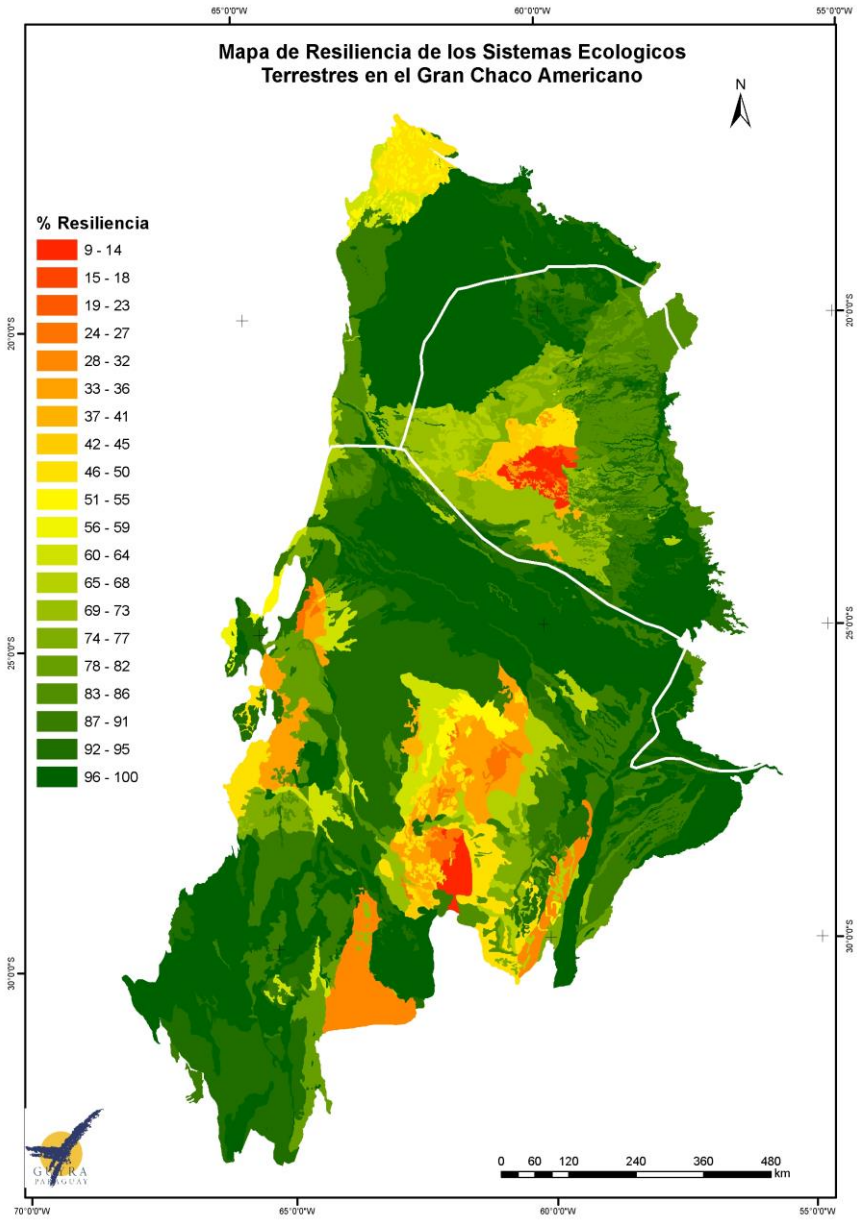
Crucially, climate change is predicted to affect also the different ecosystems of the region, affecting significantly adaptation and mitigation efforts.

Figure ~~Figure 6~~Figure 7 shows that, although deforestation, especially for livestock, has been significant over the last years, human activities have traditionally concentrated in a relatively small area in the centre-south and the region still maintains an extended area of non-modified ecosystems.

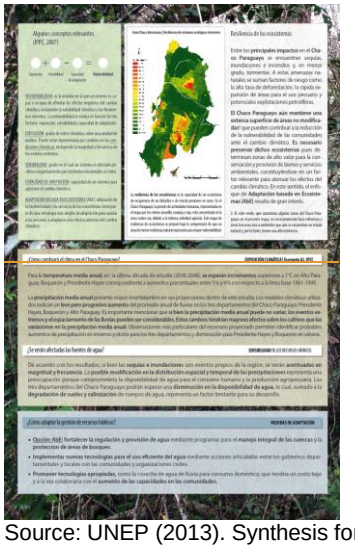
Formatted: English (United States), Do not check spelling or grammar

Formatted: English (United States)

Figure ~~76~~. ~~Non-modified~~ Ecosystems in the Paraguayan Chaco.



Formatted: Justified



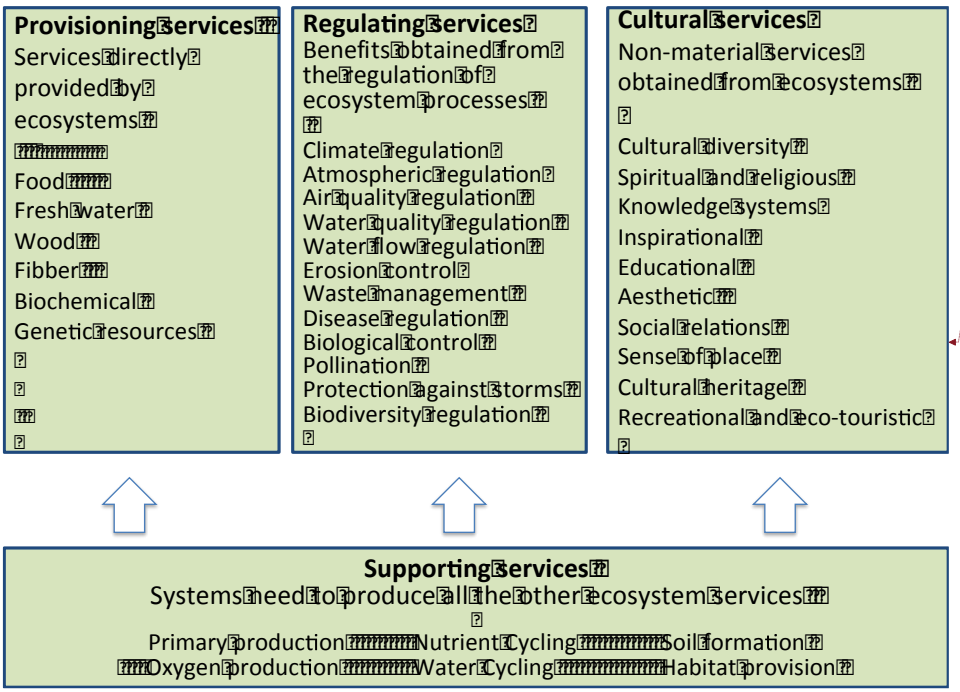
Source: UNEP (2013). Synthesis for policy makers for Paraguay, p. 1.

As illustrated in Figure ~~Figure 87~~Figure 8, ecosystems provide provisioning services, such as the production of food, freshwater, wood, fiber, rocks, oils, minerals, metals or fuel; regulating services, such as the control of climate and diseases and protection against weather events; cultural services, such as patrimonial, aesthetic, recreational and cognitive benefits; and supporting benefits, such as habitat provision, soil formation and nutrient cycling.[16]

Formatted: English (United States)

16 Some authors add the option value, attributed to preserving the option to utilize ecosystem services in the future, to the supporting, provisioning, regulating and cultural services. See Millennium Ecosystem Assessment: *Ecosystems and human well-being*, Millennium Ecosystem Assessment, Washington, 2005.

Figure ~~8~~7. Ecosystem services



Source: Adapted from Millennium Ecosystem Assessment (2005)

The UNEP (2013: 68-78) report confirmed the importance of the different ecosystems of the area for human well-being[17]. Resilience against climate change in general, and food security in particular would be highly affected by the degradation of ecosystems due to climate change, as highlighted in the Second National Communication.

Furthermore, the adaptive capacity to these impacts is low in the three departments of the region. As shown in- figure 8

~~Figure 9~~Figure 9. ov~~O~~verall, they have low social, infrastructure, institutional and human capacity.

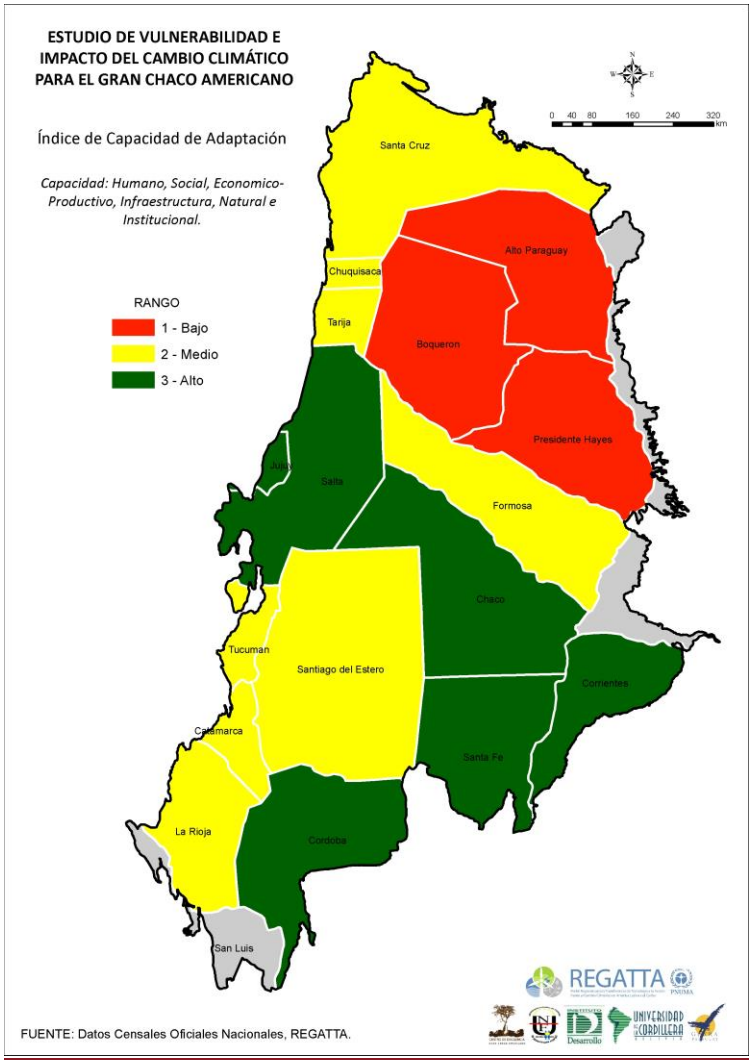
[17] The UNEP (2013: 65) report uses a slightly different conceptual framework.

Formatted: Justified

Formatted: Justified

Formatted: Justified

Figure ~~98~~. Adaptive capacity in the Paraguayan Chaco

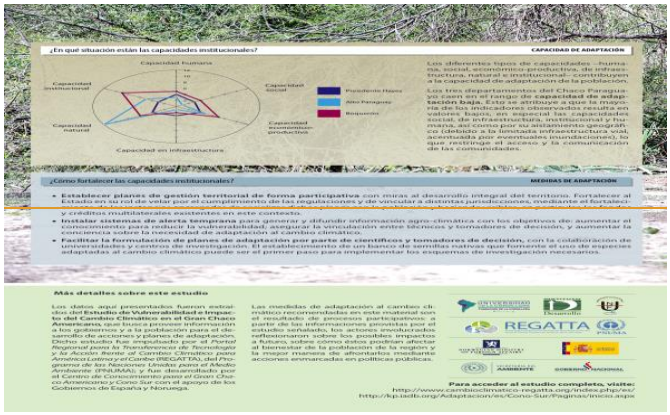


S

Formatted: Normal

Formatted: Font: (Default) Times New Roman, English (United States)

Formatted: Justified



Source: UNEP (2013). Climate Change Vulnerability, Impact and Adaptation (VIA) analysis of El Chaco Region in Paraguay

Indeed the three Paraguayan departments are the ones with the lowest adaptive capacity in the Great Chaco region. Three Bolivian and five Argentinian departments have all moderate adaptative capacity, and six Argentinian departments have high adaptive capacity.

The situation in the Paraguayan Chaco presented above can be better understood explaining the vulnerability to climate change and the adaptive capacity to deal with it at the community level. The UNEP (2013) VIA analysis ~~assessment~~ selected 4 communities: Campo Aceval and Lolita in the district of Teniente Irala Fernandez in Department of Presidente Hayes; Yalve Salga in the district Loma Plata in the Department of Boqueron and Toro Pampa in the District of Fuerte Olimpo in the Department of Alto Paraguay. Lolita, a typical Mennonite colony, was found to be not particularly vulnerable. Table 1~~Table 1~~~~Table 1~~ presents some contextual data regarding the three vulnerable communities studied by UNEP. As can be shown in the table, in both Campo Aceval and Toro Pampa the communities are composed of small farmers, while Yalve Sanga is an indigenous community.

Table 1. Contextual information of communities in the Paraguayan Chaco selected by UNEP

Department	Presidente Hayes	Boqueron	Alto Paraguay
District	Tte. Irala Fernandez	Loma Plata	Fuerte Olimpo
Community	Campo Aceval	Yalve Sanga	Toro Pampa
Area (ha)	18,000	6,000	200
Population	2,200	1,762	600
Type of beneficiary	Family agriculture	Indigenous (Nivaclé and Enlhet)	Family agriculture

Formatted: Justified

Formatted: Justified

The UNEP (2013) VIA analysis ~~report~~ found significant impacts to the changes in climate discussed above in these communities. Water scarcity would be low (water stress index (WSI) below 10%) in Toro Pampa; high in Yalve Sanga, where water supply would not cover water demand in some years; and extremely high in Campo Aceval, with WSI close to 80% by 2040. Moreover, in the three communities all agricultural products would be significantly affected, except for sesame in Yalve Salga, while meat and milk production would not be significantly affected.

The three communities are unevenly positioned to deal with these potential impacts. As shown with more detail on Table 2~~Table 2~~Table 2, overall, Campo Aceval has medium adaptive capacity, while this is medium low in Yalve Sanga, and low in Toro Pampa.

Table 2. Adaptive capacity in three selected communities in the Paraguayan Chaco

Resource	Indicator	Campo Aceval	Yalgue Salga	Toro Pampa
Physical	Housing quality	Medium	Medium	Low
Natural	Access and availability of water	Medium	Low	Low
	Conservation	Low	Medium	Medium
Human	Access to education	Medium	Low	Low
	Food security	Medium	Low	Low
	Knowledge on production systems	Low	Low	Low
Social	Organisation	High[18]	Medium[19]	Low
	Distribution of work	Medium	Medium	Low
Economic	Variation of annual production	Medium	Low	Medium
	Income diversification	Low[20]	Low[21]	Medium
	Access to credit	Medium	Low	Low
	Market access	High	Medium	Low

Source: UNEP (2013) – Assessment of selected communities, p. 3.

[18] Almost all farmers within Cooperativa Chortitzer.
[19] Two organizations of producers.
[20] 80% of the population manages livestock for milk production.
[21] In the area there is a mix of family farms, production of cotton, poroto and sesame, livestock, silviculture and occasional work in neighbor Mennonite colonies.

Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified

Agricultural sector and food production

The vulnerability of ~~these communities~~the region is related also to its food production. Agricultural land in the Chaco is only 2.7% of Paraguay's crop area of 13 244 km^2. Thus only 357 km^2 of the Chaco is cropped, 90% of which is in the Department of Boqueron. Most of the cultivation began after 1943, and the crop area doubled between 1956 and 1981. The main crops in the Department of Boqueron are sorghum, groundnuts and cassava. Since 1956, groundnut has increased from 2 500 ha to 9,500 ha, but farmer's yields are almost 20% below those obtained on research stations, with much higher shortfalls (60%) on a national basis[22].

In recent years, the Experimental Station for the Central Chaco, at Cruce Loma Plata, has had an extensive programme on crop agronomy and soil management and conservation. Considerable attention is being given to the use of green manures and tillage systems to reduce erosion and conserve moisture. It is still too early to make final recommendations, but cultivation in strips has reduced wind erosion substantially. Work on subsistence cropping systems, including maize, cassava, sweet potato, groundnut, beans, watermelon and pumpkin have not yet yielded the expected results, except that they show that mechanization does not provide a significant increase. More attention must be paid to the cultivars used and in particular that the crops are suitable for growing in association, rather than competing for the same environment (light, soil nutrients, water and humidity).

Table 3 gives the various crops and their areas in the Chaco and in the rest of the country from the 2008 census. It explains the big difference in productive capacity between the Chaco Region and the rest of the country.

Table 3. Crops areas in Paraguay.

Crops	Chaco (ha)	Paraguay (ha)	Crops	Chaco (ha)	Paraguay (ha)
Garlic	4	446	Sugar cane	30	81,830
Rice	-	22,025	Groundnut	9,513	24,113
Cassava	143	170,000	Orange	2*	7,457
Beans	934	55,424	Banana	6*	7,434
Soybean	-	2,463,510	Tangerine	1*	1,824
Maize	689	858,101			

Source: Ministry of Agriculture and livestock (MAG, 2008).

Eleven million hectares, 60% of the Paraguayan Paraguay Chaco, are grazing lands. The carrying capacity varies from 3 to 15 hectares per head[23]. Livestock production is

[22] FAO (s.f.). The Gran Chaco.

[23] Ramirez, E.G., & Laneri, J.L. 1989. Fodder and feeding of cattle in the Paraguayan Chaco. p.139-148, *in:* M. Hamp and M.A. Tiefert (eds). *Agricultural production under semi-arid conditions with special reference to the Paraguayan Chaco.*

Formatted: Font: Bold, Italic

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Font: (Default) Arial

extensive and, as elsewhere in the Chaco, involves producing young stock to be fattened elsewhere. Milk is produced by the Mennonite colonies, mainly to supply Asunción with fresh milk. Livestock production has been increasing rapidly in the last ten years, having a big impact on forest ecosystems, especially in Boqueron and Alto Paraguay Departments.

Indigenous groups are characterized by living in communities, having a low availability of land, and carrying out agriculture and livestock production for subsistence, and traditional practices such as hunting and gathering activities, and their main source of income is derived from the occasional wage labour carried out outside of their communities.

Family agriculture faces several constraints that affect its production capacities, namely, a strong dependence on rain-fed agriculture, soil degradation due to its prolonged use and insufficient soil management and conservation practices, and limited access to technical, financial, and training assistance on productive management, and market information. Small holders and indigenous peoples are especially vulnerable to the impacts of climate variability due to the above factors and their limited adaptive capacity. The low level of crop diversification greatly increases their vulnerability to climatic risks. These factors combined will hinder the opportunities for improving their livelihoods, and in the context of a changing climate will worsen in the long term.

The expansion of large-scale agribusiness (pastures (livestock) in the Chaco) has led many poor small holders to sell their lands and either change their occupation or migrate to other rural or urban areas.

The quality of ecosystems services on which agriculture depends on (soil and water) are threatened by deforestation and degradation of forest. Likewise, availability of water in drought prone areas (such as El Chaco) affects agricultural production.

In addition, there is a low level of institutional, financial, human, and technical capacity to address these issues.

Institutional, policy and regulatory framework

Governmental institutions with mandate over the environmental, productive, and indigenous peoples sectors include national and local level institutions.

At **national level**, the National Environmental System (SISNAM, Spanish acronym) comprises the governmental institutions (national, departmental and municipal) and private bodies with mandates regarding the environment and provides an organizational framework comprising two levels. The National Environmental Council (CONAM, Spanish acronym) provides the platform for consultation, debate and definition of the national environmental policy, while the main purpose of the **Environment Secretariat**

Formatted: Justified

Formatted: Font: Bold, Italic

Formatted: Font: Bold, Italic

Formatted: Font: Bold

Formatted: Font: Bold

(SEAM, Spanish acronym) is to regulate functioning of the institutions in charge of the elaboration, normalization, coordination, execution and control of the environment.

SEAM is charged with conservation and sustainable use of the country´s natural resources; it is responsible for the National Environmental Policy and a number of environmental laws. Specific responsibilities in regards to conservation and production include the approval of environmental impact assessments (EIA) and environmental licensing, and environmental oversight and control of the measures included in each EIA.

With specific regard to **climate change**, under the Law Nº 251/93, Paraguay adopted the Convention on Climate Change and through the Law 1447/99 adopted the Kyoto Protocol. The enforcement authority of these Acts is the Environment Secretariat (SEAM). Paraguay's ratification of these two international treaties led to the development of a **National Climate Change Program** (PNCC, Spanish acronym) under the Environment Secretariat, and the creation of the **National Commission on Climate Change (CNCC**, Spanish acronym**)** and the **National Office for Climate Change (ONCC**, Spanish acronym**)**. The CNCC is a deliberative and consultative group of institutions including governmental and civil society organizations, whereas the National Office for Climate Change is the executive body of the National Climate Change Program.

Formatted: Font: Bold

Formatted: Font: Not Bold

Formatted: Font: Not Bold

Institutions– involved in the project and that are also part of the SISNAM and the National Commission on Climate Change include:

- The **Ministry of Agriculture and Livestock** (MAG), which is responsible for promoting sustainable agrarian development. The MAG´s 2009-2018 Agrarian Strategic Framework has incorporated an environmental objective to promote environmentally sustainable practices within the agrarian productive processes. In 2009 the **MAG** established the *Commission for Good Agricultural, Livestock and Forestry Practices*. This Commission is set up as an inter-institutional body to promote adoption of best practices in these sectors and it is composed by MAG, SENAVE, SENACSA, INFONA, the National Institute of Technology, Standardization and Metrology (INTN), the Ministry of Industry and Commerce (MIC), the National Food and Nutrition Institute (INAN), and the private sector and the Inter-American Institute for Cooperation in Agriculture (IICA).

Formatted: Justified, Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25"

- The **National Forestry Institute** (INFONA) is responsible for the National Forest Policy and its mandate covers the conservation of forest resources. Specific responsibilities include the national forest inventory, the approval of forest management and land use plans within the framework of the Forest Law 422/73, and oversight and control of management plans. INFONA´s key priority is sustainable forest management and to this effect it implements several programs related to the Forest Law and the Reforestation/Afforestation Law: *Forest Resources Management; Forest Plantations; Forest Education and Extension*; and *National Operational Services*. These programs include a number of related activities such

Formatted: Font: Not Bold

as approving management plans for native forests and reforestation/afforestation; implementing the National Forest Inventory; control and monitoring of forestry plans; promoting reforestation/afforestation, sustainable management of native forests, agro-forestry and silvo-pastoral systems, and establishment of tree nurseries through training and awareness-raising.

- **Paraguayan Institute of Indigenous Peoples** (INDI) is responsible for the application of Indigenous Peoples Policy and to support the Indigenous Peoples of the country. The project will work closely with INDI to ensure that the principle of free prior and informed consultation is observed.

Local level governments comprise Departments and Municipalities. Among the main responsibilities of the Governmental Departments are to coordinate with the national institutions and the Municipalities the activities to be implemented within their territories; and to elaborate their corresponding Departmental Development Plan. Governmental Departments are organized in Secretariats, among them Environmental and Development Secretariats with responsibilities to promote environmental and productive policies. Governmental Departments depend on funds transferred from the national budget. The Municipalities are charged with responsibilities pertaining the environment and productive sectors, namely the elaboration of sustainable development and land zoning plans; conservation and restoration of natural resources; and the enforcement of national regulations (through agreements with the national authorities). The degree of strengthening of Municipalities is directly related to its capacity to collect taxes; hence in general they are stronger in areas where agricultural production is highly developed. Both Departments and Municipalities will be the institutions in charge of following the activities after the project period.

Non-governmental Organizations: Several NGOs are very active in promoting the conservation of biodiversity and forest restoration in the Chaco Region. **WWF Paraguay** supports initiatives that address the conservation and sustainable use of ecosystems through environmental education and awareness raising and implements forest restoration programs. **Guyra Paraguay**´s mission is to conserve and promote sustainable use of biodiversity; it is well known for its conservation efforts addressing the identification and promotion of important bird areas and monitoring deforestation on the Chaco Region. **Sobrevivencia** also plays an important role and partners with indigenous peoples particularly with regard to conservation of habitat, but also in advocacy campaigns addressing the effects of deforestation on the environment and people. **The Paraguayan Network for Conservation in Private Lands** fosters the establishment of natural reserves by private landowners for protection and sustainable use of biodiversity. There are several national level NGO networks which members develop initiatives in the environmental and social fields within the Chaco Region. Key networks include the **Network of Environmental NGOS**, the **Rural Network of Private Development Organizations.**

Community-based Organizations: Indigenous communities in the three Departments are organized in several ways. These organizations in turn are members of national

Formatted: Normal, Indent: Left: -0.25", Don't adjust right indent when grid is defined, Space After: 12 pt, Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25", No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: English (United States)

Formatted: Font: Bold, English (United Kingdom)

Formatted: Normal, Don't adjust right indent when grid is defined, Space After: 12 pt, No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: Font: Not Bold, English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: English (United Kingdom)

Formatted: Font: Not Bold

Formatted: Font: Not Bold

Formatted: Font: Not Bold

Formatted: Font: Bold

Formatted: Font: Bold

level organizations such as: the **Federation for Self Determination of the Indigenous Peoples (FAPI)** and the **Federation of Associations of the Guarani People of Paraguay**. FAPI is an active member of the CNCC. In recent years Paraguay's indigenous peoples' organizations have become increasingly more active at the international level. Organizations such as the **Federation of Associations of the Guarani People of Paraguay** participated in the UN's Permanent Forum on Indigenous Issues in New York and has partnered with UNDP Paraguay.

Small family farmers are organized in several types of organizations and associations. The associations in turn are generally members of national level organizations such as the **National Federation of Small Farmers**.

Also related with climate change is the **national REDD+ technical team**, which is composed by representatives of the environmental secretary (SEAM), the forestry institute (INFONA) and the Federation for the Autonomy of Indigenous people of Paraguay (FAPI). The REDD+ national council (CONAREDD) was constituted in 2013, and is composed by the main stakeholders involved in the REDD+ discussion at the country level. The role of this committee is to revise and take decisions based on the inputs prepared by the national REDD+ technical team. Under the REDD+ umbrella FAPI produced in 2011 one of the first protocols for free prior and informed consultation. This protocol has been shared with the Institute of Indigenous People of Paraguay (INDI), to be used as a proposal for the elaboration of a national regulation on free, prior and informed consultation.

Formatted: Font: Bold

Formatted: Justified

Over the last five years, Paraguay has made a significant progress in setting the conditions to reduce the vulnerability to these impacts at the national level and in the Chaco. As described above, t~~T~~he country has created a solid institutional structure, ~~with~~ including the National Climate Change Commission, the National Climate Change Office and the National Climate Change Programme. It has also developed its policy framework, including a National Climate Change Policy (2011), a National Mitigation Strategy (2014) and a National Adaptation Strategy (2015). Furthermore, the country has conducted research and communicated its findings and position to the international community, through the Second National Communication to the UNFCCC (2011) and the production of its Intended Nationally Determined Contribution (INDC) (2015) to the 21st Conference of the Parties to the UNFCCC held in Paris in December 2015. As illustrated above, important studies have also been developed for the country, such as the UNDP (2011) and ECLAC (2014) reports. The Chaco has received considerable attention. The UNEP (2013) VIA analysis ~~report~~ provides very valuable information.

Although the legal framework is profuse, there are contradictions and gaps that affect the proper implementation and enforcement of environmental laws that seek the sustainable management of natural resources to conserve biodiversity and ecosystem functions in multiple use landscapes including food production, specially taking into account peasants and indigenous people's communities.

The **Forestry Law 422/73**, establishes the obligation to maintain a legal reserve of natural forests – commonly referred to as set asides, and riverine forests (called protective forests in the law). Until recently, there were serious problems regarding the correct interpretation of this law, largely due to the unclear wording of its Article 42 stating the proportion of surface to restore in deforested areas.~~.~~ The interpretation that impeded full implementation of the Forest Law has been removed through the issuance of the SEAM Resolution Nº531 in 2008, one of the first provisions of the Environmental Services Law 3001/06. Moreover, owners that have not fulfilled with those obligations must compensate that liability by reforesting with native species or by acquiring certificates of environmental services under the Environmental Services Law. This reasonable interpretation of the provisions of Article 42 coupled with the opportunities provided by the Environmental Services **Law 3001/06** of certifying areas that are additional to the legal reserve for the purpose of providing ecosystem services have created the legal conditions for those owners who have not complied with the forest law to economically compensate those owners who still have additional forest areas. At the same time it opens the way to investing in reforestation with native species, with the purpose of certifying and profiting through the environmental services regime. However, the correct implementation will be difficult without an adequate capacity to enforce the law and manage the environmental services regime.

The **Environmental Impact Assessment (EIA) Law 294/93** is SEAM´s main instrument to exercise authority in forestry and production matters. In principle, the law defines that virtually any work or activity is subject to the law. SEAM issued new provisions for the EIA law that replaced the original ones that dated from 1996. Among these, producers with less than 500 ha under use for agricultural and livestock production will no longer be required to submit EIAs (as long as they do not carry out other types of activities that may have significant environmental impacts). In this case SEAM has the responsibility of elaborating a Generic Environmental Management Plan for each biome to provide landowners with the guidelines for adequate land use and management. Producers with more than 500 ha under use for agricultural and livestock production are required to prepare preliminary EIAs. These preliminary assessments will have the purpose of allowing SEAM to define if a full EIA is needed. In this case SEAM must prepare the Terms of Reference for the preliminary EIAs (the procedures for a full EIA are already established).

The recently regulated **Law 3001/06 "Valuation and Payment for Environmental Services**" provides the legal basis to substantially increase the demand for Environmental Service Certificates (ESC) from native forests. ESCs from landholders who fully comply with current legal regulations will be eligible for trading in the National Stock Market, where they may be acquired by another owner who has not complied with current legal obligation to maintain 25% of the landholding under native land cover.

Formatted: Justified

Implementation and enforcement of the legal framework that could help peasant and indigenous peoples communities to sustainable manage their natural resources is hindered by the low level of knowledge of the technical staff~~s~~ of the institutions, decision-makers and society in general in regards to the contents and scope of the

different regulations. Moreover, there are no manuals and guidelines that could help peasant communities and indigenous peoples to follow the regulations to manage their forest and to enter into the system of Payment for Environmental Services. The project will focus specifically into the development of these tools.

Formatted: Justified

Problem to be addressed and project approach

Formatted: Font: Bold, Italic

Indeed, despite the considerable progress in setting the conditions to reduce the vulnerability to the impacts of climate change, there are still important barriers for adaptation in Paraguay, in general, and the Chaco, in particular.

First, despite the efforts made, information on climate variables and its impacts is still insufficient. Paraguay's network of meteorological stations is poor. According to the Directorate of Meteorology and Hydrology (DMH) of the National Directorate of Civil Aeronautics (DINAC), in the Chaco, a region with 246,925 km^2, there are only 5 stations in operation, ~~10 stations, and only 5 are functioning,~~ limiting the reliability of climate information. While there are some collection points in the Yacare river watershed, the situation is particularly critical in the Pilcomayo river watershed. Existing information is also poorly disseminated and used, without a system to inform farmers and herders so that they can make more strategic decisions. In addition, although a general vulnerability study has been conducted for the Chaco, ~~there is a lack of~~a more detailed understanding of the area and the impacts on some populations, geographical areas, economic sub-sectors, ecosystems and natural species ~~are still unknown~~ is needed. ~~Only four communities were for instance studied~~. The role of traditional practices, forest standards and economic incentives is neither well understood.

~~Second,~~ The proposed project will address the specific climate threats in El Chaco region. The 1st and 2nd National Communications as well as the VIA assessment have concluded that these threats are likely to increase both land degradation and desertification in the Chaco. This will have particularly severe impacts on the most vulnerable populations within the agricultural sector of Paraguay, namely family agriculture producers and indigenous communities, who will be the project´s target population.

These climate threats will increase the vulnerability of the rural population, especially for family producers and indigenous peoples. This is exacerbated by the following underlying drivers of vulnerability: i) strong dependence on rain-fed agriculture; ii) soil degradation due to prolonged use and insufficient soil management and conservation practices; iii) high poverty levels; and iv) deforestation and degradation of forests.

~~a~~Although some projects have been implemented recently in the area (see section F for their description and the explanation of how synergies will be created), the findings of the comprehensive UNEP (2013) ~~vulnerability assessment~~VIA analysis have not yet been fully considered and most of its recommendations have not been implemented. This is particularly important for two reasons. The first reason is failing to exploit the momentum created by the UNEP (2013) VIA analysis ~~study.~~ This momentum is

technical, in terms of having relevant up to date information on the area, and political, in terms of having raised the awareness and interest of regional and local stakeholders. So far, this information has not been used to build integrated action plans at the local level. This is also particularly important because some of the current practices could undermine the effectiveness of implementing some of the most prominent adaptation measures recommended by the UNEP (2013) VIA analysis in the future. Deforestation, prolonged use of land, insufficient soil management and conservation practices and indiscriminate use of agro-chemicals, among other practices, are degrading ecosystems and the provision of critical services that they entail, significantly reducing the prospect of current and future resilience. If the ecosystem-based adaptation activities proposed by the UNEP (2013) VIA analysis are not implemented soon, the non-modified ecosystems presented in

Figure ~~Figure 6~~ Figure 7 could be reduced and the ability to ensure significant ecosystem services would be more limited in the future, as these non-modified ecosystems will be affected and their capacity to provide services diminished.

Finally, although considerable progress has been achieved at institutional level, there is still significant work to do to improve the capacity of national, regional and local officials for climate change adaptation.

This project will strengthen the adaptive capacity of the rural population and indigenous communities by reducing the vulnerability of their food production systems to a changing climate. The project will adopt an agro-ecosystem approach within the productive landscape to reduce the vulnerability of food production systems in the Chaco region of Paraguay. For the purpose of this project, an agroecosystem is defined as a managed and natural landscape consisting of three interacting sub-systems: (i) productive agriculture; (ii) semi-natural or natural habitats with limited or subsistence human activity; (iii) and settlements and infrastructures.

An agroecosystem produces food and fiber, which is dependent on the wider landscape that includes the surrounding ecosystems and the services they provide for this production. An agroecosystem approach recognizes the strong interlinkages between maintaining healthy ecosystems for the provision of their services, which are vital to agricultural production. It is a management system and a set of practices that ensures agricultural production without causing harm to the surrounding ecosystems, so that they may continue to provide the ecosystem services that are critical to agricultural production, and thereby reduce vulnerability to climate change.

This approach will strengthen the resilience of ecosystems to provide ecosystem services vital to food production, as well as increase the use of traditional and other farming practices that are resistant to climate change threats.

In the productive landscape of Paraguay, there is a mix of different producers (campesino and other small producers, medium and large producers) and indigenous communities encompassing a variety of food production systems. The project will emphasize its actions on family agriculture producers and indigenous communities due to their greater vulnerability. Nevertheless, certain actions will be directed to other categories (medium and large producers) that are also located in the selected areas, and are relevant to the scheme of adaptation measures; thereby ensuring a holistic and inclusive approach of the project intervention.

Climate change adaptation measures to be introduced by the project will provide a support system to aid in agricultural production and help sustain the livelihoods of small holders and indigenous peoples.

Formatted: Justified

Intervention sites

The findings and recommendations of the vulnerability and impact assessment (VIA)

conducted by UNEP in 2013 and the information provided by key stakeholders at the national and local level were used to identify vulnerable communities. After consultation with national and local government officials, NGOs working in the region both with peasant communities and indigenous peoples and in order to be cost-effective, SEAM selected ten communities on the basis of the following criteria: (i) climate vulnerability (exposure and sensitivity to climate change); (ii) social vulnerability of family producers and indigenous peoples (low adaptation capacity); (iii) availability of relevant information (production systems, agricultural practices, existence of ongoing programs and projects); (iv) diversity of production systems and target groups (combination of family agriculture and indigenous communities); (v) ecosystems with potential to provide services to agriculture.

Two (Campo Aceval and Toro Pampa) were analyzed by UNEP[24], information on them being therefore available. The other eight are: Casanillo, General Diaz, Pozo Hondo, Campo Loa, Ijnapui, Colonia Maria Auxiliadora, San Carlos and Bahia Negra, which are similar in terms of vulnerability. All these communities are environmentally integrated. According to key national, departmental and district officials all of them are extremely vulnerable to climate change. These communities are located along two watersheds, the one of the Pilcomayo River and the one of the Yacare River. They include the three departments (Presidente Hayes, Boqueron, and Alto Paraguay) of the Paraguayan Chaco and five municipalities (Bahía Negra, Fuerte Olimpo, Filadelfia, Mariscal Estigarribia, and Teniente Irala Fernandez). Both peasant and indigenous communities are included. Table 4 provides essential information of the ten communities selected for the project.

[24] As noted above, Lolita was not found to be particularly vulnerable. Yalve Sanga was found to be vulnerable, but a number of projects have been implemented since the publication of the report and some are ongoing in the area, so this community is not included to avoid duplication, following the suggestion of departmental and district stakeholders.

Table 4. Contextual information of the communities selected for the project in the Paraguayan Chaco

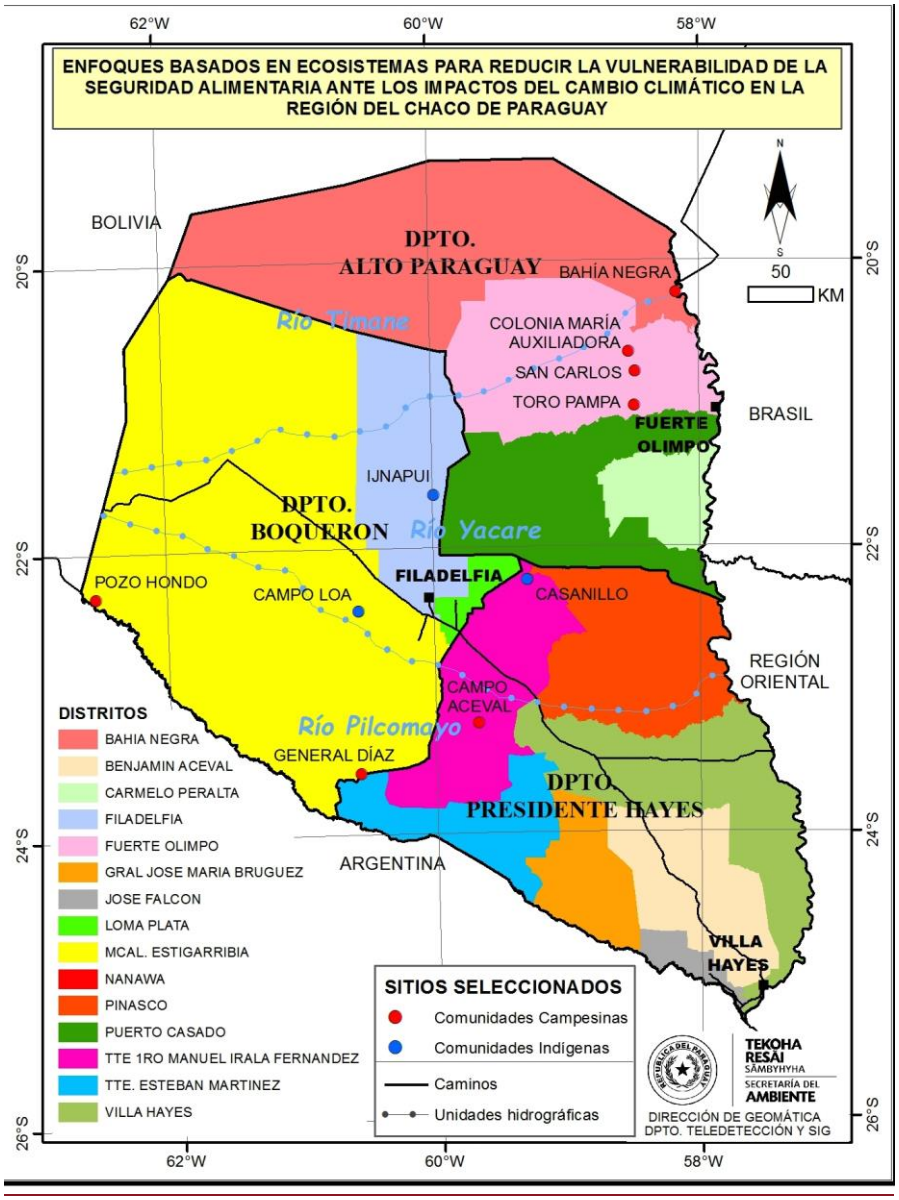
Watershed	Pilcomayo				Yacare					
Department	Presidente Hayes		Boqueron				Alto Paraguay			
District	Tte. Irala Fernandez		Mariscal Estigarribia			Filadelfia	Fuerte Olimpo			Bahia Negra
Community	Campo Aceval	Casanillo	General Diaz	Pozo Hondo	Campo Loa	Ijnapui	Toro Pampa	Colonia Maria Auxiliadora	San Carlos	Bahia Negra
Area (ha)	18,000	13,000	500	1,500	11,200	3,600	200	200	200	320
Population	2,200	560	300	1,000	1,861	190	600	500	300	3900
Type of beneficiary	Peasants	Indigenous (Toba)	Peasants		Indigenous (Nivaclé)	Indigenous (Ayoreo)	Peasants			

As mentioned, the selection criteria took into account socio-economic aspects such as differential access to infrastructure and basic services (such as health, water, and education), ecosystem services and food production systems in the Chaco Region.The center of the Chaco (Chaco Central), represented here by the communities of Ijnapui, Campo Loa, Campo Aceval, and Casanillo, are the ones with better access in term of roads and some basic infrastructure, they share the same ecosystem, and face similar problems in terms of forest and habitat transformation, water availability and food production. The communities of General Díaz and Pozo Hondo are located in the ecotone between the Dry and Wet Chaco. These two communities face similar challenges in terms of access to water resources and both are very affected by the seasonal fluctuations of the Pilcomayo River, which will be even greater due to climate change, affecting food production. The selected communities of the Alto Paraguay department are all within the Pantanal ecoregion and face the same problems in terms of access, natural resources and dependency of the Paraguay River and food production.

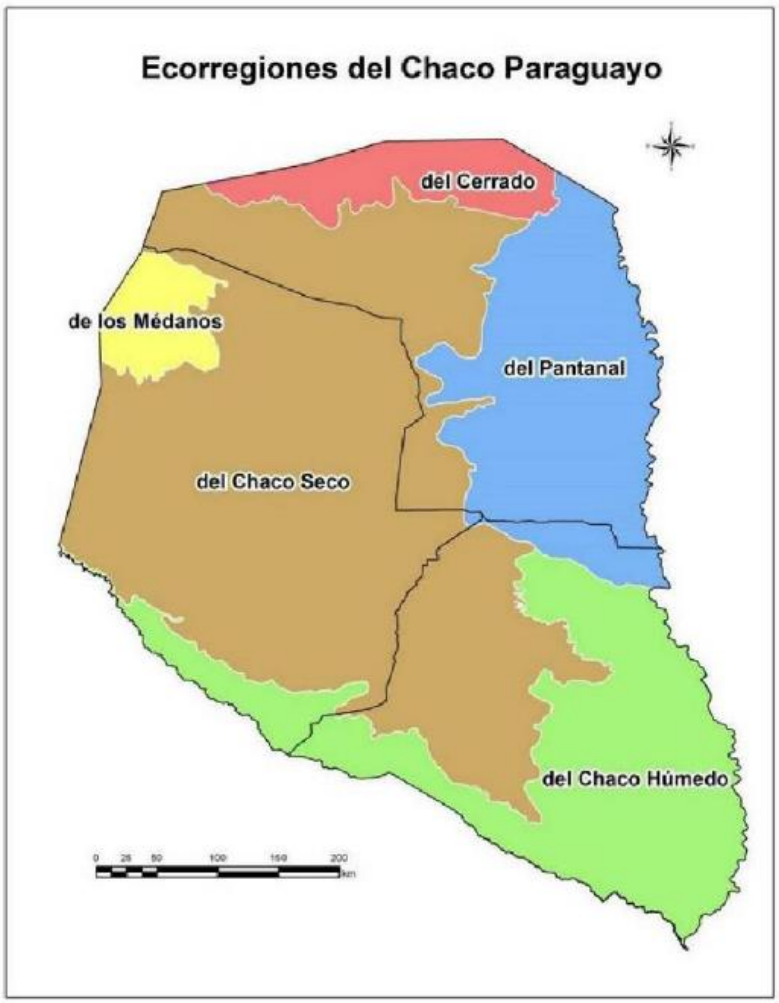
The inclusion of these ten communities in three departments and five municipalities will also help increase collaboration among local governments, which is crucial to face the challenges that extreme climatic events can bring to the whole region. This is also key to achieve sustainability of the project activities. Furthermore, the work in each of these communities will serve as pilots that can be later replicated in other communities with similar characteristics. Selecting communities that are representative not only in terms of vulnerability but in terms of their ecosystem is crucial for SEAM in other to help departments and municipalities to implement local adaptation plans with an ecosystem approach.

Map 3 illustrates the~~ir~~ location of the selected communities in the ~~Chaco~~ region ~~of Paraguay~~, while Map 4 presents the ecoregions of the Chaco.

Map 3. Location of the selected communities in the Paraguayan Chaco



Map. 4. Chaco Ecoregions.



Source: SEAM resolution Nº 614/2013

All ten communities face challenges regarding food production under current climatic conditions that will be exacerbated due to climate change. A complete assessment of community vulnerability regarding food production will be carried out for each community as part of the project.

Furthermore, the project has great replication potential. As noted in section G below, lessons learned from this pilot will be carefully identified, systematized and disseminated. The third component will also contribute to create robust capacities to use these lessons in up-scaling this pilot in the selected areas and/or replicating it in other districts of the region. To that end the project will work closely with neighboring municipalities, such as Loma Plata, Teniente Esteban Martinez, and Puerto Casado. The involvement of SEAM will facilitate replication in other regions of the country.

Project / Programme Objectives:

Formatted: Justified

List the main objectives of the project/programme.

The goal of this project is to reduce the vulnerability of the population (selected family agriculture producers and indigenous communities) of the Chaco Region of Paraguay to the impacts of climate change on food security.

In order to do so, the project addresses the main barriers for adaptation in the selected region. Specifically, the project seeks i) to improve information and knowledge for climate resilience; ii) to implement concrete cost-effective on-the-ground adaptation measures; and iii) to strengthen the institutional capacities to adequately address climate change adaptation issues.

The project is organized accordingly in three components: i) Knowledge management on vulnerability and climate change resiliency improved; ii) adaptive capacity in rural areas of greatest vulnerability strengthened through concrete agro-ecosystem based adaptation measures; and iii) capacity development and awareness to upscale effective implementation of adaptation measures at the national and local levels.

It is important to note that the project favors an ecosystem-based approach to adaptation. As illustrated in Figure ~~Figure 7~~ ~~Figure 8~~ above, ecosystems provide crucial services to the population of the region. The UNEP (2013) VIA analysis ~~report~~ found that these services are critical for increasing resilience against climate change. For that reason, the project will work at the catchment scale, which is a particularly appropriate physical unit for land use planning. In particular, it will work in the Pilcomayo River (8,669,400 ha) and Yacare River (857,610 ha) watersheds.

Each of the three components has a focus on ecosystem-based adaptation. In the first component, detailed vulnerability assessments will be carried out. The focus on ecosystem-based adaptation is particularly evident in the second component, dealing with concrete measures on the ground. As detailed in the next section, among other things, this component will include the conservation and restoration of forests, agroforestry, silvopastoralism, agro-ecological farming (including reduction in the use of chemical fertilizers) and sustainable ranching practices. The training provided through the third component will raise awareness on the importance of ensuring the protection and rehabilitation of ecosystems to strengthen resilience.

The goal, the specific objectives and the approach are in line with national priorities, as

detailed in section D below, and take into account current projects, as detailed in section F below, to avoid duplication and generate synergies.

Lessons Learned

Past projects in rural development and natural resource management have allowed the identification of lessons learned that have been taken into account during the design of this project, among the main ones are the following:

i) The micro-catchment is a particularly appropriate physical unit for land use planning,since it reflects all the problems occurring on a larger scale with natural resources and economic and social systems[25].

ii) Projects aimed at improving sustainable natural resource management, rural poverty alleviation and income generation in poor communities should: (a) include an effective and transparent process of participatory planning and decision-making; (b) be demandoriented; and (c) combine actions in natural resources management, agricultural production and social needs of the communities in an integrated way[26].

ii) When planning conservation activities within the productive landscape it is important to consider conservation priorities and the needs of the community. Projects should take into account that: (a) priority is given to recognizing the expertise and views of small farmers, giving them ownership, and ensuring their participation; (b) there is involvement of farmers' organizations and NGOs throughout the project cycle in order to ensure quality of activities, avoid problems such as, and create networks; and (c) there is adequate monitoring and evaluation of results in order to scale up successful pilot experiences and measure the full impact of activities, and (d) the integration of women and family members in the implementation of activities contributes to better adoption of the production/conservation practices and measures[27].

ii) Technical agencies must provide strong support to the beneficiary groups in the area of planning, implementation, monitoring, and management for successful project implementation. Technical assistance should be provided on a continuous basis and without interruption throughout the calendar year and for a prudent time period (3-4 years) to ensure sustainability. Strengthening of beneficiary organizations involving local governments and organized civil society groups are key aspects to be taken into account[28].

iv) Working with and strengthening indigenous organizations is important, respecting their culture and decision making processes to ensure active participation of organizations and communities in project implementation; adapting the project to the

[25] World Bank
[26] World Bank
[27] WWF. Education for Nature Program News. Holtz, S. Restoration of the Upper Parana Region of the Atlantic Forest; World Bank. PRODERS; GiZ. Manejo Forestal y Agricultura de Conservación: Experiencia de pequeños productores en la Región Oriental de Paraguay. MAG-GiZ-KFW. 2011
[28] World Bank. PRODERS; GiZ. Manejo Forestal y Agricultura de Conservación: Experiencia de pequeños productores en la Región Oriental de Paraguay. MAG-GiZ-KFW. 2011

Formatted: Font: Bold, Italic
Formatted: English (United States)
Formatted: Spanish (Spain)
Formatted: Spanish (Panama)
Formatted: Spanish (Spain)

needs and demands that arise from communities without imposing pre-established packages, timing or modalities of work that are foreign to the communities[29].

v) The adoption of sustainable agricultural, forest and conservation practices by producers leads to an increase in diversification and productivity of the farms, and together with the strengthening of their organizations enable them to participate in productive and commercialization chains, hence receiving better prices for theirproducts and increasing their incomes.

The project design mainstreams these lessons learned by taking into account the use of participatory approaches; building on existing organizations (producers´ and indigenous peoples´ organizations, national and local level institutions); using a problem and demand driven approach; and creating win-win situations by combining environmental protection with agricultural production. All of these aspects are integrated within the project´s agro-ecosystem approach.

The 2nd National Communication identifies and prioritizes a number of needs as critical to facilitate climate change adaptation that the project also takes into account, including:

- Promotion of stakeholder participation and especially affected communities, giving value to their traditional knowledge to ensure these are mainstreamed into policies and programs,
- Promotion of research and assessment of climate-smart technologies and solutions applicable to CCA by producers, especially those that will contribute to guarantee food sovereignty and security, including crop diversification, research on varieties or species adapted to the future climatic conditions maintaining or increasing yields without significant increases in production costs, transfer of know-how and technology to family agriculture as a government priority,
- Restoration of degraded ecosystems that are vulnerable to climate change, ensuring a sustained flow of ecosystem services for agricultural production,
- Ensuring water supply in critical areas and taking measures against salinization of soils in the Chaco,
- Carry out further studies on CCA adaptation needs, and
- Awareness and outreach at all levels.

Formatted: Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25"

Formatted: Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25"

Formatted: Font: Not Bold

Formatted: Justified, Indent: Left: 0.25", Don't adjust right indent when grid is defined, Space After: 12 pt, No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: Justified

[29] World Bank. PRODERS65 GiZ. Manejo Forestal y Agricultura de Conservación: Experiencia de pequeños productores en la Región Oriental de Paraguay. MAG-GiZ-KFW. 2011

Project / Programme Components and Financing:

Fill in the table presenting the relationships among project components, activities, expected concrete outputs, and the corresponding budgets. If necessary, please refer to the attached instructions for a detailed description of each term.

Table 45. Project components and financing

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. Knowledge management on vulnerability and resilience to climate change improved with tools and instruments to implement cost-effective adaptation measures	1.1 Detailed mapping of ecosystems, including agro-ecological zones, water resources, forests and other ecosystems to enable ecosystem-based adaptation and the prioritization of restoration areas and practices that will ensure provision of vital services for to food securityproduction 1.2. Assessment of the vulnerability to climate change of specific plants and animals used as food source to contribute to the design of strategies for ecosystem and community-based adaptation. 1.3 Study of the Ecology, Management and Nutritional components of Algarrobo and Viñal (Prosopis spp.) to contribute to the design of strategies for ecosystem and community-based adaptation. 1.4 General vVulnerability studies and impact assessment (including water) for the eight communities not covered by the UNEP (2013) (VIA analysis to contribute to the design of reportstrategies for	Scientific information available to better understand vulnerability to climate change at the local level and implement climate change adaptation measures	1,000,000

Formatted: Font: 10 pt
Formatted: Left
Formatted: Font: 10 pt
Formatted Table
Formatted: Left
Formatted: Font: 10 pt
Formatted: Font: 10 pt
Formatted: Font: 10 pt
Formatted: Font: 10 pt
Formatted: Font: 10 pt
Formatted: Font: 10 pt
Formatted: Font: 10 pt
Formatted: Font: 10 pt
Formatted: Font: 10 pt
Formatted: Font: 10 pt

	ecosystem and community-based adaptation) 1.5 Research on traditional practices that contribute to climate resilience, including crop varieties. 1.6 ~~-~~Elaboration of an analysis of incentives and disincentives for the adoption of climate-resilient ~~agricultural~~ practices in El Chaco region ~~Study on the contribution to adaptation of the existing regulatory framework~~ 1.~~7~~8 Information and monitoring system for agro-climatic risk assessment.		

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

2. Adaptive capacity in rural areas of greatest vulnerability strengthened through concrete adaptation measures favouring an ecosystem-based approach,	2.1 Participatory design of Community-based adaptation plans for communities that contain concrete actions for adaptation that strengthen ecosystem resiliency, as well as draw on climate-resilient traditional and other natural practices~~Participatory developed integrated adaptation with a watershed management, ecosystem-based approach~~ 2.2 Implementation of Community-based adaptation plans for communities that contain concrete actions for adaptation that strengthen ecosystem resiliency, as well as draw on climate-resilient traditional and other natural practices, including: ~~Participatory implementation of the measures included in the adaptation plans~~ 2.2.1 Conservation and restoration of forests (including "protective forest") and other ecosystem 2.2.2 Agro-ecological production in farming and livestock, including agroforestry, apiculture, community seed banks and silvopastoral management 2.2.3 Implementation of improvements in the efficient use, catchment, harvesting and storage of rainwater 2.2.4 Implementation of measures to improve incentives for adaptation 2.2.5 Training and exchange of knowledge among stakeholders Exchange of traditional and other knowledge among stakeholders, training and awareness building in project intervention areas to implement key	Rural communities increase their knowledge and means to respond to climate change risks and adapt their agricultural production systems Indigenous communities are able to adapt their food production systems, while respecting their ethnic-cultural and traditional knowledge Improvements in the availability and use of water for peasant and indigenous people's communities	4,480,000

Formatted: Font: 10 pt

Formatted: Left

Formatted: Justified

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: (Default) Arial, 10 pt, English (United Kingdom)

Formatted: Font: 10 pt

Formatted: Font: 10 pt

3. Capacity development and awareness to implement and upscale effective implementation of adaptation measures at national and local levels	3.1 Detailed training plan for SEAM on mainstreaming climate compatible development across sectors 3.2 Training plan for partner agencies at national and local levels (ministries and agencies (including but not limited to MAG and INFONA), departmental and municipal governments, universities, NGOs) 3.3 Identification, systematization and exchange of lessons learned of the project	Stakeholders enabled to effectively respond to long-term climate change impacts	520,000
4. Project/Programme Execution cost			570,000
5. Total Project/Programme Cost			6,570,000
6. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			558,450
Amount of Financing Requested			7,128,450

Projected Calendar:

Indicate the dates of the following milestones for the proposed project/programme

Table ~~5~~6. Project Calendar

Milestones	Expected Dates
Start of Project/Programme Implementation	January 2017
Mid-term Review	February 2019
Project/Programme Closing	May 2021
Terminal Evaluation	June 2021

Formatted: Font: 10 pt
Formatted: Left
Formatted: Justified
Formatted: Font: 10 pt
Formatted: Justified
Formatted: Font: 10 pt
Formatted: Justified
Formatted: Font: 10 pt
Formatted: Justified
Formatted: Font: 10 pt
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project / programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

The project will significantly increase food security in a climate change context. The project is designed to the address the vulnerabilities identified by the vulnerability assessment conducted by UNEP in 2013 and is based on the recommendations provided by the report, which covered the period 2011-2040. The three components of the project address the three main barriers for climate change adaptation in the Chaco region of Paraguay, while the specific activities focus on the most important specific deterrents of adaptation in the area.

Component 1. Knowledge management on vulnerability and resilience to climate change improved to implement cost-effective adaptation measures

Formatted: Font: Bold, Italic

The first component addresses the barrier on information and knowledge for resilience against climate change. As indicated above, the vulnerability and impact assessment conducted by UNEP provides very useful information. Taking that into account, this project will go a step further by i) improving the breadth and depth of punctual analyses and ii) creating the conditions for the provision of and providing regular analyses. On the first point, the project will conduct studies covering issues that were not covered with sufficient detail and issues that were not covered in the UNEP assessment.

As a starting point, the project will prepare detailed maps of the ecosystems of the ~~ten~~ areas relevant to the selected communities[30], identifying water resources, forests, agro-ecological zones and other ecosystems and the threats that they face. This will be integrated with GIS. As part of this exercise, existing land use plans will be analysed. SEAM officials will provide support in the preparation of the maps. As presented in Table 15~~Table 14~~~~Table 13~~, besides SEAM, this output will include the participation of the Ministry of Agriculture and Livestock (MAG by its initials in Spanish), the National Forestry Institute (INFONA by its initials in Spanish), the governments of the relevant departments and districts and the communities.

In addition, the project will assess the vulnerability to climate change of specific plants and animals used as food source, in order to contribute to the design of strategies for ecosystem and community-based adaptation. The study will be conducted during both dry and wet seasons in the areas relevant for the selected communities[31]. This will

Formatted: English (United States)

Formatted: Font: Not Bold

[30] The extension of these relevant areas will be determined together with the communities.

[31] This will be the same area as for output 1.1.

Formatted: English (United States)

involve SEAM, which will provide five technicians to support this output, the Paraguayan Institute of Agrarian Technology (IPTA by its initials in Spanish), the Paraguayan Institute of Indigenous Peoples (INDI by its initials in Spanish), ~~several universities~~the academia, ~~the~~ governments of the ~~relevant~~ concerned departments and districts and the communities.

Formatted: English (United States)

Formatted: English (United States)

Furthermore, the project will conduct a study on the ecology, management and nutritional components of Algarrobo and Viñal (Prosopis spp.)[32]. These are an essential component of the ecosystem of the region that produce pods that can be eaten by both humans and livestock. This activity will be carried out in cooperation with the National University of Asuncion, Agrarian Faculty (UNA/FCA by its initials in Spanish), which has a branch in the Chaco Region, IPTA and the communities. The research area will be the Central Chaco.

Besides the project will carry out general vulnerability and impact assessment for the eight communities not covered by UNEP in 2013, following the methodology used then. In this sense, the studies will build the baseline of the project in terms of food security and ~~among other issues, these studies will assess the~~ water stress, assessing the harvesting, conservation and distribution infrastructure needs in each of the ~~eight~~ communities. This output will involve SEAM, the departmental and district governments and the communities, with a close coordination with UNEP. The results will inform project planning and monitoring, as indicators will be adjusted. The results will also be published in a synthesis report.

Moreover, the project will examine traditional agricultural, livestock and more broadly environmental management practices, identifying those that contribute to reduce the vulnerability to climate variability and change. This could include practices as agroforestry, apiculture, selection of specific crops, mixed use of specific crops and land rotation, among many others practices. This output will be implemented with the active participation of SEAM, MAG, INFONA, IPTA, INDI, the departmental and district governments, the community, universities, NGOs and the private sector, and will focus on the areas relevant to the selected communities.

Besides further detailing ecosystems, vulnerability and potentially useful traditional practices, and increasing the number of studied communities, this project will examine some additional aspects. In particular, it will review all laws, standards, policies and plans at national, departmental and district level regulating the use of natural resources, including forests, water bodies (rivers, lakes, wetlands), farms and pastures, and will propose avenues to improve them, including both compulsory aspects and economic incentives[33] that could help to implement adaptation practices related with food production. This output, conducted for the ten communities as a whole, will review the

[32] Several species of the *genus Prosopis (Prosopis alba, P. nuda, P. hassleri*, *P. nigra* and seven more*)* are collectively known as 'algarrobo' and are deep-rooted, nitrogen-fixing trees that produce sweet pods.
[33] This review will include, but will not be limited to, the Forest Law, the Afforestation/Reforestation Law, the Environmental Services Law, the Fiscal Reorganization Law, and the Law for Forest Conservation in the Chaco.

development plans of the three departments and the six selected districts and will provide recommendations on how to better mainstream climate change adaptation across different sectors. This output will be prepared involving SEAM, the National Emergency Secretariat (SEN by its initials in Spanish), MAG, INFONA, National Service of Vegetal and Seed Health and Quality (SENAVE by its initials in Spanish), the departmental and district governments, the community, universities, NGOs and the private sector. The result from this analysis could also be used to inform the existing Payment by Ecosystem Service (PES) regime (Environmental Services Law **3001/06)** in order to include adaptation based on ecosystem services incentives under the PSE.

Furthermore, the project will develop a guide to implement forest management practices on peasant and indigenous peoples communities. Among other issues, this guide will include technical criteria regarding the width of forest protection strips in relation to the width of water bodies, species to be used in restoration and the specific measures for conservation of protective forests to increase resilience. Peasant and indigenous communities will be trained in the forest standards developed so that they can complete the documentation process needed to transport and sell forest product at market prices. A training session will take place in each of the selected ten communities. The guide will also be published. This output will involve SEAM, INFONA, which will validate the guide, INDERT, INDI, the departmental and district governments and the community. This activity will increase the implementation of the Forestry Law 422/73 and the Environmental Impact Assessment (EIA) Law 294/93, especially regarding peasant and indigenous people's communities.

In addition to specific studies that provide a static assessment of the situation in the selected communities, this component will create the conditions for the continuous provision of key information in the region. In particular, the project will fund the acquisition and installation of 79 meteorological stations in the Paraguayan Chaco, in particular in the Pilcomayo River watershed, which will result in increased sources of information. On this basis, the project will produce and disseminate weather forecasts to key public and private stakeholders, so that these can make informed decisions. Agro-climatic information will be particularly important for farmers and herders, as highlighted by the UNEP (2013) VIA analysis. To that end, an international consultant will be hired to train national stakeholders on how to improve weather forecasting and how to use the software, which will be bought, on agro-climate information. A senior and a junior national consultant will also be hired to produce the forecasts and the reports. In the medium term, the infrastructure and the technical capacity will help improve climate change projections at the regional level.

Formatted: Not Highlight

Formatted: Highlight

This output will be conducted in coordination with DINAC, SEAM, SEN, the departmental and district governments and the community.

In summary, the activities included in component one will significantly improve the information and knowledge available to put in place robust adaptation measures in the region, by covering the gaps of the UNEP report in terms of further exploring some

issues covered there, examining issues not covered there and ensuring the continuous provision of very crucial meteorological information.

Component 2. Adaptive capacity strengthened through concrete adaptation measures, favouring an ecosystem-based approach

Formatted: Font: Bold, Italic

The second component addresses the lack of integrated and informed adaptation strategies on the ground. This project will overcome this barrier by using the knowledge built through component one to build holistic priority action plans with their corresponding land use plans and implement the corresponding on the ground measures.

One community adaptation plan will be developed in each of the ten selected communities. These will be discussed and approved by all relevant stakeholders. Each plan will reflect the priorities of each community. In this sense, plans are likely to vary slightly according to the contextual situation and the cultural differences between communities.

Overall, adaptation plans will use outputs from component 1 strategically. They will ensure that the most relevant measures are prioritized in terms of individual, group, sector, geographical area and timeframe and will exploit the synergies between different elements, favoring a cost-effective design and implementation of actions. The adaptation plans will carefully take into account the territorial / spatial dimension of ecosystems and will in that line be aligned or suggest adjustments of the existing land use plans. The proposed plans will make use of a landscape-scale approach taking into account that the intervention sites are in fact made up of a mosaic of natural areas, agricultural areas and communities. In this sense, the plans will take into account the conditions and trends of natural resource use, natural and anthropogenic influences and the opportunities for conservation, restoration and development. Community adaptation plans will be developed in coordination with SEAM, UNEP, the departmental and district governments and, above all, the communities themselves.

As soon as the plans are approved by relevant stakeholders, adaptation measures will be implemented on the ground according to them[34]. The project will carry out activities to conserve and restore forests, including protective forests, and other ecosystems, in line with the forest standards developed in component 1[35], and in coordination with INFONA, SEAM, the department and district governments and the communities. In addition, the project will promote agro-ecological production in both farming and livestock. This will include agroforestry and silvopastoralism, but also the development of community banks of adapted seeds, minimum/zero tillage, land rotation, diversification, reduced use of chemical fertilizers and other practices recommended in the output 1.5. Specifically, This will include promoting food production in family and

[34] It is important to highlight that the detailed activities in each community (or micro-projects) will be determined in activity 2.1, once the baseline and other relevant studies have been conducted and once all that crucial information is discussed by relevant stakeholders on the ground.

Formatted: English (United States)

[35] This might include the construction of windbreaks and/or firebreaks, reforestation with native species, enrichment with other species and natural regeneration, among others.

community orchards, given that the production of seasonal vegetable gardens can help to increase food security in many communities. To that end, in close coordination with departmental and district governments, the project will provide technical assistance, seeds, tools and materials to implement these activities[36]. In particular, the project will also involve the promoting of apiculture, given that there is a high and increasing demand for honey (in part because the national government has recently introduced it into the school lunch program) and the one produced in the region is of high quality (it was recently selected as the third best produced in the country). Support will vary among communities, but in general it will include training, equipment to start the activity and in some cases equipment to start packing. In addition, depending on the results of the output 1.3, specific activities on the sustainable use of ~~carob~~ algarrobo trees will be also promoted. The activities included in outputs 2.2.1 and 2.2.2 will be driven by an ecosystem-based adaptation approach, in the sense that they will protect, restore or use sustainably the ecosystems to ensure the continuous provision of critical ecosystem services, as suggested by UNEP VIA (2013)[37]. In this sense the approach will ensure agricultural production and food security using and without causing harm to the surrounding ecosystems, so that they may continue to provide the ecosystem services that are critical to food security, and thereby reduce vulnerability to climate change. Indeed robust land use plans will ensure that each activity is fitted to the specific capacity and potential of the geographic area where it will be implemented, protecting for instance the non-modified ecosystems presented in

[36] During the consultation process, the communities of Toro Pampa, Maria Auxiliadora, Bahia Negra, San Carlos, Campo Aceval, Pozo Hondo and General Diaz were identified as possible beneficiaries. In Toro In Toro Pampa the boarding school Monseñor Alejo Avelar has been identified as a potential beneficiary. Increasing food production would not only help students cover their nutritional needs, but could also help them develop technical skills.

[37] The UNEP (2013) report advocates for an ecosystem-based approach both for improving water availability and increasing agriculture and livestock productivity. In this sense, it proposes integral watershed managed, conservation and restoration of forests, silvopastoral practices, and an agro-ecological approach to agriculture, all of which are promoted in this project.

Formatted: Font: 8 pt

Formatted: English (United States)

Figure ~~Figure 6~~Figure ~~7~~, and taking into account UNEP's VIA recommendations for each of the selected communities[38]. The activities under 2.2.2 will be carried out in coordination with MAG, SEAM, IPTA, the department and district governments and the communities.

In addition, water harvesting, conservation and distribution infrastructure for both human consumption and agriculture will be built in some communities. This will be the case in the two communities studied by UNEP in 2013. In the other eight, this will depend on the results of the vulnerability to be conducted in component 1. Best practices in the region will be followed[39]. The efficient use of water will be promoted by installing tools to measures water availability, which together with improved weather forecasts will inform how available water is used. This will be coordinated with the National Environmental Sanitation Services (SENASA by its initials in Spanish), SEAM, MAG, the department and district governments and the communities.

Furthermore, the recommendations provided by output 1.6 will be implemented, to ensure regulations include the necessary compulsory tools and at the same time they provide adequate incentives for the private sector to favor further work towards adaptation. This will be implemented involving SEAM, MAG, the department and district governments and the communities.

[38] For Toro Pampa, UNEP (2013) recommended i) formalizing production and market access and reactivating local producers organization; ii) ecosystem-based adaptation, improving agricultural and livestock practices; and iii) constructing and maintaining water harvesting and distribution systems for human and livestock consumption. For Campo Aceval, UNEP (2013) recommended i) providing financial support to small farmers, through promotion of cooperatives, credit, which further consultation for this proposal have suggested not to include; and ii) promoting participatory adaptation planning, involving communities and institutions. For Yalve Sanga, UNEP (2013) proposed i) regenerating degraded areas with algarrobo ~~carob~~ trees and the sustainable management and processing of agricultural and forest products; ii) diversifying, providing technical assistance, basic tools and seeds; iii) building water harvesting infrastructure and promoting efficient use of water; and iv) training and participatory planning.

[39] To ensure water availability for production during shortages, rain water has been harvested and routed from the producers fields to artificial ponds (tajamares) and then to tanks, usually Australian tanks. Windmills are typically used to move water from ponds to tanks, which are usually above the ground level. Water routes by gravity from the tanks to the places that on which it is used (houses, fields, barns). Water is treated with chlorine or boiled before human consumption and filter are used to prevent pathogens.

Formatted: Font: 8 pt

Finally, training will be provided for each of the activities included in output 2.2, that is, conservation and restoration of forest, agro-ecological management and water management, based on the knowledge gathered in output 1.5. Training will focus on understanding the need of adaptation measures and showcasing approaches and practices that have demonstrated to be efficient.

Given that increasing the adaptive capacity is a social process, rather than a series of isolated activities implemented by isolated individuals, bi-annual community meetings will be organized at activity level and annual community meetings will be organized at the level of the adaptation plan. These meetings would allow social learning and allow identifying any relevant way of improving the implementation of the project. As will be explained in section G, the project will promote in this sense a learning by doing approach. All individual farmers and herders and indigenous populations and all groups will be actively involved in vulnerability assessment and adaptation planning, implementation, monitoring and evaluation. Training will be conducted in coordination with SEAM, UNA/FCA and other universities, IPTA and the department and district governments, the communities, NGOs and the private sector, and will respond to the specific needs of the communities.

Healthy ecosystems are essential for ensuring ecosystem services and long-term food security. The project approach and concrete actions will ensure a flow of ecosystem services vital for food production. Strengthened ecosystem services will ensure a more dependable flow of other services and resources (spill over effect) to the communities such as more availability of natural medicine sources, raw materials for shelter building, wild honey harvesting, fish resources, and timber and non-timber products. Moreover, healthy ecosystems may act as natural barriers to prevent the dissemination of disease outbreaks, to help counteract climate change, and to provide aesthetic and cultural values to many communities.

Component 3. Capacity development and awareness to implement and upscale effective implementation of adaptation measures at national and local levels

The third component addresses the third barrier by increasing the technical capacity of national and local stakeholders to implement climate change adaptation plans and projects.

First, t~~T~~he project will ensure that the **SEAM staff** receives detailed training on mainstreaming climate compatible development across sectors, with a specific focus on ecosystem-based approaches. To this end a training plan will be elaborated, based on a needs assessment, and two workshops will be conducted:

- The first one will address technical aspects, such as the development of vulnerability maps regarding food production and ecosystem services, design and implementation of vulnerability and adaptation information systems, implementation of risk analysis, identification of ~~-~~ecosystem-based solutions and

Formatted: Justified

Formatted: Font: Not Bold, Not Italic

Formatted: Justified

Formatted: Font: Bold

Formatted: Justified, Bulleted + Level: 1 + Aligned at: 0.25" + Indent at: 0.5"

other important capacities needed to develop and implement local adaptation plans envisaged in component 2.

- The second one will address planning skills to mainstreaming adaptation into different sectors and communication and negotiation skills to promote consideration of adaptation issues by third parties.

The expected results of these training programs will be increased awareness, suitable skills, and more informed decision-making to properly address the problems posed by climate change.

In addition, the project will provide training to **partner agencies at the national and local levels**. This training will be more general than the one provided to the SEAM. Stakeholders will include ministries and agencies from different sectors to integrate climate change adaptation in all laws, policies and plans, departmental and district governments and other stakeholders, such as universities, NGOs and the private sector. To this end ~~At the beginning of the consultancy services, consultants will develop~~ a detailed training plan will be developed, ~~which will be approved by~~ under the coordination of the SEAM, based on a needs assessment. This plan will specify the objectives, scope and materials to be used for capacity building. During the consultation period the following needs aroused: ~~.~~

- Technical and analytical skills to assess the impacts of climate change in different sectors and scales and to identify ecosystem-based solutions.
- Planning skills to mainstreaming adaptation into different sectors and scales, with emphasis on the local level.
- Communication skills to promote consideration of adaptation issues by third parties, through awareness raising campaigns, training materials and activities.
- Adaptation and mitigation-related opportunities for the private sector.
- Adaptation and mitigation-related research opportunities for the academic community.

The expected result of these trainings will be technical staff form partner institutions are adequately trained to accompany the implementation of the demonstration activities under Component 2, as well as developing and maintaining adequate working relations with the communities.

Training activities will include modules which explicitly focus on raising awareness, and providing practical suggestions on how to include consideration, on issues related to gender equity and sectoral priorities related to women.

Table 7 ~~Table 6~~ describes the awareness raising and training activities to be carried out with the different stakeholders and the skill to be developed at this stage.

Formatted: Justified

Formatted: Font: Bold

Formatted: Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25"

Formatted: Justified, Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25"

Formatted: Justified

Formatted: Not Strikethrough

Formatted: Font color: Black

Table 7. Capacity building activities and skills developed

Beneficiary	Activity	Skill to be developed
SEAM	Targeted training	- Technical and analytical skills to assess the impacts of climate change in different sectors and scales, including development of vulnerability maps regarding food production and ecosystem services, design and implementation of vulnerability and adaptation information systems, and implementation of risk analysis - Planning skills to mainstreaming adaptation into different sectors, and develop specific sectoral and multi-sectoral proposals - Communication and negotiation skills to promote consideration of adaptation issues by third parties, through awareness raising campaigns, training materials and activities, and policy instruments, including both compulsory and voluntary elements (informed by the output 1.3)
Other national, regional and district stakeholders: National Ministries and Secretariats: Technical Secretariat of Economic and Social Development Planning; Ministry of Finance, SEN; MAG, INFONA, Ministry of Public Works and Communications, National Secretariat for Housing and Habitat, Ministry of Public Health and Social Welfare, Ministry of Education and Culture, Ministry of Industry and Commerce, Ministry of Labor and Social Protection, Secretariat of Indigenous Peoples.	Awareness raising General training	- Technical and analytical skills to assess the impacts of climate change in different sectors and scales - Planning skills to mainstreaming adaptation into different sectors and scales, with emphasis on the local level - Communication skills to promote consideration of adaptation issues by third parties, through awareness raising campaigns, training materials and activities, and policy instruments - Adaptation and mitigation-related opportunities for the private sector - Adaptation and mitigation-related research opportunities for the academic community

Formatted: Justified

Formatted: Justified

Formatted: Justified

Departmental and District Governments: 5 representatives of the three selected departments 2 representatives of the other departments of the country 3 representatives of the six selected districts Other stakeholders: Representatives of the 10 most important universities in the country Representatives of the 10 most important NGOs in the country Representatives of 10 private sector associations		

Formatted: Justified

Moreover, the project will ensure that the lessons of the project are identified, systematized, exchanged and, when possible, mainstreamed. At least the lessons from the project will be mainstreamed in the training programs (for instance lessons learned from activities under component 2) and efforts will be made to mainstream them also in any new planned field programs to ensure the sustainability of project results and continued long-term support to the community adaptation plans and land use plans developed. In addition, as explained in section G, the project will benefit from UNEP'S experience in other countries through its Regional Gateway for Technology Transfer and Climate Change Action in Latin America and the Caribbean (REGATTA). This output will involve SEAM, other selected Ministries, Governments of Presidente Hayes, Boqueron and Alto Paraguay, other selected departmental governments, selected district governments, other selected district governments, other selected communities and UNEP.The three activities under component 3 will increase the capacity of the Paraguayan stakeholders to implement robust adaptation strategies, reducing the vulnerability of the country to the impacts of climate change.

~~B.~~ To conclude it is important to highlight that the three components of this project are tightly linked. Component 1 develops the information and knowledge needed to plan and implement robust adaptation actions in the region, component 2 uses that information to design community adaptation plans and land use plans and implement priority actions in different fronts and component 3 ensures that the technical, analytical and communicational skills are available to conduct the studies and plan and implement

Formatted: Justified, Indent: Left: -0.25"

the adaptation measures. Together the three components overcome the barriers for climate resilience in the Paraguayan Chaco and establish the conditions to replicate successful adaptation projects in other regions, for other ecosystems and even for other sectors in the country.

~~C.~~B. Describe how the project / programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy of the Adaptation Fund.

The project ensures the provision of significant environmental, social and economic benefits. The ecosystem-based approach results in considerable environmental benefits. The project will conduct studies to assess the characteristics of different ecosystems and based on these will develop adaptation plans ~~and land use plans~~ and implement adaptation actions that ensure the continuous provision of some the critical supporting, provisioning, regulating and cultural services included in Figure ~~Figure 7Figure 8~~[40]. In this sense, the project will design and implement measures that will preserve, restore or use ecosystems in a sustainable way, having in mind the importance of not hampering the ability of ecosystem to provide ecosystem services. This will be true for different ecosystems and natural resources, from water to soil, from forest to pasture. This approach will entail adaptation benefits, which are the main focus of this project, but will also contribute to mitigating climate change by reducing deforestation and degradation of forest and conserving them. The project will also protect biodiversity, therefore providing global environmental benefits. In addition to the immediate and global environmental benefits, the project will have regional environmental benefits. All the downstream human settlements along the Pilcomayo and Yacare rivers will benefit from more and cleaner water resources.

The project will also offer substantial social benefits. The project is designed to increase the resilience of selected farmer and indigenous communities in the Paraguayan Chaco to the impacts of climate change in food security. The actions to support the continuous provision of ecosystem services and the development of water infrastructure will ensure the access to water and food, and reduce the vulnerability to the impacts of climate change. The project will reduce the impact of higher temperatures, increased evapotranspiration and longer and more severe dry spells on the availability of water by building water infrastructure and promoting a more efficient use of available water. In

[40] The impact of the project in regulating the micro-climate (and decreasing the exposure to higher temperatures) will be limited given the available resources and the wide geographical scope of the project.

Formatted: Justified

Formatted: Normal, Justified, Don't adjust right indent when grid is defined, Space After: 12 pt, No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: Justified

Formatted: English (United States)

addition, it will improve the productivity of farming and livestock, promote more diversified livelihoods and will ensure that communities can access food resources provided directly by ecosystems, which is particularly important for indigenous communities. The full project focuses on increasing the resilience of communities, working at different scales to achieve this, including generating information in component 1, prioritizing actions in ouptut 2.1 and building capacity to design and implement climate change projects in component 3. In any case, output 2.2 related to implementation of activities on the ground, amounts alone to almost 4,380,000 USD, that is, 73% of all the funds allocated to the three components. In average, about 438,000 USD will therefore be available for investment on the ground in each of the ten selected communities. This will be enough to make a significant impact, given that funds will be used strategically and synergies will be identified and exploited, as noted in section C below. In addition, some other human settlements will indirectly benefit from increased food security, as some of the products of the target communities will access their markets.

Importantly, the project will respect social diversity. Each cultural and ethnical group will be taken into careful consideration to help preserve and value the traditional knowledge, practices and customs of each community. Special attention will be given to the several indigenous communities to ensure that all their rights and customs are respected. In this sense, the project will take into account the guidelines elaborated by SEAM for implementing projects with indigenous communities. Among other things, this will involve obtaining informed consent from their organizations, reflecting their cosmo-vision, traditional rights and specific regulatory frameworks. To facilitate this, the project will conduct preliminary visits to the communities to provide them with sufficient information and to allow community leaders and its members to discuss the project among themselves prior to the workshops, thus respecting their own processes and timing in regards to internal consultation and decision making. Activities will be adapted for each linguistic and ethnic context as needed.

Moreover, this project will have a gender sensitive approach, taking into account women´s role in food security according to the different target groups (indigenous and non-indigenous). Equal participation of women will be ensured in planning exercises, participatory research and field trials, exchange of information with project technicians, consultation and training workshops, field days and other activities.

Formatted: Font: 12 pt

In addition to significant environmental and social benefits, the project provides considerable economic benefits.

To begin with the project will contribute to the continuous provision of ecosystem services, such as water availability, on which farming and livestock directly depend. Moreover, the specific agro-ecological practices it will support have demonstrated to provide important economic returns.

Crop yields are low in the Chaco Region as a whole–, as shown in table 8 below. However, a~~A~~ study carried out in 2011 by MAG/GiZ on the Eastern region demonstrated the economic benefits of implementing minimum tillage, green fertilizers and

Formatted: English (United States)

Formatted: English (United States)

agroforestry[41]. The study found that minimum tillage not only requires less human labour, thus reducing costs and allowing for greater profit margins (labour is the greatest expense of producers), but it also improves the condition of the soil and thus its productivity. The same report proved that green fertilizers are effective in decreasing unwanted weeds and increasing soil nutrients, helping obtain higher yields. The surveys reported increases in yields of 55% for maize, 18% for manioc, 20% for beans, 14% for sesame, and 33% for cotton as a result of the application of the promoted practices. Higher yields generate more food for self-consumption, for animals and for the market. It was observed that with more food for farm animals, families were able to keep more livestock as a source of meat and other goods, and even trade or sell these smaller farm animals in times when agricultural yields were less reliable or during non-harvest months. In addition, the study demonstrated that pineapples grown in shaded areas mature at a slower rate, thus enabling sale towards the end of the harvesting season at higher prices. Not only incomes increased between 55% and 75%, as a result of lower cost, increased yields and better prices, but livelihoods became also more resilient to climate variability through diversification.

Table 8. Crop yields in El Chaco region

Rubros	Boquerón			Pte. Hayes			Alto Paraguay		
	Surface (ha)	Production (t)	Yield (kg/ha)	Surface(ha)	Production (t)	Yield (kg/ha)	Surface(ha)	Production (t)	Yield (kg/ha)
Algodón	21	24..	1143	204	212	1039	-	-	-
Batata	-	-	-	100	886	8826	-	-	-
Caña de Azúcar	-	-	-	41	2200	53659	1	37	37000
Maíz	27	51	1889	318	726	2283	18	35	1944
Mandioca	27	223	8259	100	851	8510	17	158	9294
Poroto	437	261	597	457	420	919	7	4	571
Sésamo	3088	1322	428	450	311	691	12	7	583
Soja	4100	6314	1540	-	-	-	350	480	1371
Sorgo p/ grano	1300	3779	2907	3512	13266	3777	-	-	-
Tabaco	5	6	1200	-	-	-	-	-	-
Tártago	313	277	885	63	72	1143	-	-	-
Tomate	-	-	-	2	57	28500	-	-	-
Banano	-	-	-	3	17	5667	-	-	-
Limón sutil	-	-	-	-	-	-	3	28	9333
Mandarina	-	-	-	-	-	-	1	15	15000

Formatted: Font: 11 pt

[41] MAG/GiZ (2011): Manejo Forestal y Agricultura de Conservación: Experiencia de pequeños productores en la Región Oriental de Paraguay.

Rubros	Boquerón			Pte. Hayes			Alto Paraguay		
	Surface (ha)	Production (t)	Yield (kg/ha)	Surface(ha)	Production (t)	Yield (kg/ha)	Surface(ha)	Production (t)	Yield (kg/ha)
Naranjo dulce	-	-	-	-	-	-	2	12	6000

Source: Zonificación Agroecológica de rubros agropecuarios del Paraguay Zafra 2013/2014, Ministerio de Agriucltura y Ganadería de Paraguay 2015

The introduction or strengthening of economic incentives for adaptation into the different elements of the regulatory framework will contribute to boost resilience practices, and therefore multiply the economic benefits discussed in this paragraph.

Table 9 ~~Table 7~~ summarizes some of the environmental, social and economic benefits discussed above.

Table ~~9~~7. Environmental, social and economic benefits of the project

Environmental Benefits[42]	Social Benefits: increased resilience	Economic Benefits
~~- Climate regulation~~ - Protection from strong winds and storms - Increased water quantity and quality - Increased levels of soil humidity, stability and fertility - Pest and disease regulation - Biodiversity conservation - Carbon Storage	~~- Decreased exposure high temperatures~~ - Increased availability of water - Increased availability of food - Increased availability of wood and other products, such as medicinal plants - Decreased exposure to pest and diseases - Increased knowledge and means to respond to climate change - Increased ability to carry on traditional practices (especially for indigenous peoples) - Maintenance of aesthetic, spiritual, educational and recreational values	- Increased crop yields - Increased milk and meat production - ~~Increased production of crafts~~ - Diversified production available for selling throughout the year - Lower production costs - Higher incomes - Lower income fluctuations - Regulatory framework adjusted to incentivize adaptation (removing economic disincentives for this, strengthening the existing incentives and introducing new ones)

[42] This table does not include all the environmental benefits obtained by conserving, restoring and using ecosystem sustainably. This project will strengthen the provision of the ecosystem services included in Figure ~~Figure 7~~Figure ~~8~~.

Formatted: Font: 11 pt
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Font: 10 pt

~~D.~~C. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.

The benefits of this project greatly exceed its costs, given both the nature of its activities and the way in which they have been designed and will be implemented.

Financial matters are discussed in more detail in Section I below. International literature proves that adaptation is a cost-effective investment[43]. The ECLAC (2014) study found that the costs of the damages caused by climate change are huge for Paraguay without adaptation. This project will significantly reduce the full costs of climate change by increasing resilience and reducing damage costs. Indeed, the costs allocated to this project by the AF are by many times smaller than the costs of the damages it avoids. The UNDP (2011) report shows that the Government of Paraguay cannot however fund alone all the public investment flows needed for adaptation. In short, the project helps Paraguay implement cost-effective adaptation measures that will not happen otherwise.

The project's ecosystem-based approach further increases its cost-effectiveness, in the sense that costs are small and the benefits are massive. Figure ~~Figure 7~~Figure 8 presented the services provided by ecosystems, some of which have been summarized in Table 9~~Table 8~~~~Table 7~~. This project will contribute to the continuous provision of these ecosystem services, benefiting not only the direct beneficiaries of the project but also other stakeholders along the watershed and at the global scale. Increased water quantity and quality will benefit people living in human settlements downstream, while increased carbon storage and biodiversity conservation represent global benefits. Many of these benefits are long-term. Awareness raising and increased capacities of stakeholders will allow maintaining these services.

It is important to note in any case that the concept of cost-effectiveness is a bit tricky in this case, as it is linked to assigning an economic value to human life. The project helps satisfy basic needs (food security) of vulnerable populations, including indigenous populations.

The cost-effectiveness associated with these essential features (focus on adaptation, ecosystems and food security) is combined with that resulting from project design. To begin with, the project alignment with government priorities, as demonstrated in section D below, and its consonant consistency with public investments result in economies of

Formatted: Justified, Indent: First line: 0"

Formatted: English (United States)

Formatted: Justified

[43] See, for instance, Stern, N. (2006): Stern review: the economics of climate change. London, United Kingdom: HM Treasury; World Bank (2010): Economics of adaptation to climate change. Synthesis report. Washington DC, USA: The World Bank; UNFCCC (2011): Assessing the costs and benefits of adaptation options. An overview of approaches. Bonn, Germany: UNFCCC; and Chambwera et al. (2014): Economics of adaptation; In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change Cambridge, UK: Cambridge University Press, pp. 945-977.

scale, synergies and complementarities that increase the cost-effectiveness of both this project and other government current and planned projects in the topic and the area.

Project design has also taken care of building the project upon existing best practices and local and international knowledge to increase its cost-effectiveness. Outputs 1.3, 1.5 and 1.6 will carefully identify and characterize incentives and disincentives for the adoption of climate-resilient agricultural practices~~regulatory frameworks~~, approaches and practices that work, which will be used to implement concrete adaptation measures in output 2.2. The active involvement of a wide range of stakeholders will also contribute to ensure that practices that work are promoted to increase food security in a climate change context.

Furthermore, the different elements of the project have been carefully integrated to exploit synergies between activities. Research will inform planning, which will guide action, with training and lessons being identified, systematized, exchanged and mainstreamed along the way to ensure cost-effectiveness. In this sense, as noted in section I below, taken solely, without additional funding from other donors, and regardless of the success of other complementary projects, the activities of this project will extraordinarily help reduce the damage costs related to climate change in a holistic manner.

Moreover, the project includes a technically robust, institutionally clear and adequately funded monitoring and evaluation plan. This will ensure that the progress of the project and the results of its activities are closely tracked and adjustments are made when needed so that the project achieves its outcomes efficiently.

Cost-effectiveness is also ensured by the institutional arrangements that are proposed. These have demonstrated to be efficient in other projects funded by multilateral climate change funds, such as the Global Environmental Facility. Crucially, the project will be managed with the active involvement of all the stakeholders that are relevant for this specific project (international, national, regional and local) in the levels and functions that are appropriate (Multilateral Implementing Agency, National Executing Agency, Steering Committee, Local Coordination Committee, contractors for executing specific activities), as is explained in Section A below.

Finally, the cost-effectiveness of the project is related to the inputs it can provide for other projects in the Chaco, Paraguay, Latin America and other developing regions. An activity has specifically designed to draw and exchange lessons from this project, in order to inform other relevant projects during and beyond its life span.

~~E.~~D. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

The project is in harmony with Paraguay's Constitution (1992), which recognizes the right to a healthy environment and guarantees environmental protection (articles 7 and 8). The project is also consistent with Paraguay's National Development Plan 2014-2030, which prioritizes 12 strategies. This project directly contributes to 8 strategies, namely 1.1 Equitable social development, in terms of reducing poverty; 1.3 Participatory local development, in terms of strengthening social capital, promoting strategic participatory process and increasing coordination between stakeholders at local level; 1.4 Adequate and sustainable habitat, in terms of improving the physical state of human habitats; 2.1 Employment and social security, in terms of investing in the human capital of vulnerable groups; 2.3 Regionalization and productive diversification, in terms of expanding the productivity of family agriculture and increasing household income in the Chaco; 2.4 Valorisation of natural capital, in terms of afforestation and reforestation; 3.3 Attracting investment, trade and country image, in terms of strengthening Paraguay's position as a leading exporter of agricultural products; and 3.4 Global sustainability, in terms of promoting biodiversity conservation, climate change mitigation and the sustainable use of aquifers.

In addition, the project is aligned with the country's climate change policies. In particular, the project is congruous with the objective of the National Climate Change Policy (2012) of mainstreaming climate change issues at national level and promoting the implementation of coordinated measure. More specifically, the three components of the project contribute to the four pillars of the policy, namely strengthening institutional capacities; financing; education, communication and participation; and management of knowledge and technology. The project focuses as well in some of the policy's priority sectors, namely food sovereignty and security, water resources, forest and biodiversity.

Moreover, the project is in accordance with the recent National Climate Change Adaptation Strategy (2015). Not only it follows its vision and mission, but also it directly contributes to its three specific objectives, namely creating and disseminating information and technologies, strengthening stakeholders' adaptive capacity and promoting concrete adaptation strategies. More specifically, the project contributes to lines of action 1.1 on monitoring climate variables, 1.2 on vulnerability assessments, 2.2 on disseminating that information, 3.1, 3.2 and 3.3 on capacity building, 4.2 on mainstreaming adaptation in development plans and land use planning, in addition to a general contribution to component 5 on implementing adaptation policies. Moreover, the project clearly follows its principles, such as sustainability, precaution, subsidiarity, solidarity, equity and responsibility, and takes into account its cross-cutting issues, such as rights-based approach, gender equity, cultural diversity and risk management.

Less relevant but nevertheless also important, the project as well harmonious with the National Climate Change Mitigation Strategy (2014), mainly by contributing to its fourth and fifth strategies related to reducing emissions from deforestation and forest degradation, conserving and using forest sustainably, and enhancing forest carbon stocks.

Formatted: Indent: First line: 0"

Formatted: Justified

Formatted: Justified, Indent: First line: 0"

Formatted: Justified

Formatted: Justified, Indent: First line: 0"

Formatted: Justified

Likewise it is in tune with the National Policy on Managing and Reducing Risks (2013), which seeks to mainstream disaster risk management into development planning.

Furthermore, the project is accordant with the country's environmental strategies. It is consistent with the National Environmental Policy (2005), which seeks to adjust the use of the country's natural and cultural capital in order to ensure sustainability, the equitable distribution of its benefits, environmental justice and the current and future quality of life of the population. In this background, the project will implement several strategies contained in the policy, such as the restoration of protective ecosystems and safekeeping and management of water resources. The project is also in tandem with SEAM's goals and policies on safeguarding and restoring ecosystems and the corresponding instruments, such as the Chaco Environmental System.

By the same token, the project is consonant with the country's agricultural and forestry policies. In particular, the project is in tune with the country's Agrarian Strategic Framework 2010-2018. Specifically, it contributes to strategic axes 2, regarding improving food security and developing family agriculture, and 5, regarding the design and implementation of an agriculture and livestock information system that provides climatic information to different users for decision-making. The project is in line with two of its programs (the National Programme to Support Food Production by Family Agriculture (PPA) and the National Programme for Indigenous People Economy and Agriculture (PAI)), with which, as explained below, it will coordinate activities. The project is also in harmony with the National Plan for Food Sovereignty and Security (PLANAL), which seeks to reduce food insecurity and malnutrition.

In addition, the project is consistent with the National Forest Policy, the National Forest Action Plan and the National Afforestation and Reforestation Plan in regards to forest conservation, restoration and management. The measures implemented on-ground will be also aligned with the Forest Law, the Afforestation/Reforestation Law, and the Law for Forest Conservation in the Chaco.

The project is also congruous with the country's social development policies. Specifically, the project is in line with the national Social Development Public Policy, which prioritizes the attention to vulnerable groups, among them small holders and indigenous people through food security among other strategies, and puts forward gender considerations.

Departmental and district level development plans are currently being developed in Paraguay. Significant consultation with governments at these scales ensures the project is in tune with their priorities. The project will ensure that this alignment continues once the departmental and district level development plans are formally approved.

Last but not least, the project is in accordance with Paraguay's commitment to international policy frameworks. The project is harmonious with the country's Intended Nationally Determined Contributions to the United Nations Convention Framework on Climate Change, contributing to both the adaption and mitigation commitments. By

protecting and restoring forests and promoting agro-forestry the project will help Paraguay meet its commitment to unilaterally reduce 214.5 MtCO2 eq by 2030, and to additionally reduce the same amount by the same year conditional to receiving international support[44].

In addition, the project is in tune with the Sustainable Development Goals. It will directly contribute to Goal 1. End poverty in all its forms everywhere; Goal 2. End hunger, achieve food security and improve nutrition and promote sustainable agriculture; Goal 5. Achieve gender equality and empower all women and girls; Goal 6. Ensure availability and sustainable management of water and sanitation for all; Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; Goal 12. Ensure sustainable consumption and production patterns; Goal 13. Take urgent action to combat climate change and its impacts; and Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably managed forests, combat desertification and halt and reverse land degradation and halt biodiversity loss.

~~F.~~E. Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

- There are currently no relevant national technical standards for agriculture, water and forest protection and restoration in Paraguay. However, as indicated above, the project is in line with the national laws and policies on these issues. The involvement of government officials from different sectors at all levels will ensure that the guidelines provided in the country's legal and policy framework are followed when implementing the project on the ground. In this sense, the project will adhere to all technical national specifications. As explained in section K, the project ~~is categorised within Category C, considering there are not adverse environmental or social impacts. T~~the project complies with the environmental and social principles as outlined in the Environmental and Social Policy of the Adaptation Fund and~~.~~ will adhere to Environmental Impact Assessment (EIA) regulations as defined by Paraguayan Law 294/93.

Field Code Changed

Formatted: Justified

~~G.~~F. Describe if there is duplication of project / programme with other funding sources, if any.

The specific adaptation activities proposed in this project are not duplicated by other projects or initiatives. Nevertheless, there are several programs and projects with which the proposed project will seek complementarity.

[44] 214.5 MtCO2eq represents 10% of the emissions of Paraguay in the year 2000.

Table 108. Synergies and complementarities with ongoing projects

Implementing Organization	Project Name	Source of Funding	Budget (USD)	Starting & Ending Date (mm/yyyy)	Project Objective	Implemen Site.	Comments	
SEAM/Guyra Paraguay NGO	Innovative Use of a Voluntary Payment for Environmental Services Scheme to Avoid and Reduce Greenhouse Gas Emissions and Enhance Carbon Stocks in the Highly Threatened Dry Chaco Forest Complex in Western Paraguay	GEF Trust Fund	7,015,500	03/2016 03/2020	To promote conservation and enhancing carbon stocks through sustainable management of land use, land-use change, and forestry	Dry Chaco Complex (Alto Paraguay department)		of the scheme will serve as a pilot of a system that can be recognized in the voluntary market of Certified Emission Reductions. Results from this project can then be used in other regions included the sites of the adaptation proposal presented here.
UNDP, WFP, PAHO	Strengthening human security in the central municipalities of the Paraguayan Chaco (Human Security)	UN Trust Fund for Human Security	3,000,000	01/2015 12/2016	To facilitate the creation of a coordination platform for the territorial development of the Paraguayan Chaco, promoting multi-sectoral efforts to improve human security with social equity in four municipalities. Activities include water management and food production.	Municipaliti Irala Fernández, Puerto Pinazco, Filadelfia and Mariscal Estigarribia.		working in three of the municipalities selected in this proposal, which will benefit from the lessons learned in these municipalities in implementing specific adaptation activities.
WWF	"Forest Conservation Agriculture Alliance (FCAA)"	USAID	4,000,000	10/2015 09/2019	Reducing deforestation related to production of key commodities (soy and meat) in Paraguay increasing productivity and sustainable	Municipality Filadelfia and Alto Paraguay department	Project will be implemented in the Chaco Region and 10% in the Atlantic Forest Ecoregion of Paraguay.	between this project and SEAM will help reinforce the ecosystem approach of this proposal, in the sense that they are complementary. While the proposed project focuses on family agriculture,

					agriculture.			this other project will work closely with big land owners.
	Pantanal-Chaco (PaCha) Alliance to promote climate resilience water and food security.	WWF-Netherlands/ IUCN-Netherlands	1,384,000	01/2015 12/2020	In the Chaco Pantanal landscape the ecosystem-based on International Private Goods (IPGs) such as water provisioning, food security and climate resilience are secured for the future through multi-stakeholder governance systems through strengthening local stakeholder community organizations.	Alto Paraguay and Boqueron departments	Includes Bolivia	SEAM and WWF will work closely to ensure activities of this project can be complementary to this proposal. Synergies between this project and the adaptation proposal on the ground will be ensured by the conformation of the Local Coordination Committees.
	"Taking Land Use Change Out of Savannahs and Grasslands through Policy Engagement, Land Use Management and Zoning and Best Management Practices"	Germany/Ministry of Environment, Conservation and Construction. WWF	1,107,500	09/2016 09/2019	Fostering climate smart land use management and zoning for savannah and grasslands and hence maintaining carbon, biodiversity and water regimes, and meeting sustainable agricultural production.	Alto Paraguay department.	The full project includes Colombia.	Collaboration between this project and SEAM will help reinforce the Ecosystem-based approach of this proposal.
	Collaboration for Forest and Agriculture (CFA)	WWF-US/Moore Foundation	2,415,250	02/2016 02/2021	Delivering robust deforestation-free sourcing commitments from the relevant leading companies purchasing, distributing and processing soy and beef in an effort to	Presidente Hayes, Boqueron and Alto Paraguay departments	Project Partners: The Nature Conservancy & National Wildlife Federation. The project includes Brazil and Argentina.	Collaboration with this project will ensure that local communities and their needs are taken into account during the supply chain analyses.

					eliminate deforestation resulting from these commodity supply chains, without displacement by 2021			

Formatted: Justified

Besides the alliances and complementarities mentioned above, the project includes coordination with local governments at departmental and municipal level. In this regard each Department and Municipality has its own agriculture and environmental secretariat and their own budget. The project local coordination committees will help coordinate actions at the local level in order to increase efficiency and ensure that activities are not being duplicated.

~~H.~~G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

The project has been conceived as a demonstration mechanism to enhance the adaptive capacity of project and other stakeholders. In this regard, the identification of lessons learned will be a neuralgic element of the project.

To begin with, the project is built on lessons learned from previous and ongoing projects and initiatives. Section F above has briefly described the most relevant ongoing projects at the time of project design, and how they inform this process. A more detailed exercise will be conducted during project implementation under component 1. At that stage, the project will examine traditional agricultural, livestock and more broadly environmental management practices in the area, identifying those that contribute to reduce the vulnerability to climate variability and change, and will review all laws, standards, policies and plans at national, departmental and district level regulating the use of natural resources. The first exercise, that is, output 1.4, will allow identifying lessons learned at practical level, while the latter exercise, that is, output 1.5, will allow identifying lessons learned at institutional, policy and regulatory level. Both exercises will involve all relevant stakeholders, and their recommendations will be implemented in Component 2, at planning level under output 2.1 and at very concrete, on-the-ground scale, under output 2.2.

In addition, significant awareness raising and training activities will be conducted. Under component 2, farmers, herders and indigenous populations will be trained on specific issues such as climate change and its impacts and specific adaption strategies, such as agroforestry or silviculture, among others. As presented in Section A, and in particular Table 7~~Table 7~~~~Table 6~~ above, significant training activities will also be conducted for the SEAM and other stakeholders, including national ministries and agencies[45], departmental and district government authorities, universities, NGOs and the private sector. As noted there, training will be tailored to the existing knowledge, institutional function and potential contribution of each institution, developing a particularly strong capacity building plan for the SEAM, given its crucial role in the climate change system of the country.

[45] Technical Secretariat of Economic and Social Development Planning; Ministry of Finance, SEN; MAG, INFONA, Ministry of Public Works and Communications, National Secretariat for Housing and Habitat, Ministry of Public Health and Social Welfare, Ministry of Education and Culture, Ministry of Industry and Commerce, Ministry of Labor and Social Protection, Secretariat of Indigenous Peoples.

Furthermore, the project favours a learning by doing approach. Lessons learned will be identified and systematized during implementation and mainstreamed in the following phases. These lessons will be drawn with the participation of different stakeholders through semi-annual and annual meetings. Taking that into consideration and its own experience, the project management unit (PMU) will prepare a lessons learned document every six months. An independent international consultants will also analize the project and draw his/her own lessons at mid-term, which will then be taken into account for the implementation of ongoing and planned activities. These lessons will also be used in training, in both components 2 and 3. In addition, an independent international consultant will evaluate the project at its end, drawing lessons that can be used in future projects in the region, the country, Latin America or other developing regions in the world. The final report will also include a section on lessons learned. In any case, a specific report on lessons learned, integrating the inputs from all the different analyses, will be prepared at the end of the project. These lessons, which will be published, will be communicated to other ongoing initiatives, so that they can benefit from the knowledge gained through this project during its implementation.

The information of the project, with its most important documents (i.e. project document, mid-term review, terminal evaluation, final report and lessons learned report) will be disseminated through UNEP's website and information sharing mechanisms and platforms, including, but not limited to REGATTA. A briefing note or news will be prepared every quarter by the project team from the start of third quarter of implementation.

~~I.~~H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund.

A broad consultation process has taken place in the development of the concept note and this detailed project proposal. At the concept note stage, 3 workshops were organized between November 2011 and March 2012. The 2011 workshop counted with the participation of the Environment Secretariat, the National Emergency Secretariat, the Ministry of Agriculture and Livestock, the Agrarian Technology Institute, the National Forest Service and the National Plant Health Service. The two 2012 workshops involved SEAM, SEN, the Ministry of Finance, the Ministry of Industry and Commerce, the National Institute for Rural Development and Lands, the Meteorology Directorate, the Women's Secretariat, the NGOs Mingara, Sobrevivencia and Tierra Libre, and the Association of Rural Producers of Paraguay. The workshops focused on discussing the climate change scenarios and vulnerabilities and the criteria to select the areas of intervention.

At the detailed project proposal stage, three types of consultations were carried out. On July 8th 2016 a workshop was organized with the SEAM to review the concept and

update it. Table 11 ~~Table 9~~ shows the staff that participated in this meeting (firms are presented in Table 3~~Table 3~~~~Table 21~~). Specific results included:

- Confirmation of the compliance of the project with the National Development Plan 2030 and other relevant documents produced since 2012, such as the National Adaptation Strategy, the Second National Communication, the Intended Nationally Determined Contribution and the National Adaptation Plan (under elaboration).
- The prioritization of the Chaco Region as the intervention region of the project.
- The identification of relevant stakeholders to be consulted to prepare the final project proposal.

Table ~~1~~11~~9~~. List of SEAM staff that attended the consultative meeting on July 8th 2016

Name	Position
Ethel Estigarribia	Director of the National Office of Climate Change.
David Fariña	General Director of Protection and Conservation of Water Resources
Dario Mandelburger	General Director of Protection and Conservation of Biodiversity
Gualberto Echagüe	Planning Director.
Carlos Monges	Coordinator of the PAS-Chaco Project.
Karem Elizeche	Coordinator of the NCSA (National Capacity Self-Assessment) Program.
Maria Jose Lopez	Consultant (UNEP/SEAM)

Formatted: Justified

Based on the identification of the stakeholders conducted with the SEAM, the proposal was discussed with representatives of the national and local governments, NGOs working both at the national and local level, universities and the private sector.

Consultations included bilateral interviews, on which every aspect of the proposal was discussed, with special attention being paid to gender-based considerations on selecting sites. Table 12 ~~Table 10~~ presents the stakeholders that were interviewed (firms are presented in Table 4~~Table 4~~~~Table 22~~).

Table ~~1~~12~~10~~. List of interviewed stakeholders

Formatted: Justified

Name	Date	Position	Organization
Pablo Gonzalez	July 11, 2016	Agricultural and Livestock Secretary.	Government of Alto Paraguay Departmental.
Ismael Arias	July 11, 2016	Environment Secretary.	Government of Alto Paraguay Departmental.
Damiana Mann	July 14, 2016	Technical Advisor	National Forest

			Institute (INFONA)
Angelica Villalba	July 14, 2016	Director of Forest Planning.	INFONA

Formatted: Justified

Finally, a workshop was organized on July 20, 2016 by the National Office for Climate Change (ONCC by its initials in Spanish). Table 13 ~~Table 11~~ provides a summary of the stakeholders that attended the workshop, while a complete list of the 41 stakeholders that attended it is included in Table 5~~Table 5~~Table 23. Its main objective was to present the project to relevant stakeholders both at the national and local level. As part of the methodology, participants completed a survey regarding the main activities to be promoted by the project. Specific results of the workshop included:

- Presentation and revision of the project proposal to relevant stakeholders both at the national and local level.
- Stakeholder discussion of the criteria for community selection, and its selection.
- Prioritization of adaptation activities on which the project will focus on.

Table~~–~~ 1311. Summary list of the stakeholders that attended the consultative meeting on July 20th 2016

Formatted: Justified

Name	Organization
Sebastian Rios	Ministry of Agriculture and Livestock. Planning Direction (MAG/DGP)
Teodoro Nuñez	Paraguayan Institute of Agriculture and Livestock Technology (IPTA)
Antero Cabrera	National University of Asuncion/Faculty of Agrarian Science (FCA)
Esteban Beconi	National Institute of Rural Development and Lands (INDERT)
Ismael Arias	Government of Alto Paraguay. Agriculture Secretary
Pablo González	Government of Alto Paraguay. Environment Secretary.
Alberto Herrera	Hogapypegua (Local NGO)
Oscar Rodas	World Wildlife Fund (WWF)
Delia Nuñez	Rural Association of Paraguay (ARP)
Sonia Samaniego	VMG/PNUD
Mirta Pereira	Federation for the Self-determination of Indigenous Peoples (FAPI)
José Cartes	PROMESA Project (SEAM/Guyra Paraguay)
María Hermosa	Paraguayan Institute of Indigenous Peoples (INDI)
Julián Báez	National Direction of Civil Aeronautic. Direction of Meteorology (DINAC)
Luvis Cañete	Global Chaco (Local NGO)

Carlos Monges	PAS-CHACO/SEAM. Project Coordinator
Mario Villalba	Secretary of Technical Planning (STP)
Violeta Verdejo	World Conservation Society (WCS)
Milciades Pacce	Government of Boqueron. Agricultural Secretary
Oscar Vargas	Third National Communication (TCN/SEAM)
Nora Paez	National Office for Climate Change (ONCC/SEAM)

The designed project reflects the agreements reached during the consultation process at all levels, from selection of communities to prioritization of activities via institutional arrangements. In this sense, it can be stated that the project is totally agreed by all relevant stakeholders. As mentioned above, special consideration about gender was taken into account during the consultation process. It is important to mention that a more extensive consultation process will be carried out during the first year of the project, especially with indigenous people's communities. The Consultation process will address SEAM's Policy Approach on Human Rights and Indigenous Peoples (Annex ~~43~~); furthermore, the project will work closely with INDI in order to ensure that the principle of free prior and informed consultation is observed.

Formatted: Justified

Formatted: English (United States)

Formatted: English (United States)

~~J.~~I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

The funding requested will make a significant contribution to reduce the full costs of climate change. Full climate change costs without adaptation are made of damage costs. Full climate change costs with adaptation are made of cost of adaptation and residual costs. Mitigation costs can be included in both. As noted above, international literature suggests that the full cost without adaptation are significantly greater than the full costs with adaptation.

The ECLAC report quantified in 2014 the cost of damage of climate change in agriculture and livestock, health, water resources and biodiversity in Paraguay[46]. The study estimated the total cost of damage by climate change in these sectors by the end of the century to range between USD 14.3 billion and USD 80.2 billion, in the case of a continuous increase in the average temperature equivalent to 4.2 degrees Celsius by 2100 (A2 scenario), and between USD 9.7 billion and USD 50.5 billion in the case of a 3.4 degree Celsius rise in average temperature over the same period (B2 scenario)[47]. Overall, adding the impacts on agriculture, livestock and health, by the end of the

[46] The report refers to the economics of climate change but technically assesses the cost of damages by climate change. ECLAC (2014): La economía del cambio climático en el Paraguay, Santiago de Chile, Chile: ECLAC.
[47] Ibidem, p. 12.

century costs would range between USD 80,200 million (1% of the discounted GDP) and USD 14.300 million (0.4% of the discounted GDP) in the A2 scenario, and between USD 50,500 million (0.6% of the discounted GDP) and USD 9,700 million (0.3% of the discounted GDP) in the B2 scenario[48]. The costs would be even greater if other important sectors, such as infrastructure, including housing, productive infrastructure, transport and energy, would be included. This project will significantly reduce the full costs of climate change by increasing resilience and reducing damage costs. Although this comparison has not yet being conducted in Paraguay, based on international evidence, it is sensible to indicate that the costs allocated to this project by the AF are by many times smaller than the cost of the damages it avoids.

The AF funds allocated to this project also make sense in terms of the costs of adaptation. The UNDP study on the investment and financial flows for climate change found that the agriculture and livestock sector would require USD 115.5 million[49] additional public investment in the period 2010-230 for climate change adaptation[50]. This means that every year around additional USD 6 million, around 1.5% of the GDP, would need to be additionally invested by public institutions in adaptation in this sector, almost all of it (99%) for family agriculture. If adaptation on the sector health sector is also considered a total of USD 198,6 million would be needed, that is, an average of additional USD 10 million per year. Furthermore, additional USD 61,7 million would need to be invested for promoting mitigation strategies in the forestry sector. The costs would be even greater including other financial costs[51]; all agricultural, livestock, health and forestry subsectors; the costs related to other critical sectors; and the costs to be borne by the private sector. The AF funds allocated to this project are critical to provide the public investment flows needed for adaptation, which the Government of Paraguay cannot fund alone.

Furthermore, the AF funds allocated to this project are sensible in terms of achieving its objective. Taken solely, without additional funding from other donors, and regardless of the success of other complementary projects, the activities of this project will extraordinarily help reduce the damage costs related to climate change. As noted also in section A above on the contribution of this project to increase the resilience of target population, the three components address existing barriers and significantly reduce vulnerability.

Component 1: Knowledge management of vulnerability and resilience to climate change improved to implement cost-effective adaptation measures

[48] Ibídem, pp. 12-13.
[49] Constant at 2005 prices and with 3% annual discount rate.
[50] UNDP (2011): Assessment of the investment and financial flows in agriculture, health and forestry, Asuncion, Paraguay: UNDP, p. 15. The assessment focuses on the flows required for adaptation in agriculture, livestock and health and the flows related to mitigation in forestry. Agriculture covers family agriculture (consumption crops (i.e. mandioca, peanuts and poroto) and income crops (i.e. cotton, sugar cane and sesame)) and business agriculture (i.e. corn, soya and wheat), while livestock covers meat and milk cows.
[51] The cost of adaptation would reach USD 432 million if financial, investment and operation and maintenance costs are included. 32.6% of this would need to be provided through international development assistance.

Baseline: Although climate change has been taken into account in public policy and development practices for some years now, there is still limited information and knowledge on the subject, particularly at local level and on certain topics, such as how ecosystem-based approaches can contribute to increase the resilience of local populations.

Additionality: The project will contribute to address this gap by providing robust analyses of the state of the different ecosystems, the impacts of climate change and the vulnerability to these of the local populations in the region. These studies constitute a crucial input to develop adaptation plans and implement specific adaptation strategies in pilot sites in Chaco under Component 2.

Component 2: Adaptive capacity in rural areas of greatest vulnerability strengthened through concrete ecosystem services and agro-ecosystem based adaptation measures.

Baseline: A number of projects have been implemented in the Chaco in recent years, such as the *Conservation and Sustainable Management of the Chaco and Atlantic Forest* project and the *Sustainable Forest Management in the Transboundary Gran Chaco Americano Ecosystem* project, among others. As noted in section F above, a number of projects are also being implemented currently. However, these projects have failed to take into account the importance of the services provided by ecosystems and the value of relevant traditional agricultural practices, and there is limited understanding on how these can be integrated in climate change adaptation in practice. This situation reduces the uptake of adaptation measures by local population, contributes to the degradation of ecosystems, reduces income in the short, medium and long term and increases vulnerability of local population. At national level, it also reduces the adaptation alternatives that are considered.

Additionality: The funding requested will result in the design and implementation of concrete adaptation actions on the ground that can showcase the importance of ecosystem services and the integration of traditional practices to reduce vulnerability to the impacts of climate change in Paraguay. The project will illustrate how protecting water bodies, soils and forests increase the resilience to climate change, increase yields and improve quality of life by increasing the availability and quality of freshwater, controlling floods, regulating the climate, improving the fertility of the soil and ensuring the provision of culturally valued services.

Component 3: Capacity development and awareness to implement and upscale effective implementation of adaptation measures at the national and local levels.

Baseline: As stated, there is a lack of awareness, knowledge and skills related to climate change adaptation, particularly in ecosystem-based approaches. This situation affects all levels of government (central, departmental and municipal) and relevant stakeholders (e.g. policy makers, universities).

Additionality: To tackle this situation, the project will develop and implement training programs on climate change adaptation, with a focus on ecosystem-based adaptation,

hence strengthening the capacity of government agencies and other key stakeholders involved in project execution to implement the activities foreseen by the project. The project will also collaborate with ongoing and planned field programs and projects mentioned in table 9 to mainstream the experience and lessons learned into their work-plans, thereby contributing to up-scale adaptation measures in the Chaco. In the long term, enhanced stakeholder capacities will enable them to effectively respond to climate change impacts in the country, including the implementation of ecosystem-based approaches in the Chaco and other regions.

In summary, the activities funded by the Adaptation Fund through this project significantly contribute to reduce the cost of the damages caused by climate change in a cost effective way reducing the overall cost of climate change, as the cost of the damages without adaptation clearly outweigh the cost of adaptation and the cost of any residual damage. This is true irrespective of the success of complementary projects.

~~K.~~J. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project / programme.

The project has been crafted to ensure sustained resilience against climate change. This is promoted through several design decisions.

First, the project is comprehensive, developing all the capacities required to implement climate adaptation strategies in the region and the country in the future. In particular, the knowledge management activities under component 1 are designed to contribute to the design of strategies for ecosystem and community-based adaptation, envisaged in component 2. This component includes planning activities (development of local adaptation plans) and implementation of concrete actions for adaptation that strengthen ecosystem resiliency, as well as draw on climate-resilient traditional and other natural practices. In order to ensure institutional sustainability, component 3 includes capacity development and awareness to implement and upscale effective implementation of adaptation measures at national and local levels.

~~it~~ Component 3 develops the most crucial theoretical and practical skills of the stakeholders. These will be provided with conceptual frameworks and institutional approaches and will learn by doing. This will allow them up-scale the activities of the project, replicate them in other areas and/or design and implement different adaptation projects (in other topics or sectors) in the Chaco or elsewhere.

Second, the project has a demonstrative focus, as it seeks to prove that this kind of measures provide significant benefits, and are cost-efficient. To that end the project is strategic, focusing on issues that really matter and can make a difference, based on the solid evidence gathered by the UNEP (2013) VIA analysis ~~report~~. Moreover, the project put forwards a robust process, in which sound research informs planning, this guides action, this is tightly monitored and scrupulously evaluated and action is carefully adjusted to obtain planned results. The selection of practices with proven track record

Formatted: Tab stops: 3", Centered + 6", Right
Formatted: English (United States)
Formatted: English (United States)
Formatted: English (United States)
Formatted: (none)
Formatted: Font: 12 pt
Formatted: English (United States)
Formatted: Font: 12 pt, (none)
Formatted: English (United States)
Formatted: Font: 12 pt, (none)
Formatted: English (United States)
Formatted: English (United States)
Formatted: English (United States)

goes in the same line. Once achieved, the results, such as higher and more constant production, will demonstrate the convenience of continuing the implemented practices and expanding them.

Finally, the projects has mainstreamed the participation of project stakeholders, recognizing their rights and skills and understanding that this will also generate ownership and therefore contribute to sustained actions and sustained results. In this sense, stakeholders (men, women; farmers, herders and indigenous populations) will have a crucial role in decision making, from identifying the problems to planning solutions and implementing, monitoring and evaluating them. Although children themselves won't have a key participation in the project, for obvious reasons, women's participation and empowerment will contribute to reproduce and instill cultural values and other practices into children. By empowering women through training, awareness and engagement in activities that promote adaptation and resiliency, the next generation will be better equipped to deal with climate change and food security issues. This will aid the project in being more sustainable and allow it to endure during and beyond its completion.

Local Governments (Departments and Municipalities) have specific budget allocation to implement activities on the ground and will be the institutions that will continue the work after project period. The communities selected here were specifically targeted by the local government officials to start piloting adaptation activities based on their vulnerability.

~~L.~~K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.

~~The project is categorised within Category C, given that it does not generate any adverse environmental or social impacts.~~ The project design has explicitly included consideration of potential environmental and social impacts of the project's activities, as well as mitigating measures to reduce the likelihood and severity of any unforeseen negative impacts. The project's activities were evaluated against the AF Environmental and social principles to identify potential negative impacts.

This process indicated that the potential social and environmental risks of activities under components 1 (knowledge management) and 3 (capacity building) are low enough to be considered negligible. Component 2 includes planning activities (development of local adaptation plans, low risk) and implementation. Among the activities to be implemented, reforestation and forest conservation, agro-ecological management measures (good agricultural practices) and water storage and irrigation systems are included.

Water storage and irrigation systems, as general rule, consist of the roofs of the houses. Pipes and filters are used to conduct the rainwater to a cistern or reservoirs used as a storage place. In addition, in some cases artificial ponds (tajamares) and tanks

(particularly Australian ponds) are used. The construction of artificial ponds (tajamares) in some particular cases could be classified as medium risk activities (category B)[52]. In these cases, prefeasibility studies will include relevant environmental impact assessments in compliance with the Environmental Impact Assessment (EIA) Law 294/93. However, most of the project activities in this regard will focus on improving the infrastructure in order to make it more efficient, which in itself constitutes a reduction of the impact of these systems

As presented in sections D and E the projectit is consistent with all applicable laws, policies, standards and regulations. It focuses on vulnerable populations, has a gender-sensitive approach and pays particular attention to respect the rights and culture of indigenous populations. All project beneficiaries will participate in the project voluntarily, their human and labour rights carefully respected. The adaptation measures will be decided by them. Indeed, the assessment of the needs, the identification of successful practices, their prioritization and implementation will be carried out with the active participation of relevant stakeholders. When applicable, as the procedure will be different with indigenous communities, a formal agreement will be signed between each landowner and the official representative of the project on their land being used for demonstrative purposes, explicitly indicating obligations and compromises between parts and the mechanisms for conflict resolution. Stakeholders will actively participate in monitoring and will be consulted during evaluations. The Consultation process will address SEAM's Policy Approach on Human Rights and Indigenous Peoples (Annex 4). The project plans no resettlement whatsoever given the involvement of the community, their demand for these activities and the vastness of the region.

Formatted: Font: 12 pt

Formatted: Font: 12 pt

Regarding ecosystems and biodiversity, the project favours an ecosystem-based approach. In this sense, it will be particularly careful in preserving and restoring natural habitats and biodiversity, and using sustainably any other ecosystem, conserving land and soil, preventing pollution and promoting resource efficiency. The project seeks to increase resilience, but will contribute to climate change mitigation by protecting forests and promoting reforestation. In addition, technical feasibility studies will be conducted for physical infrastructure such as meteorological stations and water infrastructure. For these the project will take into account models that have proved to be adapted to the region. Finally, the project does not entail any risks for public health and physical and cultural heritage. As noted in section C risks are low and as discussed in section B benefits are significant.

Table 1412. Environmental and social impacts and risks of the project

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

[52] V < 12.000 m 3 = small Tajamar; 12.000 m 3 ≤ V < 120.000 m 3 = mediem size tajamar, V ≥ 120.000 m3 = big size Tajamar

Compliance with the Law	X	
Access and Equity	X	
Marginalized and Vulnerable Groups	X	
Human Rights	X	
Gender Equity and Women's Empowerment	X	
Core Labour Rights	X	
Indigenous Peoples	X	
Involuntary Resettlement	X	
Protection of Natural Habitats	X	
Conservation of Biological Diversity	X	
Climate Change	X	
Pollution Prevention and Resource Efficiency	X	
Public Health	X	
Physical and Cultural Heritage	X	
Lands and Soil Conservation	X	

Regarding environmental impacts and risks:

- The project will not affect a protected area or other areas classified as vulnerable
- The project will not require the acquisition or conversion of significant areas of land that are important for environmental services
- The project will not require (during or after implementation) significant amounts of water, energy, materials or other natural resources
- The project is not likely to result in the production of significant quantities of wastes, especially of hazardous or toxic wastes.
- The project will not produce significant volumes of effluents or air pollutants, including greenhouse gases
- The project will not affect important water bodies or significantly affect water regimes
- The project is not located in a site where it can significantly affect surface waters or groundwater (in quantity and/or quality)
- The project will not require significant accommodation or service amenities to support the workforce (during or after construction)
- The project will not require significant use of fertilisers, pesticides or other chemicals. On the contrary, the project will promote an agro-ecological approach and the use of integrated pest management / organic pesticides.

Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Font: Bold
Formatted: Font: 12 pt, Bold
Formatted: Font: Bold
Formatted: Font: 12 pt, Bold
Formatted: Font: 12 pt
Formatted: Font: 12 pt, English (United States)
Formatted: Normal, Don't adjust right indent when grid is defined, Space After: 12 pt, Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25", No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers
Formatted: Font: 12 pt, English (United States)
Formatted: Automatically adjust right indent when grid is defined, Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25", Adjust space between Latin and Asian text, Adjust space between Asian text and numbers
Formatted: Font: (Default) Arial, 12 pt, Underline, Font color: Auto
Formatted: Font: (Default) Arial, 12 pt, Underline, Font color: Auto
Formatted: Font: (Default) Arial, 12 pt, Underline, Font color: Auto
Formatted: Font: (Default) Arial, 12 pt, Underline, Font color: Auto
Formatted: Font: (Default) Arial, 12 pt, Underline, Font color: Auto

- The project will not include the introduction of genetically modified organisms or alien species. The project will promote an agro-ecological approach and will promote crop diversification and staggered planting, seed selection as well as the use of varieties adapted to climate variability of species already used in the region.

- The project will not attract or displace a significant population and economic activities and will not promote new settlements. The project plans no resettlement whatsoever given the involvement of the community, their demand for these activities and the vastness of the region.

- The project is not located in a densely populated area and likely to produce significant nuisances such as air pollution, noise, vibration and odours (on the contrary, the region has a very low density of population).

- The project is not likely to cause important soil erosion or degradation, considering its activities and its location. On the contrary, the project activities related to forest restoration will enhance tree cover that retains soil moisture and protects from wind erosion.

- The project will not significantly affect particular ecosystems, such as natural forests, wetlands, coral reefs, mangroves. On the contrary, the project activities are expected to have a positive impact on ecosystems resilience to the effects of climate variability and change.

The project is located in or close to a site of high culture or scenic value, as it is near El Chaco Biosphere Reserve. Similarly, all communities have by law forest reserve areas. The project will take into account these considerations in the development of local adaptation plans.

- As mentioned, the proposed project will adhere to Environmental Impact Assessment (EIA) regulations as defined by Paraguayan law.

Regarding social aspects, including gender considerations:

Project design and implementation will encompass cross-cutting social, ethnical and cultural approaches in all its main criteria, objectives, components and sub-components. The purpose of this is to ensure a holistic approach in all project activities. The main cross-cutting approaches of this project are reflected from the ones in the National Climate Change Policy, which are: gender equality, cultural diversity and an approach to ensure fair and equal human rights.

The project will consider the ethnic-cultural background of each group – indigenous peoples, rural, semi-rural and urban groups - that may be impacted in any form by actions undertaken by this project. The consistent and equal application of human rights should be aligned to that of the Paraguayan Government and be reflected in the Declaration of Human Rights. The project will take into account cultural diversity,

Formatted: Font: 12 pt, English (United States)

Formatted: Justified, Automatically adjust right indent when grid is defined, Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25", Adjust space between Latin and Asian text, Adjust space between Asian text and numbers

Formatted: Font: (Default) Arial

Formatted: Font: (Default) Arial, 12 pt, Font color: Auto

Formatted: Font: (Default) Arial, 12 pt, Font color: Auto

Formatted: Font: (Default) Arial, 12 pt, Font color: Auto

Formatted: Font: (Default) Arial, 12 pt, Font color: Auto

Formatted: Indent: Left: 0.25", No bullets or numbering

Formatted: Font: 12 pt, English (United States)

Formatted: Normal, Don't adjust right indent when grid is defined, Space After: 12 pt, Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25", No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

Formatted: Font: 12 pt, English (United States)

Formatted: Font: 12 pt, English (United States)

Formatted: Font: 12 pt, English (United States)

Formatted: Font: 12 pt, English (United States)

Formatted: Font: 12 pt, English (United States)

Formatted: Font: 12 pt, English (United States)

Formatted: English (United States)

Formatted: Font: 12 pt, English (United States)

Formatted: Justified, Tab stops: 3", Centered + 6", Right

different societal constructions, demographics and gender equality issues in the application of adaptive actions to climate change. This includes initiatives on agriculture, restoration and preservation of forests and protective environments and others.

The development of sound, respectful and effective communication will be encouraged and maintained as an important human factor in the interaction with the different communities, individuals, and entities related to this project.

It is important to note that SEAM encourages a socio-environmental approach that takes into account the relationship between human populations and their social, economic and cultural activities with the surrounding ecosystems in which they live.

Within this framework, and as advocated by SEAM, the following key aspects will be taken into account in this project:

- The participation of local stakeholders is critical, especially in the case of indigenous communities and in recognizing their human and cultural rights. SEAM will ensure the active participation and a strong representation of indigenous groups throughout the implementation of this project.

- SEAM has a socio-environmental policy which is inclusive of all indigenous rights and other non-indigenous communities. The approach moves beyond strict environmental conservation and takes into consideration human rights and the intrinsic and delicate relationship that everyone has with the ecosystem in which they live in. In particular there is a strong relationship between indigenouspeoples' culture and the environment. This approach is supported by a comprehensive set of laws that advocate and protect indigenous peoples. Further descriptions of these laws are in the annexed document.

- Many indigenous communities typically have their own governing structures based on traditional rights and a specific regulatory framework;

- Indigenous peoples´ organizations should be regularly informed about the project and all prior, and informed consent processes will occur.

- The role of women as active participants and their vital role in society will be taken into account according to the standard human rights, and also in consideration of each local indigenous cultural and ethnic background.

- The unique indigenous all-encompassing cosmo-vision, which is not always aligned with other views, should and needs to be respected.

The project activities that will be implemented within indigenous communities will take into account their rights and culture, and therefore activities may need to be adapted for each linguistic and ethnic context. Furthermore activities will be based on up-to-date information on the status of ecosystems, land uses and other aspects to allow adequate

selection of activities to be implemented in the field. The most adequate methodologies and human resources for the project implementation will be identified.

In this context, SEAM has elaborated guidelines for implementing projects with indigenous communities, which are included in Annex 3 and will be taken into account by the AF project when designing, planning and carrying out its activities.

Formatted: Not Highlight

With this in mind, the project takes into account systematization, dissemination and use of traditional knowledge and practices as a key strategy to reduce the vulnerability of food production to a changing climate.

Traditional practices by both indigenous peoples and farmer communities include the use of local flora and fauna, food harvesting from native tress, collection of fruits and honey, natural medicines, raw materials for shelter building, aesthetic and spiritual values.

In addition to enhancing and protecting ecosystem services to provide indigenous and farming communities with the means to restore and increase the use of traditional practices, the project will seek to identify which of these practices are most suitable in terms of their resilience and adaptability to a changing climate according to ecosystem types and conditions, water availability, soils, etc. Traditional knowledge can also help identify types of soil that do not drain easily in drought prone areas, can be used to implement rainwater reservoirs for irrigation in a more natural, sustainable and cost efficient manner. Some communities carry out small-scale cultivation of medicinal and food gardens under trees that benefit from shade and protection from weather events and can be used as examples of good practices. A number of species have several traditional uses ranging from food, wood for shelter, fire, fiber, clothing, utensils, medicine, and spiritual practices (e.g. wild beans, cactus fruits, and several types of watermelons, wild pumpkins and potatoes, local varieties of maize, trees such as algarrobo and karanday, etc.). Traditional knowledge enables them to identify which types of fruits, roots and animals are available based on each season of the year, the maturation rate and weather conditions. Traditional knowledge also includes, recognizing the chirping, noises, movements and flight direction of birds to predict changes in weather condition. Traditional knowledge serves to determine when to harvest, according to the weather, which affects the maturation of crops or wild foods.

The project will use effective and culturally adapted ways to effectively involve and empower farmers and indigenous communities towards using their traditional practices and adapting them to a changing climate with an approach to improve the health of their ecosystems and livelihoods and make the resiliency of their habitat. The proposed activities of this project are strongly linked to women's role in society and within the family in terms of food production, since rural women are in charge of securing food for the family. In fact, women contribute to family agriculture by tending small home gardens, feeding of small farm animals and gathering edibles from the forests and other ecosystems. As such, women play a significant role for the successful adoption and implementation of adaptation practices.

Adaptation to climate change and food production will have a gender sensitive approach, taking into account women´s role in food production according to the different target groups (indigenous and non-indigenous). Experience shows that participation of women in natural resource management has resulted in an increased adoption of the practices promoted by the projects[53]. This project will therefore aim at fostering active participation by women in the identification, design and implementation of adaptation practices. This will include participation in: planning exercises, participatory research and field trials, exchange of information with project technicians, consultation and training workshops, field days and other activities.

For indigenous women, the approach towards gender and its importance in matters of adaptation practices will have to be adapted to each indigenous cultural group. In sum, gender considerations have to be carefully addressed and each adaptation measure will be suited for the proper inclusion of women and children, respecting each community's own ethnic identity and cultural background.

Formatted: Font: 12 pt

Formatted: Justified, Tab stops: 3", Centered + 6", Right

Formatted: Justified

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme implementation.

UNEP will be the Multilateral Implementing Agency, while the SEAM will be the national executing agency. Both institutions have proven record of excellent management of this type of projects. SEAM has implemented several projects funded by international climate change funds, including recently one regional project funded by the GEF in the Chaco.

The project will be managed by a National Steering Committee (NSC) and a Project Management Unit (PMU) in this order of hierarchy. The NSC will be chaired by the SEAM and composed of representatives of SEAM and UNEP. The main function of the Steering Committee would be to provide political strategic leadership to the Project, creating effective coordination among the highest level environmental authorities involved at the national and provincial levels. This will ensure the alignment of the Project with the government strategies and programs underway in the territory ensuring the consistency of the interventions at both jurisdictional levels. In addition, this Committee will ensure transparency with regard on the Project's intervention processes. Members of the Steering Committee will be designated during the first quarter of the project. The Steering Committee will meet at least once a year and when required.

SEAM will establish a PMU that will operate at the National Office for Climate Change. The PMU will be composed of a project coordinator, three project officials (one per

[53] GiZ. Manejo Forestal y Agricultura de Conservación: Experiencia de pequeños productores en la Región Oriental de Paraguay. MAG-GiZ-KFW. 2011

department), one administrative and financial officer and two drivers. All these will be hired full time. The selection of the project officials will have in mind the need to cover specific experience in adaptation and indigenous communities.

The PMU will be supported by technical and territorial supervision and assistance mechanisms.

Each of the relevant institutions will designate a technical focal point for the project. Each of the outputs will involve some of these focal points, one or two of which will take the lead.

Figure ~~Figure 9Figure 10~~ indicates which institution will take the lead in each output. Table 15~~Table 14Table 13~~ explains with more detail who will be involved in each output.

Formatted: Justified

In parallel, at territorial level, a local coordination committee will be created in each of the departments. Each LCC will be comprised of representatives of SEAM, MAG, INFONA and INDI, representatives of the local governments (both departmental and district level) and community leaders from the pilot sites. Local Coordination Committees (LCC) could also include other relevant stakeholders at the local level. During the first year of the project the incorporation of additional LCC members will be assessed. To support implementation on the ground the project will have fund 75% of the time of one official in each department. Each LCC will develop their protocols and guidance for resource allocation, conflict resolution and other important management aspects at the community level.

It is important to note that the activities of the project will be implemented by individuals or institutions. These are not selected at project design in order to ensure that the procurement processes are transparent and competitive. For each post a call will be opened and individuals and/or institutions will be encouraged to apply, sending a

Formatted: Justified, Indent: First line: 0"

technical and financial offer. UNEP or SEAM will then select the contractor according to their regular selection procedures, which will follow AF's principles of transparency.

Formatted: Justified

Figure ~~10~~9. Organizational Chart

Formatted: Justified

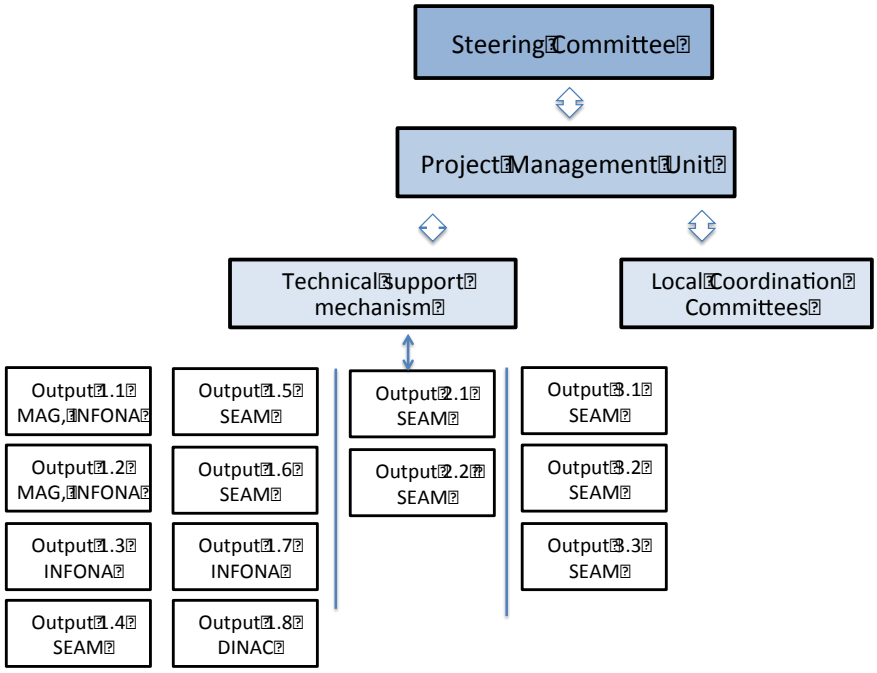


Table 15. Stakeholder involvement by output or activity

Output / Activity	Stakeholders
1.1 Detailed mapping of ecosystems, including agro-ecological zones, water resources, forests and other ecosystems	SEAM MAG, INFONA Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Communities
1.2. Assessment of the vulnerability to climate change of specific plants and animals used as food source.	SEAM Universities IPTA, INDI Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Communities
1.3 Study of the Ecology, Management and Nutritional components of Algarrobo and Viñal (Prosopis spp.)	UNA/FCA / Chaco Branch. IPTA Communities
1.4 General vulnerability and impact assessment (including water) for the eight communities not covered by the UNEP (2013) VIA analysis report	SEAM Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Communities

Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified

	UNEP
1.5 Research on traditional practices that contribute to climate resilience, including crop varieties.	SEAM MAG, INFONA, IPTA, INDI Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Universities, NGOs and the private sector Communities
1.6 Elaboration of an analysis of incentives and disincentives for the adoption of climate-resilient agricultural practices in El Chaco region ~~Study on the contribution to adaptation of the existing regulatory framework~~	SEAM, SEN, MAG, INFONA, SENAVE Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Universities, NGOs and the private sector Communities
1.7. Development of a guide to implement sustainable forest management practices on peasant and indigenous peoples communities.	SEAM INFONA, INDERT. INDI Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Communities
1.8 Information and monitoring system for agro-climatic risk assessment	DINAC/DMH SEAM SEN Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Communities
2.1 Participatory developed integrated adaptation with a watershed management, ecosystem-based approach	SEAM Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Communities UNEP
2.2.1 Conservation and restoration of forests (including “protective forest”) and other ecosystem	INFONA SEAM Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Communities
2.2.2 Agro-ecological production in farming and livestock, including agroforestry, apiculture, community seed banks and silvopastoral management	MAG SEAM, IPTA Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Communities
2.2.3 Implementation of improvements in the efficient use, catchment, harvesting and storage of rainwater	MAG SEAM SENASA Governments of Presidente Hayes, Boqueron and Alto Paraguay

Formatted: Justified
Formatted: Font: 11 pt
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: English (United States)

	District governments Communities
2.2.4 Implementation of measures to improve incentives for adaptation,	SEAM, MAG Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Local Cooperatives
2.2.5 Training and exchange of knowledge among stakeholders	SEAM UNA/FCA, IPTA Governments of Presidente Hayes, Boqueron and Alto Paraguay District governments Universities, NGOs and the private sector Communities
3.1 Detailed training plan for SEAM on mainstreaming climate compatible development across sectors	SEAM
3.2 Training plan for partner agencies at national and local levels (ministries and agencies (including but not limited to MAG and INFONA), departmental and municipal governments, universities, NGOs)	Technical Secretariat of Economic and Social Development Planning; Ministry of Finance, SEN; MAG, INFONA, Ministry of Public Works and Communications, National Secretariat for Housing and Habitat, Ministry of Public Health and Social Welfare, Ministry of Education and Culture, Ministry of Industry and Commerce, Ministry of Labour and Social Protection, INDI, Departmental and District Governments: Universities, NGOs and the private sector
3.3 Identification, systematization and exchange of lessons learned of the project	SEAM Other selected Ministries Governments of Presidente Hayes, Boqueron and Alto Paraguay Other selected departmental governments Selected district governments Other selected district governments Other selected communities UNEP

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

B. Describe the measures for financial and project / programme risk management.

All major risks for the implementation of the project were analysed during the design phase with the participation of all relevant stakeholders. Mitigation strategies were established to ensure that risks are well managed. Table 16 ~~Table 14~~ presents the type, characteristics and level of risks and the strategies that have been and will be undertaken to mitigate them.

Table 1614. Financial and management risks

No.	Type of risk	Description of risk	Level	Mitigation Strategy
1	Political	Institutions do not attach great priority to the project.	Low	As shown in section D, the project is consistent with country priorities. In addition, it will provide training to all relevant stakeholders and involve them in project planning, implementation, monitoring and evaluation, including the development of community adaptation plans. Furthermore, the departmental and district development plans will be reviewed to mainstream climate change adaptation. There is a strong commitment from all stakeholders. The focus on practices that work will ensure results, which will further commit stakeholders.
2	Institutional	Lack of adequate coordination, collaboration and cooperation among the executing agencies delays project implementation	Low	Operational agreements between implementing partners and agencies have been detailed with adequate definition of roles and responsibilities. A constructive, pro-active and consensus building approach will guide interactions between stakeholders.
3	Institutional	Frequent rotation of staff in local implementing agencies may affect availability of qualified staff	Medium	Several officials from each institution will be trained by the project. In addition, the institutions will request trained officials that leave that they train the person that replace them. Furthermore, trainers will be requested to provide the training materials the use, so that new officials can be used in the future.

Formatted: Justified

Formatted Table

Formatted: Justified

Formatted: Justified

Formatted: Justified

No.	Type of risk	Description of risk	Level	Mitigation Strategy
4	Institutional	Lack of buy-in and participation of key stakeholders and target groups, and conflicts or differences between stakeholders/groups may weaken and delay implementation of activities	Low	Project design has been highly participative, ensuring that it focuses on real priorities. Moreover, the project will conduct awareness raising and capacity building activities. In addition, it will involve all interested parties during implementation, including monitoring, evaluation and adjustment, if relevant. The project will put in place mediation processes to prevent and manage any potential conflict between stakeholders.
5	Environmental	Climate variability and change, including extremes, are greater than projected by the studies	Low	The activities of the project have been designed taking into account the latest and most robust information available. Furthermore, the project includes the improvement of the meteorological network and the provision of regular climatic information. This will allow adjusting practices to climate variability. Activities with a long life span, such as water ponds and tanks, will take into account uncertainty regarding climate change.
6	Financial	The use of financial resources involves many government levels and is not efficient	Low	The coordination team will be seated at the SEAM, ensuring coordination with different sectors and government levels working on climate change. For each of the activities an open call will be made and the best technical and financial offer will be selected, ensuring that the provision of services is efficient and available financial resources are properly used. Different stakeholders, from private companies to NGOs and CBOs would be able to apply, the technical proposal being evaluated agains the specific terms of reference of each activity.

Formatted Table
Formatted: Justified
Formatted Table
Formatted: Justified
Formatted: Left
Formatted: Left

No.	Type of risk	Description of risk	Level	Mitigation Strategy
7	Financial	The use of financial resources is not transparent	Low	The project will follow UNEP's and Paraguay's procurement process, which ensures transparency. Furthermore, the budget includes financial resources to conduct audits every year, so that any potential deviation can be shortly identified and acted upon.

Formatted Table
Formatted: Left
Formatted: Justified

As a cross-cutting issue, it is important to note that the Project Implementation Unit and at more strategic level the Steering Committee will continuously monitor the project, identifying any risks and designing and implementing adequate mitigation strategies. The Monitoring and Evaluation (M&E) Plan, supported by sufficient financial resources, presented in section D, will ensure that this happens.

C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.

As presented in section K, the project design has explicitly included consideration of potential environmental and social impacts of the project's activities, as well as mitigating measures to reduce the likelihood and severity of any unforeseen negative impacts. The project's activities were evaluated against the AF Environmental and social principles to identify potential negative impacts, and will adhere to Environmental Impact Assessment (EIA) regulations as defined by Paraguayan Law 294/93~~the project has a category C with regards to the Adaptation Fund's Environmental and Social Policy. In this sense, the project does not require an environmental impact assessment or complementary analysis of environmental impacts~~. As already noted in various sections above, the project is based on sound vulnerability and impact assessments, regular provision of climatic information, measures that have demonstrated to work, capacity building and active participation of a wide range of stakeholders, which minimizes the risks of incurring any adverse environmental impact.

Formatted: English (United States)

D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

Monitoring and evaluation activities will follow the Adaptation Fund and United Nations Environment Programme's policies and guidelines for monitoring and evaluation. M&E will be based on the targets and indicators established in the Project Results Framework (see section E below). The M&E system will ensure that the environmental and social aspects are assessed on a regular basis and actions are taken in a timely manner to avoid, minimize or mitigate any risks and achieve the intended outcomes. The M&E system will also facilitate learning and the replication and scaling of the results and lessons of the project. The M&E plan will have a participatory approach, involving

all relevant stakeholders in data collection and analysis and in decision-making.

The M&E plan is organized around an inception workshop, an inception workshop report, annual operating plans and budgets (AOP), quarterly reports, annual management or progress reports, a mid-term review, a terminal evaluation, a final report and technical reports.

Inception Workshop:

After project approval by the Adaptation Fund and once the PMU is running, a launch workshop will be held. All relevant stakeholders will be invited to participate. Stakeholders will discuss i) the project's Results Framework, including indicators, baselines and targets, identifying any changes in external conditions since approval that could affect the project; ii) the implementation arrangements, including the monitoring and evaluation responsibilities; and i) the detailed Operation Plan and Budget for the first period (to December 31st of the corresponding year)[54]. The workshop will be crucial to ensure ownership and effective implementation to reach the intended outcomes.

Inception Workshop Report:

Immediately after the workshop, the PMU will prepare an inception workshop report presenting the agreements reached at the workshop regarding the results framework, the implementation arrangements and the operation plan and budget for the first period. A draft will be distributed by the Steering Committee for review and comments before the plan is finalized within three months after the start of the project. The report will be approved by the Steering Committee.

Annual Operating Plan and Budget:

An AOP will be prepared every year. With the exception of the first year of implementation, when the AOP will have other timing, the PMU will submit a draft to the Steering Committee before January 20 of each full year of project operation. The AOP will be draft accordance with Results Framework in order to ensure proper compliance and the monitoring of project outputs and outcomes. In particular the AOP will include detailed activities to be executed for each of the project's products in monthly periods, the dates on which the goals and milestones of output indicators will be achieved over the year, the monitoring and supervision activities of that period and the corresponding detailed budget. The AOP will be approved by the Steering Committee.

Quarterly Status Reports:

The PMU will submit quarterly status reports (QSR) to the Steering Committee within 15 days from the end of each quarter. The QSRs will be used to identify constraints, problems or bottlenecks that impede the timely execution of project activities and to take

[54] The AOP of the first year will be adjusted to synchronize it with an annual reporting calendar (January 1 – December 31). In the following year the AOPs will follow an annual scheme, in line with the reporting cycle described below.

appropriate corrective measures. They shall be drawn up based on the systematic monitoring of performance indicators and products identified in the project's Results Framework. To ensure that these reports are based on sound data, field visits will be organized prior to developing them. These visits will include one project official and one member of the Steering Committee, or two project officials. The PMU will forward these reports to the members of the Steering Committee.

Annual Management or Progress Reports:

The PMU will prepare an Annual Management Report covering the period of the last applicable AOP. This will compare the substantive results (goals, objectives and targets) and financial performance for the period with the AOP and identify measures to correct and improve, which will be incorporated in the next AOP. The Annual Management or Progress report and the AOP of the next period will be evaluated and approved by the Steering Committee.

Mid-term Review:

At the 18th month of project implementation a Mid-Term Review (MTR) will start in order to have a final Mid-Term Review report by 22nd month of project implementation. The MTR will be conducted by one or more independent consultants. The MTR will determine progress made toward the achievement of objectives, outcomes and outputs, and will identify corrective actions, if needed, for the remaining period of the project. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. The Steering Committee will indicate how the recommendations of the MTR are being addressed.

Terminal Evaluation:

Shortly before the completion of the project a Terminal Evaluation will be prepared by one or more independent consultants. The purpose of the terminal evaluation is to describe project impacts, sustainability of results and the degree of achievement of long-term results. The terminal evaluation should also indicate any future actions needed to ensure the sustainability of project results, scale them up and replicate the project in other areas of the country, identifying the key lessons learned. The Terminal Evaluation will follow the Guidelines for project/program final evaluations of the Adaptation Fund and UNEP.

Final Report:

Within three months prior to the date of completion of the project, the PMU will present the Steering Committee a draft of the final report. The main purposes of the Final Report are to provide guidance to ministers and senior officials on political decisions necessary for following up the project and to present the donor information on the use of funds. As such the final report will consist of a brief summary of the main products, findings, conclusions and recommendations of the project. This report shall specifically include the findings of the final evaluation, as described above.

Technical Reports:

Technical reports will be prepared as part of the project outputs. Drafts of all technical reports should be submitted by the PMU to the Steering Committee for review and approval and to the Advisory for their information and possible comments, before they are finalised and published. Copies of finalised technical reports will be distributed to project stakeholders, as appropriate.

Financial Audits:

Financial audits will also be conducted. Resources are allocated for the second, third and fourth year of the project so that the finance of the project is audited.

Table 17 ~~Table 15~~ offers a summary of the main monitoring and evaluation reports, those responsible for each and the deadlines.

Table 17~~15~~. M&E plan

M&E Activity	Responsible party	Frequency/Timeframe	Cost (USD)
Inception Workshops	PMU	1 month from the start of the project	4,500
Inception Report	PMU	1 week after the Inception Workshop	None
Quarterly Reports	PMU	Quarterly	40,500
Annual Operating Plans and Budgets	PMU	Annual	None
Annual Reports	PMU	Annual	None
Meetings of the Steering Committee	Steering Committee	At least once a year	7,710
Technical Reports	PMU External Consultants	When required	To be determined
Mid-Term Review	Independent Consultant(s)	At the middle of project implementation	23,350
Terminal Evaluation	Independent Consultant(s)	At the end of project implementation	29,200
Financial Audits	Independent Services	At the end of every year (starting the second)	50,000
Final Report	PMU	End of project	None
TOTAL			156,550

Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified

E. Include a results framework for the project proposal, including milestones, targets and indicators.

Amended in November 2013

Table 1816. Results framework

Result	Indicator	Baseline	Mid-term target	Final target	Means of verification
Project Objective: to reduce the vulnerability of the population (selected family agriculture producers and indigenous communities) of the Chaco Region of Paraguay to the impacts of climate change on food security					
Outcome 1. Knowledge management on vulnerability and resilience to climate change improved to implement cost-effective adaptation measures	~~Existence~~ Number of ~~critical knowledge gaps for implementing cost-effective adaptation measures~~ Number of knowledge products elaborated and used for adaptation planning in the ten selected communities	There are critical knowledge gaps for the implementation of cost-effective adaptation measures in the selected communities in terms of ~~in~~ the location and nature of ecosystems; general vulnerability and impact assessment in 8 communities; the local ecology, management and nutritional components of Algarrobo and Viñal (Prosopis spp.); the contribution to climate resilience of different local traditional practices and the ~~regulatory framework~~ incentives and diseincentives; and climate variability.	The most ~~No~~ critical knowledge gaps for implementing cost-effective adaptation measures in the ten selected communities have been filled with studies on the location and nature of ecosystems; the general vulnerability and impact assessment in 8 communities; the local ecology, management and nutritional components of Algarrobo and Viñal (Prosopis spp.); the contribution to climate resilience of different local traditional practices and the incentives and diseincentives and regular weather forecast and agro-climatic risk reports by mid-term	The most ~~No~~ critical knowledge gaps for implementing cost-effective adaptation measures in the ten selected communities have been filled with studies on the location and nature of ecosystems; the general vulnerability and impact assessment in 8 communities; the local ecology, management and nutritional components of Algarrobo and Viñal (Prosopis spp.); the contribution to climate resilience of different local traditional practices and the incentives and diseincentives; and regular weather forecast and agro-climatic risk reports by the end of the project	Project supervision reports

Formatted: Justified
Formatted: Font: 9 pt
Formatted: Justified
Formatted Table
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Justified

Result	Indicator	Baseline	Mid-term target	Final target	Means of verification
Output 1.1 Improved mapping of ecosystems, including agro-ecological zones, water resources, forests and other ecosystems	Number of detailed ecosystems maps for the areas of influence of the selected communities	There are currently no detailed ecosystem maps for the areas of influence of the selected communities	10 detailed ecosystem maps (1 map for each of the selected communities) by mid-term	10 detailed ecosystem maps (1 map for each of the selected communities) by the end of the project	Existence of detailed ecosystem maps for the areas of influence of the selected communities
Output 1.2. Assessment of the vulnerability to climate change of specific plants and animals used as food source.	Existence of a comprehensive and strategic study on the impacts of climate change on plants and animals used as food source.	There are currently no comprehensive and strategic studies on the impacts of climate change on plants and animals used as food source	1 comprehensive and strategic study on the impacts of climate change on plants and animals used as food source by mid-term.	1 comprehensive and strategic study on the impacts of climate change on plants and animals used as food source by the end of the project	Existence of a comprehensive and strategic study on the impacts of climate change on plants and animals used as food source.
Output 1.3 Increased knowledge on the local ecology, management and nutritional components of Algarrobo and Viñal (Prosopis spp.)	Existence of a study on the local ecology, management and nutritional components of Algarrobo and Viñal (Prosopis spp.)	There are currently no studies on the local ecology, management and nutritional components of Algarrobo and Viñal	1 study on the local ecology, management and nutritional components of Algarrobo and Viñal by mid-term	1 study on the local ecology, management and nutritional components of Algarrobo and Viñal by mid-term	Existence of a study on the local ecology, management and nutritional components of Algarrobo and Viñal
Output 1.4 Improved understanding of climate change vulnerability and impact of the eight communities not covered by the UNEP (2013) VIA analysis report	Number of general vulnerability and impact assessments	There are currently no general climate change vulnerability and impact assessments for 8 selected communities	8 general climate change vulnerability and impact assessments (1 for each of the 8 selected communities without it) by mid-term	8 general climate change vulnerability and impact assessments (1 for each of the 8 selected communities without it) by the end of the project	Existence of general climate change vulnerability and impact assessments
Output 1.5 Increased knowledge on traditional practices that contribute to climate resilience	Existence of a comprehensive and strategic study on local traditional practices that contribute to climate resilience	There are currently no comprehensive and strategic studies on local traditional practices that contribute to climate resilience	1 comprehensive and strategic study on local traditional practices that contribute to climate resilience by mid-term	1 comprehensive and strategic study on local traditional practices that contribute to climate resilience by the end of the project	Existence of a comprehensive study on local traditional practices that contribute to climate resilience by the end of the project

Formatted: Font: 9 pt
Formatted: Justified
Formatted Table
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt

Result	Indicator	Baseline	Mid-term target	Final target	Means of verification
Output 1.6 ~~Increased knowledge on the contribution to adaptation of the existing regulatory framework~~ Elaboration of an analysis of incentives and disincentives for the adoption of climate-resilient agricultural practices in El Chaco region	Existence of a comprehensive and strategic study on incentives for the adoption of climate-resilient agricultural practices in El Chaco region~~the contribution to adaptation of the existing regulatory framework~~	There are currently no comprehensive and strategic studies on the incentives for the adoption of climate-resilient agricultural practices in El Chaco region~~contribution to adaptation of the existing regulatory framework~~	1 comprehensive and strategic study on the incentives for the adoption of climate-resilient agricultural practices in El Chaco region~~contribution to adaptation of the existing regulatory framework~~ by mid-term	1 comprehensive and strategic study on the incentives for the adoption of climate-resilient agricultural practices in El Chaco region~~contribution to adaptation of the existing regulatory framework~~ by the end of the project	Existence of a comprehensive and strategic study on incentives for the adoption of climate-resilient agricultural practices in El Chaco region~~the contribution to adaptation of the existing regulatory framework~~
Output 1.7. Development of a guide to implement sustainable forest management practices on peasant and indigenous peoples communities.	Existence of a guide to implement sustainable forest management practice on peasant and indigenous people's communities	There is not a guide to implement sustainable forest management practice on peasant and indigenous people's communities.	A guide to implement sustainable forest management practice on peasant and indigenous people's communities by mid-term.	A guide to implement sustainable forest management practice on peasant and indigenous people's communities by the end of the project.	Existence of a guide to implement sustainable forest management practice on peasant and indigenous people's communities
Output 1.8 Increased meteorological information available for agro-climatic risk assessment	Number of new functioning meteorological stations in the Paraguayan Chaco	N/A (the number of currently functioning meteorological stations in the region is insufficient for properly monitoring climate variability and change)	9 new meteorological stations installed by mid-term	9 new meteorological stations functioning by the end of the project	Project supervision reports
	Number of fonctionnaires trained in the use of the new meteotological stations	N/A	18	18	Project supervision reports

Formatted: Font: 9 pt
Formatted Table
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt

Result	Indicator	Baseline	Mid-term target	Final target	Means of verification
	Number of meteorological reports shared with farmers, herders and indigenous communities	Farmers, herders and indigenous communities don't have access to meteorological information	52 meteorological reports shared with farmers, herders and indigenous communities[55] by mid-term	156 meteorological reports shared with farmers, herders and indigenous communities[56] by the end of the project	Project supervision reports
Outcome 2. Adaptive capacity in rural areas of greatest vulnerability strengthened through concrete adaptation measures favouring an ecosystem-based approach	Number of males and females benefiting from the adoption of diversified, climate resilient livelihood options ~~Percentage of local stakeholders (local officials, farmers, herders and indigenous people) that claim to have increased resilience~~[57]	Baseline status of participating communities, including quantitative scores, will be assessed by the baseline study ~~N/A~~	60% of local stakeholders (local officials, farmers, herders and indigenous people) claim to be more resilient than before the project by mid-term	80% of local stakeholders (local officials, farmers, herders and indigenous people) claim to more resilient than before the project by the end of it	~~Surveys~~ Household surveys and reports Capacity assessment and climate change vulnerability scorecards
Output 2.1 Increased participatory adaptation planning	Number of integrated adaptation community plans	Currently there are no integrated adaptation plans in the selected communities	10 integrated adaptation community plans by mid-term (one per selected community)	10 integrated adaptation community plans by the end of the project (one per selected community)	Existence of integrated adaptation community plans

[55] 1 per week from the second year, 52 weeks per year.
[56] 1 per week from the second year, 4 years project in terms of activities, 52 weeks per year.

Formatted: Font: 9 pt
Formatted Table
Formatted: Justified
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: English (United States)

Result	Indicator	Baseline	Mid-term target	Final target	Means of verification
Output 2.2 Increased implementation of strategic adaptation measures	Existence of adaptation measures beingen implemented on forest conservation, agriculture, water, regulatory framework and skills in the ten selected communitiesNumber of critical areas with increased resilience	The implementation of contribution to adaptation measures on forest conservation, agriculture, water, regulatory framework and skills in the ten selected communitiesf forest, agricultural activities, water infrastructure, regulatory framework and skills is currently limited in the ten selected communities	At least 5 adaptation measures are being implemented on forest conservation, agriculture, water, regulatory framework and skills in the ten selected communities by mid-term 5 critical areas (forest, agricultural activities, water, regulatory framework and skills) with increased resilience by mid-term	At least 10 adaptation measures are being implemented on forest conservation, agriculture, water, regulatory framework and skills in the ten selected communities by mid-term 5 critical areas (forest, agricultural activities, water, regulatory framework and skills) with increased resilience by the end of the project	Project supervision reports
Activity 2.2.1 Conservation and restoration of forests (including "protective forest") and other ecosystem	Number of forest conservation/restoration areas created with the support of the project	N/A	10 forest restoration areas (1 per community) created with the support of the project by mid-term	10 forest restoration areas (1 per community) created with the support of the project by its end	Project supervision reports
Activity 2.2.2 Agro-ecological production in farming and livestock, including agroforestry, apiculture, community seed banks and silvopastoral management	Number of additional crops produced by the farmers supported by the project additional hectares applying the agroecological practices promoted by the project	The baseline will be determined for each community.	At least 2 additional crops produced by the farmers supported by the project[58] Increase of 25% in the number of hectares applying the agroecological practices promoted by the project	At least 4 number of additional crops produced by the farmers supported by the project by its end[59]an increase of 50% in the number of hectares applying agroecological practices promoted by the project	Project supervision reports
	Percentage of increased in the honey produced by beneficiaries of the project	The baseline will be determined for each community	15% increase in the honey produced by the beneficiaries of the project by mid-term[60]	30% increase in the honey produced by the beneficiaries of the project by its end[61]	Project supervision reports

Formatted: Font: 9 pt
Formatted Table
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt

.
The number of additional crops is to be confirmed or modified following studies in component 1 and as part of the development of the community adaptation plans.

[60] The target growth is to be confirmed or modified following studies in component 1 and as part of the development of the community adaptation plans.

[61] The target growth is to be confirmed or modified following studies in component 1 and as part of the development of the community adaptation plans

Result	Indicator	Baseline	Mid-term target	Final target	Means of verification
Activity 2.2.3 Increased availability of water for human consumption and productive activities	Number of water harvesting, storage and distribution infrastructure constructed by the project	N/A	10 water harvesting, storage and distribution infrastructure constructed by the project by mid-term (1 per selected community[62])	10 water harvesting, storage and distribution infrastructure constructed by the project by mid-term (1 per selected community)	Project supervision reports
Activity 2.2.4 Improved regulatory framework to provide proper incentives for adaptation	Number of ~~policies or~~ local development plans adjusted as result of the project to provide proper incentives for adaptation	N/A	At least 5 ~~policies or~~ departmental/municipality development plans adjusted as result of the project to provide proper incentives for adaptation by mid-term	At least 5 ~~policies or~~ departmental/municipality development plans adjusted as result of the project to provide proper incentives for adaptation by the end of the project	Project supervision reports
Activity 2.2.5 Training and exchange of knowledge among stakeholders	Number of ~~specific training sessions organized by the project in each district~~trained local stakeholders	N/A	At least 400 local stakeholders trained ~~5 specific training sessions organized~~ by the project ~~in each district~~ by mid-term (at least 80 stakeholders in each of the training sessions: one on climate vulnerability and adaptation, one on forest management, one on smart agriculture, one on resilient livestock, one on efficient water use)	At least 800 local stakeholders trained ~~10 specific training sessions organized~~ by the project ~~in each district~~ by the end of it (at least 160 stakeholders ~~two~~ on climate vulnerability and adaptation, ~~two~~ on forest management, ~~two~~ on smart agriculture, ~~two~~ on resilient livestock, and~~two~~ on efficient water use)	Project supervision reports
	Number of exchange sessions organized by the project at district level	N/A	10 exchange sessions organized by the project at district level by mid-term (one general at the end of the second year, two per year starting the second year for forest management, smart agriculture and resilient livestock)	18 exchange sessions organized by the project at district level by mid-term (three general at the end of the third, fourth and fifth year, two per year starting the second year for forest management, smart agriculture and resilient livestock)	Project supervision reports

Formatted: Font: 9 pt
Formatted Table
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Justified

[62] This will depend on the results of the studies conducted in output 1.3. At this stage, it is assumed that every community will require new infrastructure. Budget has been developed accordingly. Potential savings in one community could be used to cover potential increased financial needs in another.

Result	Indicator	Baseline	Mid-term target	Final target	Means of verification
Outcome 3. Capacity development and awareness to implement and upscale effective implementation of adaptation measures at national and local levels	Percentage of trained officials and stakeholders that claim to have increased capacity to respond to and mitigate impacts of climate change[63]	N/A	90% of trained officials and stakeholders claim to have increased capacity to respond to and mitigate impacts of climate change by mid-term	90% of trained officials and stakeholders claim to have increased capacity to respond to and mitigate impacts of climate change by the end of the project	Surveys
Output 3.1 Detailed training plan for SEAM on mainstreaming climate compatible development across sectors	Number of SEAM staff trained to respond to, and mitigate impacts of, climate-related events (by gender)[64]	N/A	At least 60 SEAM staff (at least 30 women) trained to respond to, and mitigate impacts of, climate-related events (13 women) by mid-term	At least 120 SEAM staff (at least 60 women) trained to respond to, and mitigate impacts of, climate-related events (25 women) by the end of the project	Project supervision reports
Output 3.2 Training plan for partner agencies at national and local levels (ministries and agencies (including but not limited to MAG and INFONA), departmental and municipal governments, universities, NGOs)	Number of relevant stakeholders trained to respond to, and mitigate impacts of, climate-related events (by gender)[65]	N/A	At least 80 relevant stakeholders (at least 40 women) trained to respond to, and mitigate impacts of, climate-related events by mid-term	At least 160 relevant stakeholders (at least 80 women) trained to respond to, and mitigate impacts of, climate-related events by the end of the project	Project supervision reports
Output 3.3 Identification, systematization and exchange of lessons learned of the project	Number of lessons learned documents prepared by the project	N/A	4 lesson learned documents prepared by the project by mid-term (one every 6 months from the 7th month)	10 lessons learned documents prepared by the project by its end (one every 6 months from the 7th month and a final consolidated report at the end)	Project supervision reports

[63] The survey will be designed once the adaptation plans are developed, but the overall question on institutional capacity for outcome 3 will come after more specific questions regarding outputs under this component, so that the answer to this question is informed by the technical aspects on which stakeholders have been trained..

[64] The specific training components are presented in Table 6.

[65] The specific training components are presented in Table 6.

Formatted: Font: 9 pt
Formatted: Justified
Formatted Table
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Font: 9 pt
Formatted: Justified
Formatted: English (United States)
Formatted: English (United States)
Formatted: English (United States)

F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Table 19~~17~~. Results framework's alignment with the Adaptation Fund

Project Objective(s)[66]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Outcome 1. Knowledge management on vulnerability and resilience to climate change improved to implement cost-effective adaptation measures	Number of critical knowledge gaps for implementing cost-effective adaptation measures	**Outcome 1:** Reduced exposure to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis	1,000,000
Outcome 3. Capacity development and awareness to implement and upscale effective implementation of adaptation measures at national and local levels	Percentage of trained officials and stakeholders that claim to have increased capacity to respond to and mitigate impacts of climate change	**Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	520,000
Outcome 2. Adaptive capacity in rural areas of greatest vulnerability strengthened through concrete adaptation measures favouring an ecosystem-based approach	Percentage of local stakeholders (local officials, farmers, herders and indigenous people) that claim to have increased resilience	**Outcome 4:** Increased adaptive capacity within relevant development sector services and infrastructure assets	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	4,480,000
		Outcome 5: Increased ecosystem resilience in	5. Ecosystem services and natural resource assets maintained or	

Formatted: Justified

Formatted: Font: 10 pt

[66] The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

Project Objective(s)[66]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
		response to climate change and variability-induced stress	improved under climate change and variability-induced stress	
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	
		Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into national development strategy	
Output 1.4 Improved understanding of climate change vulnerability and impact of the eight communities not covered by the UNEP (2013) VIA analysis report	Number of general vulnerability and impact assessments	***Output 1.1:*** Risk and vulnerability assessments conducted and updated	1.1. No. of projects/programmes that conduct and update risk and vulnerability assessments (by sector and scale)	174,538
Output 1.8 Increased meteorological information available for agro-climatic risk assessment	Number of new functioning meteorological stations in the Paraguayan Chaco Number of meteorological reports shared with farmers, herders and indigenous communities		1.2 No. of early warning systems (by scale) and no. of beneficiaries covered	292,000
Output 3.1 Detailed training plan for SEAM on mainstreaming climate compatible	Number of SEAM staff trained to respond to, and mitigate impacts of, climate-related events (by gender)	***Output 2***: Strengthened capacity of national and sub-national	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events (by gender)	115,570

Project Objective(s)[66]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
development across sectors		centres and networks to respond rapidly to extreme weather events		
Activity 2.2.3 Increased availability of water for human consumption and productive activities	Number of water harvesting, storage and distribution infrastructure constructed by the project	***Output 4:*** Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	1,500,000
Activity 2.2.1 Conservation and restoration of forests (including "protective forest") and other ecosystem, taking into account output 1.4	Number of forest restoration areas created with the support of the project	***Output 5:*** Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	650,000
Activity 2.2.2 Agro-ecological production in farming and livestock, including agroforestry, apiculture, community seed banks and silvopastoral management	Number of additional crops produced by the farmers supported by the project	***Output 6:*** Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.2.1. Type of income sources for households generated under climate change scenario	1,000,000
Activity 2.2.4 Improved regulatory framework to provide proper incentives for adaptation	Number of policies or plans adjusted as result of the project to provide proper incentives for adaptation	***Output 7:*** Improved integration of climate-resilience strategies into country development plans	7.1. No. of policies introduced or adjusted to address climate change risks (by sector)	71,198

Formatted: Font: 10 pt

G. Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

Table 2018. Detailed budget.

Component	Output	Type of Input	Note	Cost (USD)
1.Knowledge management on vulnerability and resilience to climate change improved to implement cost-effective adaptation measures				**1,000,000**
	1.1 Detailed mapping of ecosystems, including agro-ecological zones, water resources, forests and other ecosystems.			**92,389**
		3 senior national consultant (4 month)	a	36,000
		5 junior national consultants (4 month)	b	40,000
		DSA national consultant	c	1,800
		DSA SEAM specialists	d	3,600
		Equipment	e	8,541
		Transport (fuel)	f	1,248
		3 Validation regional workshops 30 people		1,200
	1.2 Assessment of the vulnerability of climate change of specific plants and animals used as food source.			**74,921**
		2 senior National Consultants (6 months)	g	30,000
		DSA national consultant	h	2,400
		Transport (water)	i	2,000
		Transport (fuel)	j	2,621
		DSA SEAM specialists	k	12,000
		Materials and tools	l	15,000
		Publication of the results		10,000
		Workshop national 100 people		900
	1.3 Study of the Ecology, Management and Nutritional components of Algarrobo and Viñal (Prosopis spp.)			**82,901**
		2 senior national consultant (12 months)	m	24,000
		3 junior national consultants (12 month)	n	25,200
		Lab	o	15,000
		Materials and tools	p	12,000

Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted Table ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...
Formatted ...

Component	Output	Type of Input	Note	Cost (USD)
		DSA national consultant	q	2,880
		Mobility (fuel)	r	2,621
		1 regional validation workshop 100 people		1,200
	1.4 General vulnerability and impact assessment (including food and water security) for the eight communities not covered by the UNEP (2013) VIA analysis report			**174,538**
		1 senior international consultant 40 days	s	26,000
		4 senior national consultant 40 days	t	64,000
		5 junior regional consultants (6 months)	u	60,000
		International travel	w	3,000
		DSA international consultant	y	1,150
		DSA national consultant	z	2,640
		Transport (fuel)	aa	1,248
		3 regional validation workshops 30 people		1,200
		1 national validation workshop 30 people		300
		Publication of a summary of the 10 vulnerability and impact assessments	ab	15,000
	1.5 Research on traditional practices that contribute to climate resilience			**46,668**
		4 senior national consultant (3 month)	ac	24,000
		3 junior national consultants (3 month)	ad	18,000
		Transport (fuel)	ae	1,248
		DSA national consultant	af	1,920
		3 regional validation workshops 30 people		1,200
		1 national validation workshop 30 people		300
	1.6 Elaboration of an analysis of incentives and disincentives for the adoption of climate-resilient agricultural practices in El Chaco region~~Study on the contribution to adaptation of the existing regulatory framework~~			**203,635**
		1 international senior consultant (30 days)	ag	19,500
		1 senior national consultant 35 days	ah	14,000
		International travel	ai	3,000
		DSA international consultant	aj	1,070
		DSA national consultant		540
		1 regional validation workshop 100 people		1,200

Component	**Output**	Type of Input	Note	Cost (USD)
		1 national validation workshop 30 people		300
		1 project officer full time	ak	109,350
		1 project officer (half time)	al	54,675
	1.7. Development of a guide to implement sustainable forest management practices on peasant and indigenous peoples communities.			**32,948**
		1 senior national consultants (4 months)	am	10,800
		1 senior national consultant (2 months)	an	5,400
		1 junior consultant (2 month)	ao	3,000
		1 national validation workshop 30 people		300
		Publication (guide)		10,000
		DSA national consultant	ap	2,200
		Transport (fuel)	aq	1,248
	1.8 Information and monitoring system for agro-climatic risk assessment			**292,000**
		1 International senior consultant (30 days)	ar	19,500
		1 senior national consultant (40 days)	as	16,000
		Software	at	12,000
		1 junior national consultant (42 months)	au	42,000
		7~~9~~ Stations		14~~8~~0,000
		Installation of equipment		14~~8~~,000
		Feasibility study of locations		20,000
		Maintenance of equipment		4,500
		Dissemination of forecast and agro-climatic reports		20,000
2. Adaptive capacity in rural areas of greatest vulnerability strengthened through concrete adaptation measures favouring an ecosystem-based approach				**4,480,000**
	2.1 Participatory developed integrated adaptation with a watershed management, ecosystem-based approach taking into account outputs 1.1, 1.2 and 1.3			**100,698**
		1 senior international consultant 40 days	aw	26,000
		3 senior national consultant (4 months)	ay	36,000
		3 junior national consultants (4 months)	az	24,000
		International travel	aaa	3,000
		DSA international consultant	aab	1,550

Component	**Output**	Type of Input	Note	Cost (USD)
		DSA national consultant	aac	4,400
		Transport (fuel)	aad	1,248
		3 regional validation workshops 100 people		3,600
		1 national validation workshop 30 people		900
	2.2 Participatory implementation of the measures included in the adaptation plans			**4,379,302**
	2.2.1 Conservation and restoration of forests (including “protective forest”) and other ecosystem	Service contract	aaf	**650,000**
	2.2.2 Agro-ecological production in farming and livestock, including agroforestry, apiculture, community seed banks and silvopastoral management			**2,062,776**
		Service contract for smart agriculture	aag	1,000,000
		Service contract for apiculture	aah	650,000
		Service contract for resilient livestock	aai	412,776
	2.2.3 Implementation of improvements in the efficient use, catchment, harvesting and storage of rainwater	Service contract including feasibility studies, design and construction in each area	aaj	**1,500,000**
	2.2.4 Implementation of measures to improve incentives for adaptation			**71,198**
		1 International Consultant (40 days)	aak	26,000
		1 Senior National Consultant (40 days)	aal	16,000
		3 Junior National Consultants (3 months)	aam	18,000
		International travel	aan	3,000
		DSA International	aao	1,550
		DSA National	aap	900
		Transport (fuel)	aaq	1,248
		3 regional workshops 100 people		3,600
		1 national workshop 100 people		900
	2.2.5 Training and exchange of knowledge among stakeholders,			**95,328**
		5 national consultants (30 days)	aar	60,000

Component	**Output**	Type of Input	Note	Cost (USD)
	taking into account output 1.3	3 junior national consultants (30 days)	aas	18,000
		DSA	aat	1,680
		Transport (fuel)	aau	1,248
		6 regional workshops 100 people (2 days each)		14,400
3. Capacity development and awareness to implement and upscale effective implementation of adaptation measures at national and local levels				**520,000**
	3.1 Detailed training plan for SEAM on mainstreaming climate compatible development across sectors			**115,570**
		3 International consultant (40 days)	aaw	68,250
		2 senior national consultants (40 days)	aay	32,000
		International travel	aaz	9,000
		DSA International	aaaa	2,640
		2 national workshops 100 people (2 days)		3,680
	3.2 Training plan for partner agencies at national and local levels (ministries and agencies (including but not limited to MAG and INFONA), departmental and municipal governments, universities, NGOs)			**109,740**
		3 International Consultants (30 days)	aaab	58,500
		2 senior national conssultants (30 days)	aaac	36,000
		International travel	aaad	9,000
		DSA international	aaae	2,640
		2 national workshops 100 people (2 days)		3,600
	3.3 Identification, systematization and exchange of lessons learned of the project			**294,690**
		1 project officials		109,350
		1 project officer (half time)	aaaf	54,675
		1 international consultant (30 days) mid-term review	aaag	19,500
		International travel	aaah	3,000
		DSA International	aaai	850
		1 international consultant (39 days) terminal evaluation	aaaj	25,350
		International travel	aaak	3,000
		DSA International	aaal	850
		1 international consultant lessons learned report	aaam	13,000

Component	Output	Type of Input	Note	Cost (USD)
		International travel	aaan	1,500
		DSA International	aaao	440
		Communication materials	aaap	3,175
		Publication lessons learned		10,000
		Financial Audits	aaaq	50,000
Project Execution Costs	Project Management			**570,000**
		Project coordinator	aaar	164,250
		3 Project officials in the regions	aaas	118,800
		Administrative and financial officers	aaat	64,800
		2 drivers	aaau	44,640
		8 computers		3,600
		3 printer		1,500
		2 cars (acquisition)	aaaw	105,000
		Car insurance	aaay	26,400
		2 cars (maintenance)		1,600
		Fuel		11,48410
		DSA Project team	aaaz	40,500
		Survey	aaaa	4,000
		Inception workshop national		900
		Inception workshops regions		3,600
		Steering Committee Meetings	aaaba	59,4000
Total project cost				**6,570,000**
~~Project Cycle Management Fee charged by Implementing Agency~~	-	-	-	~~**558,450**~~
	Project Cycle Management Fee charged by Implementing Agency	Overall coordination and management		114,482
		Oversight and management of project development and project implementation		144,081

Formatted: Right
Formatted: Justified
Formatted Table
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Justified
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Justified
Formatted: Right
Formatted: Justified
Formatted: Right
Formatted: Right
Formatted: Right

Component	Output	Type of Input	Note	Cost (USD)
		Financial management, including accounting, treasury, grant and trust fund management		87,118
		Information and communication management		30,715
		Quality assurance including internal and external audits	aaab	55,845
		Overall administration and support costs		126,210
Total Project Cycle Management Fee charged by Implementing Agency				**558,450**
Amount of financing requested				**7,128,450**

Formatted: Right
Formatted: Justified
Formatted Table
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Right
Formatted: Justified
Formatted: Justified

a. Specialists in flora, fauna and agriculture.
b. One specialist in flora, one in fauna, one in agriculture and two in GIS.
c. 30 days
d. 3 SEAM specialists could support the development of this output. Only DSA would need to be covered by the project. 20 days, 2 per community.
e. GPS, cameras and other equipment.
f. 10 communities. The furthest from Asuncion is to 856km. Estimated total distance to be covered 8000 km. 12 L of fuel per 100 km.
g. One specialist for flora and one for fauna. 15,000 each for the completion of the report.
h. 20 days each consultant

i.	Transport on water will be required. Boats will be hired for this.
j.	Same as note T
k.	5 SEAM specialists could support the development of this output. Only DSA would need to be covered by the project. The study will be conducted in dry and wet seasons. 20 days in each season.
l.	This includes cameras, GPS, reflectants, "pinzas de colecta", "cintas metricas"…
m.	One specialist in forest management, one specialist in nutrition. Half time during one year.
n.	Supporting personnel for the installation and conducting measurements.
o.	Nutritional studies. It will cover several species.
p.	Inputs such as seeds, plants and tools needed to conduct the study.
q.	2 days per month for each of the consultants.
r.	Studies will be conducted in Central Chaco. One trip per month. Each trip 1400km.
s.	Vulnerability and impact assessment specialist with experience in Latin America
t.	One specialist for each of the following areas: ecosystems, agriculture, water resources, community development/sociology/anthropology.
u.	One specialist for each of the following areas: ecosystems, agriculture, water resources, community development/sociology and health.
w.	2 return flights
y.	5 days in Asuncion and 8 days in the field
z.	4 consultants 11 days each
aa.	See note f for distances. 3 trips. One to Alto Paraguay, one to Pozo Hondo and General Diaz and one for Central Chaco.
ab.	Edition and publication costs. It includes also distribution costs.
ac.	One specialist for each of the following areas: adaptation, ecosystems, agriculture, anthropology/sociology.
ad.	One junior per department.
ae.	same as note F
af.	32 days
ag.	Adaptation specialist with experience in institutional aspects
ah.	2 return flights
ai.	7 days in Asuncion and 5 days in the field
aj.	9 days in the field
ak.	4.5 years

al.	One specialist in forests will work with INFONA to develop a guide to be used by peasant and indigenous communities. The consultant will also train these communities how to use the guide.
am.	One legal specialist for reviewing the forestry and indigenous legislation in terms of forest management by peasant and indigenous communities.
an.	Junior forestry consultant to support the capacity building activities.
ao.	10 workshops, one per community.
ap.	Same as note F
aq.	The other half time is covered in component 3.
ar.	For capacity building on the use of the software and agricultural risk management system.
as.	To support the definition of the location of the stations, follow up their installation and provide guidelines for agro-climatic reports.
at.	Software for agro-climatic risk management.
au.	In charge of following up the installation of the stations (6 months) and preparing the week reports once the stations are installed (36 months).
aw	Adaptation specialist with experience in Latin America
ay	Adaptation specialists. 1 per department.
az	With experience in adaptation. 1 per department.
aaa	2 return flights
aab	5 days in Asuncion and 13 days in the field
aac	40 days
aad	Same as F
aaf	This will included the maintenance and fuel of the project vehicles used for these activities
aag	This will included the maintenance and fuel of the project vehicles used for these activities
aah	This will included the maintenance and fuel of the project vehicles used for these activities
aai	This will included the maintenance and fuel of the project vehicles used for these activities
aaj	This will included the maintenance and fuel of the project vehicles used for these activities
aak	Adaptation specialist with experience in institutional aspects
aal	Adaptation specialist with experience in institutional aspects
aam	Adaptation specialist with experience in institutional aspects
aan	2 return flights
aao	5 days in Asuncion and 13 days in the field
aap	15 days
aaq	Same as F

aar	One specialist in each of the following: adaptation mainstreaming, forest, agriculture, livestock (or apiculture) and water
aas	1 per department.
aat	28 days
aau	Same as F
aaw	One specialist in each of the following: mainstreaming climate change, adaptation and mitigation. The selection of consultants will cover rural and urban areas.
aay	One specialist in adaptation, one in mitigation.
aaz	2 return flights each consultant
aaaa	Four days each consultant each mission.
aaab	Same as note aaq
aaac	Same as note aar
aaad	Same as aas
aaae	Same as aat
aaaf	The other half time is covered in component 1.
aaag	Experience in evaluation
aaah	2 return flights
aaai	5 days in Asuncion and 5 days in the field
aaaj	Experience in evaluation
aaak	2 return flights
aaal	Same as aaad
aaam	20 days
aaan	One return flight
aaao	4 days in Asuncion
aaap	Publications, leaflets...
aaaq	15,000 for years 2 and 3; 20,000 for the last year
aaar	4.5 years
aaas	1 per department. 75% of their time. 4 years.
aaat	4.5 years
aaau	4 years
aaaw	Including the cost of the transfer (5,000 USD)
aaay	3300 USD per year. 4 years. 2 cars

aaaz	For coordination and monitoring purposes. The project officer, plus some one else (from the Steering Committee or an expert from any of the leading technical partners), plus the driver; 5 days; 10 times per year
aaaa	9 Steering Committee Meetings
aaab	This portion of the MIE fees is used to oversee the M&E function of the project by the IE

H. Include a disbursement schedule with time-bound milestones.

Table 2019. Work plan

Component	Output/Activity	Timeframe / Year / Quarter																			
		Y1				Y2				Y3				Y4				Y5			
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1. Knowledge management on vulnerability and resilience to climate change improved to implement cost-effective adaptation measures	Output 1.1 Improved mapping of ecosystems, including agro-ecological zones, water resources, forests and other ecosystems																				
	Output 1.2. Assessment of the vulnerability to climate change of specific plants and animals used as food source.																				
	Output 1.3 Increased knowledge on the local ecology, management and nutritional components of Algarrobo and																				

Formatted: Normal, Justified

Formatted: Justified

Formatted: Justified

	Viñal (Prosopis spp.)																				
	Output 1.4 Improved understanding of climate change vulnerability and impact of the eight communities not covered by the UNEP (2013)VIA analysis report																				
	Output 1.5 Increased knowledge on traditional practices that contribute to climate resilience																				
	Output 1.6 Elaboration of an analysis of incentives and disincentives for the adoption of climate-resilient agricultural practices in El Chaco region~~Increased knowledge on the contribution to adaptation of the existing regulatory framework~~																				
	1.7. Development of a guide to implement sustainable forest management																				

	practices on peasant and indigenous peoples communities.																				
	Output 1.8 Increased meteorological information available for agro-climatic risk assessment																				
2. Adaptive capacity in rural areas of greatest vulnerability strengthened through concrete adaptation measures favouring an ecosystem-based approach	Output 2.1 Increased participatory adaptation planning																				
	Activity 2.2.1 Conservation and restoration of forests (including "protective forest") and other ecosystem																				
	Activity 2.2.2 Agro-ecological production in farming and livestock, including agroforestry, apiculture, community seed banks and silvopastoral management, taking into account outputs																				
	Activity 2.2.3 Increased																				

Formatted: Justified

	availability of water for human consumption and productive activities																				
	Activity 2.2.4 Improved 14regulatory framework to provide proper incentives for adaptation																				
	Activity 2.2.5 Training and exchange of knowledge among stakeholders																				
3. Capacity development and awareness to implement and upscale effective implementation of adaptation measures at national and local levels	Output 3.1 Detailed training plan for SEAM on mainstreaming climate compatible development across sectors																				
	Output 3.2 Training plan for partner agencies at national and local levels (ministries and agencies (including but not limited to MAG and INFONA), departmental and municipal governments, universities,																				

Formatted: Justified

	NGOs)																			
	Output 3.3 Identification, systematization and exchange of lessons learned of the project																			

Table 2120. Disbursement schedule

Concept	Total	Year 1	Year 2	Year 3	Year 4
Component 1	**1,000,000**	851,244	48,086	52,586	48,086
Component 2	**4,480,000**	50,349	1,607,091	1,390,216	1,432,344
Component 3	**520,000**	194,501	51,784	75,134	198,581
Total project cost	**6,000,000**	1,096,094	1,706,091	1,517,936	1,679,010
Project Execution Costs	**570,000**	226,294	111,694	112,094	119,919
Total	**6,570,000**	**1,322,387**	**1,818,654**	**1,630,029**	**1,798,929**
Disbursement date		Presentation of AOP Est. May 2017	Presentation of AOP est. January 2018	Presentation of AOP est. January 2019	Presentation of AOP est. January 2020

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Justified

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[67] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

(Enter Name, Position, Ministry)	Date*: (Month, day, year)*

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (……list here…..) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Name & Signature Implementing Entity Coordinator	
Date: *(Month, Day, Year)*	Tel. and email:
Project Contact Person:	
Tel. And Email:	

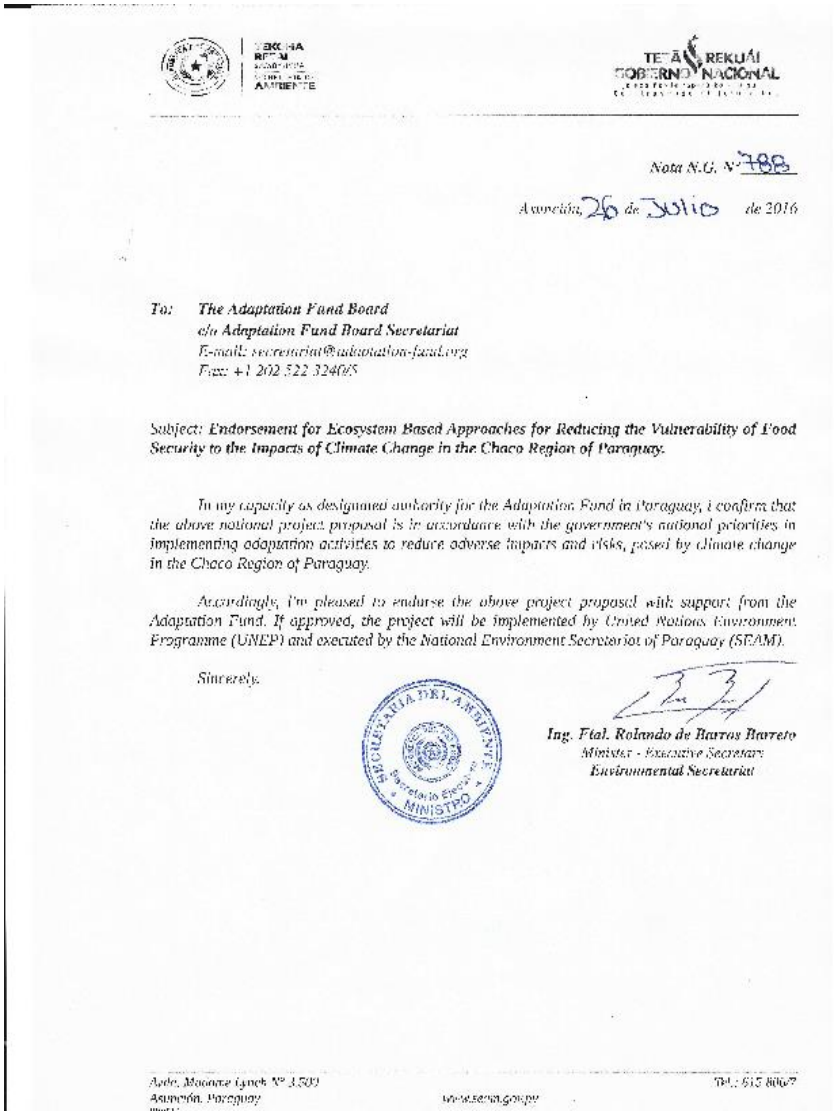
6. Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Justified
Formatted: Spanish (Paraguay)

ANNEXES

ANNEX 1. LETTERS FROM THE GOVERNMENT OF PARAGUAY

Letter from the Ministry of Environment



SEKRETARIA REKUÁI AMBIENTE

TETÃ REKUÁI GOBIERNO NACIONAL

Nota N.G. N° 788

Asunción, 26 de Julio de 2016

To: *The Adaptation Fund Board*
c/o Adaptation Fund Board Secretariat
E-mail: secretariat@adaptation-fund.org
Fax: +1 202 522 3240/5

Subject: **Endorsement for Ecosystem Based Approaches for Reducing the Vulnerability of Food Security to the Impacts of Climate Change in the Chaco Region of Paraguay.**

In my capacity as designated authority for the Adaptation Fund in Paraguay, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts and risks, posed by climate change in the Chaco Region of Paraguay.

Accordingly, I'm pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by United Nations Environment Programme (UNEP) and executed by the National Environment Secretariat of Paraguay (SEAM).

Sincerely,

SECRETARIA DEL AMBIENTE Secretaría Ejecutiva MINISTRO

Ing. Ftal. Rolando de Barros Barreto
Minister - Executive Secretary
Environmental Secretariat

Avda. Mariscal Lynch N° 1.509 — Tel.: 615 800
Asunción, Paraguay — www.seam.gov.py

Formatted: Spanish (Paraguay)

Letter from the Director of the National Climate Change Office of Paraguay

TETÃ REKUÁI
GOBIERNO NACIONAL

NOTA ONCC N.° 028../16

Asunción, 26 de July 2016.

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: **Endorsement for Ecosystem Based Approaches for Reducing the Vulnerability of Food Security to the Impacts of Climate Change in the Chaco Region of Paraguay.**

In my capacity as designated authority for the Adaptation Fund in Paraguay, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts and risks, posed by climate change in the Chaco Region of Paraguay.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by United Nations Environment Programme (UNEP) and executed by the National Environment Secretariat of Paraguay (SEAM)

Sincerely,

Ms. Ethel Enciso Arrúbia, Directora
Oficina Nacional de Cambio Climático
Secretaría del Ambiente
Asunción – Paraguay

Av. Madame Lynch No. 3500 esq. Reservista de la Guerra del Chaco. tel. 595 21 615836 - fax 595 21 615807.
Correo-e: gabinete@seam.gov.py

Formatted: Spanish (Paraguay)

ANNEX 2. RESPONSES TO THE COMMENTS IN THE REVIEW SHEET

Comment	Response
CR1: Possible partner NGOs should be pre-identified for the full proposal, and their value-added assessed.	As noted in page 57, the individuals and institutions that will implement the activities are not selected at this stage. This approach has been followed to ensure that the procurement processes are transparent and competitive. For each assingment a call will be opened and individuals and/or institutions will be encouraged to apply, sending a technical and financial offer. UNEP or SEAM will then select the contractor according to their regular selection procedures, which will follow AF's principles of transparency.
CR2: The viability of the financial mechanisms could be addressed already in the full proposal by identifying previous experiences and possible barriers.	The inclusion of financial mechanisms was discussed during project design. Stakeholders highlighted that micro-credits have not proved particularly useful in the project areas, with some serious protests being organized against micro-finance institutions. The companies that would provide insurance would be similar, so this was also excluded from the activities. In contrast, economic incentives could be strategic to promote adaptation. Output 1.6 will analyse the existing regulatory framework to identify possible economic incentives, which will be implemented through Activity 2.2.4.

Formatted: Justified

Formatted: Justified

Formatted: Justified

Formatted: Spanish (Paraguay)

ANNEX 3. CHANGES TO THE CONCEPT NOTE

Two main changes have been carried out. The first major change refers to the location of the project. The concept note had selected two regions, the Eastern Region and the Western Region or Chaco. This proposal includes the Chaco and excludes the Eastern Region. The main reason for this is that the latter is generally less vulnerable, and the San Pedro region, which is vulnerable, is going through processes that do not make it very safe to work there at the moment. In the Chaco region, the concept note included only one department, Presidente Hayes, and one district, Teniente Irala Fernandez. In order to be cost-effective, this proposal works in the three departments of the Chaco, and in six districts, including Teniente Irala Fernandez. Two of the communities where studied by UNEP in 2013. Contextual information of the other eight communities is provided in **Error! Reference source not found.**~~Table 4~~ ~~Table 3~~.

The second major change refers to the outputs to be produced and the activities to be conducted. This proposal includes all the outputs included in the concept note, except for the micro-credit and insurance elements for reasons explained in Annex 2 just above. Some important studies have been added in component 1, some as stand-alone studies (i.e. the one on Algarrobo) and some as comprehensive studies including certain elements (i.e. study of crop varieties as part of the new output 1.4). Moreover, activities have been prioritized in component 2. This includes stressing the importance of different ecosystems and uses, such as forestry, agriculture, apiculture and livestock, and adding a new component to increase resilience to water scarcity, as recommended by the UNEP report.

It is crucial to highlight that all these changes are the result of a serious process of actively involving a wide range of stakeholders, as explained in section H.

In addition to these major changes, the design of the proposal has updated several sections, given that the concept note was approved in 2012. Among other sections, section D on the consistency with Paraguay's national priorities, legal and policy framework and section F on the projects being implemented in the project area have been updated.

Finally, the project design has developed many important issues that were missing in the concept note, given its nature. Among other issues, the implementation arrangements, the M&E plan, the budget and the disbursement schedule have been detailed.

Formatted: Spanish (Paraguay)

Annex 4. Secretaría del Ambiente (SEAM): Política Socio-ambiental con Enfoque de Derecho[68] *(Original in Spanish. Please see English versión below)*

La SEAM promueve una política socio-ambiental con enfoque de derecho, que incorpora los vínculos entre poblaciones y los ecosistemas en los cuales dichas poblaciones viven y llevan a cabo sus actividades sociales, culturales y económicas.
En este sentido la propuesta de Proyecto "Enfoque ecosistémico para la reducción de la vulnerabilidad de la producción de alimentos a los impactos del cambio climático en la Región Oriental y el Chaco" es una herramienta propicia para iniciar reales procesos de recuperación, restauración y conservación de los ecosistemas nativos y en consecuencia la preservación de culturas Indígenas.

Convenientemente aplicado, aportara contribuciones concretas y viables para la pervivencia de tales culturas en respetuosa interacción con la biodiversidad, avanzando a su vez en el desarrollo de conectividades, restauraciones territoriales, sociopolíticas y culturales a través de sus tierras, recursos naturales y ecosistemas y en atención a sus autonomías, características y organizaciones particulares.

En este contexto, y en el marco de sus derechos a la participación y a la defensa de sus tierras y recursos naturales, es preciso posicionar una estrategia diferenciada y específica tanto en el diseño, ejecución y seguimiento de las dinámicas de los procesos de la restauración entendida ésta como trabajo altamente interdisciplinario con programas y actuaciones a corto, mediano y largo plazo.

Los pueblos indígenas no han adoptado prácticas generalizadas perjudiciales para explotar sus recursos naturales y es la pervivencia de conocimientos y técnicas apropiadas las que hacen posible la permanencia de la diversidad biológica.

El Convenio 169 de la OIT, al dar cuenta de la relación esencial entre pueblos indígenas y su patrimonio cultural, afirma y garantiza la pertinencia de no separar los conocimientos y prácticas de su contexto geográfico-ecológico; puede acontecer incluso la separación de tales conocimientos de las comunidades de origen de los colectivos indígenas, facilitándose así adversamente la comercialización de los recursos culturales indígenas.

La vigencia de los derechos colectivos reconocidos a los pueblos indígenas tiene por objeto la protección de la dignidad humana, la autonomía, el derecho a la participación, tierra, territorios y recursos naturales, las políticas públicas deben ser de inclusión, sustentables y basadas en tales derechos. Ello implica el reconocimiento de las instituciones indígenas (socioculturales y políticas) y del valor de sus diversidades culturales, el reconocimiento y afianzamiento de sus identidades, y el protagonismo colectivo de estos pueblos, propiciándose el establecimiento de canales de gestión conforme sus propias orientaciones y ritmos, adecuados al manejo y control de sus miembros y sistemas organizativos propios. Estos reconocimientos permitirán y garantizaran a su vez, que las organizaciones y/o comunidades indígenas den cuenta en sus

[68]Secretaría del Ambiente. 2011. Estrategias para la Aplicación de la Herramienta PAS Chaco en apoyo a los Procesos de Reivindicación de los Pueblos y Comunidades Indígenas del Chaco Paraguayo: Análisis

Formatted: Spanish (Panama)
Formatted: Spanish (Panama)
Formatted: Font: Italic, Spanish (Panama)
Formatted: Font: Italic
Formatted: Font: Italic, English (United States)
Formatted: Justified
Formatted: Spanish (Panama)
Formatted: Spanish (Paraguay)

respectivos procesos, de los límites económicos, ecológicos y culturales que consideren necesario establecer y preservar.

En consecuencia, la contribución de iniciativas, oportunidades y mecanismos ambientales deberían estar convenientemente administrados por las organizaciones y comunidades indígenas y garantizadas por los gobiernos y agencias multilaterales.

Política y Regulación de las Funciones de la SEAM

En efecto, la política y regulación de las funciones de la SEAM, se sustentan entre otras en:

- **La Constitución Nacional** que reconoce el derecho de los habitantes de Paraguay a la vida en un ambiente saludable y ecológicamente equilibrado y declara de interés social la preservación, conservación y mejoramiento del medio ambiente y su reconciliación con el desarrollo humano integral, como asimismo, reconoce la igualdad de derechos y de oportunidades de todos sus habitantes.
- **La ley 1561/2000** que crea el Sistema Nacional del Ambiente (SISNAM) compuesto por el Consejo Nacional del Ambiente (CONAM), como instancia deliberativa, consultiva y definidora de la política ambiental nacional y la Secretaría de Medio Ambiente (SEAM) órgano ejecutivo cuyo objetivo principal es la formulación, coordinación, ejecución, y fiscalización de la Política Ambiental Nacional (PAN).
- **Instrumentos políticos y estratégicos** tales como el *Plan de Política Pública de Desarrollo Social para Todas y Todos (2010-2020), Plan Estratégico SEAM 2009-2012, Plan de Acción para la Conservación de la Biodiversidad*, el *Programa Nacional de Cambio Climático y su Plan Quinquenal 2008-2012* , el *Plan de Acción Nacional para la Lucha contra la Desertificación*, el *Plan Nacional de Acción Forestal* en el marco de la Política Forestal, Sistema Nacional de Protección y Conservación de la Vida Silvestre (SINAVISI) 2010; el *Plan Nacional De Derecho Humanos 2011.* (Eje 1. Transformación De Las Desigualdades Estructurales Para El Goce De Los Derechos Humanos y Eje 4. Seguridad Humana (Ítems 5,6,7); otros.
- **Leyes relativas a la protección, regulación y gestión del medio ambiente** tales como, la *Ley 294/93 de Evaluación de Impacto Ambiental, Ley 751/95 deCombate al Tráfico Ilícito de Madera, Ley 716 de Delito Ecológico, Ley No 40/90 que crea la Comisión Nacional para la Defensa de los Recursos Naturales, Ley No 92/96 Vida Silvestre, Ley N° 253/93* que ratifica el Convenio de Diversidad Biológica; *Ley 2515/93 Cambio Climático, Ley 350/94 Sobre Humedales, Ley No 536/95 Forestación y Reforestación, Ley No 970/96 que ratifica la Convención sobre Desertificación, Ley No 816/96 Medidas para la Defensa de los Recursos Naturales, Ley No 3239/07 de Recursos Hídricos, Ley No 1328/98 Derechos del Autor.*
- **Las garantías de los derechos indígenas** establecidos en la *Constitución Nacional (Cap. V)*, la *Ley No 234/93* que ratifica el *Convenio 169 de la OIT*, la *Ley No* 904/81 Estatuto de las Comunidades Indígenas, cuya autoridad de aplicación en lo pertinente es la SEAM. Más concretamente, los fundamentos legales y políticos en materia de derecho indígena y de sus instituciones en defensa y protección de sus recursos naturales se instituyen en:

· **Constitución Nacional (CN) 1992. Capitulo V de los Pueblos Indígenas y grupos étnicos** Art. 65. *Se garantiza a los pueblos indígenas el derecho a participar en*

Formatted: Justified, Bulleted + Level: 1 + Aligned at: 0" + Indent at: 0.25"

Formatted: Justified

Formatted: Spanish (Paraguay)

la vida económica, social, política y cultural del país, de acuerdo con sus usos consuetudinarios, esta Constitución y las leyes nacionales. Art. 66. *El Estado respetará las peculiaridades culturales de los pueblos indígenas (...) Se atenderá, además, a su defensa contra la regresión demográfica, la depredación de su hábitat, la contaminación ambiental (...).*

Formatted: Font: Bold, Not Italic

- **Ley 904/81. Estatuto de las Comunidades Indígenas (ECI).** Art. 1o. *Esta Ley tiene por objeto la preservación social y cultural de las comunidades indígenas, la defensa de su patrimonio y sus tradiciones, el mejoramiento de sus condiciones económicas, su efectiva participación en el proceso de desarrollo nacional y su acceso a un régimen jurídico que les garantice la propiedad de la tierra y otros recursos productivos en igualdad de derechos con los demás ciudadanos*. Art. 7o. *El Estado reconoce la existencia legal de las comunidades indígenas (...).*
- **Ley 234/93 que ratifica el Convenio 169 de la OIT sobre Pueblos Indígenas.** Art. 7.7.4. *Los gobiernos deberán tomar medidas, en cooperación con los pueblos interesados, para proteger y preservar el medio ambiente de los territorios que habitan.* Art. 15.1. *Los derechos de los pueblos interesados a los recursos naturales existentes en sus tierras deberán protegerse especialmente. Estos derechos comprenden el derecho de esos pueblos a participar en la utilización, administración y conservación de dichos recursos.*
- **Ley 1328/98 Derechos del Autor y Derechos Conexos.** Art. 83. *Las expresiones del Folklore publicadas o no, serán protegidas permanentemente de su explotación inadecuada y de sus mutilaciones o deformaciones. Corresponde al Estado a través de la Dirección Nacional de Derechos del Autor y de las demás instituciones encargadas de velar por el Patrimonio Cultural tradicional, la defensa contra su explotación abusiva con los atentados a su integridad.*
- **La declaración de la ONU sobre los derechos de los Pueblos Indígenas (2007)** Art. 29. *Los pueblos indígenas tienen derecho a la conservación y protección del medio ambiente y de la capacidad productiva de sus tierras o territorios y recursos (...)* Art. 39. *Los pueblos indígenas tienen derecho a la asistencia financiera y técnica de los Estados y por conducto de la cooperación internacional para el disfrute de los derechos enunciados en la presente Declaración.*

Cuestiones a considerar

En consecuencia, la SEAM en el marco de su competencia, con base a su política socioambiental con enfoque de derecho y a la vez autoridad de aplicación de normativas en derecho indígena concerniente a la restauración de los ecosistemas y recursos naturales comprenderá que:

a. La antigua/actual posesión/existencia Indígena es igual a la respetuosa interacción con la biodiversidad e ir avanzando en las restauraciones o conectividades a través de las comunidades, tierras/recursos naturales de los Pueblos Indígenas algunos aun asentados en sus lugares tradicionales, pero mayormente en procesos de demandas y gestiones correspondientes para la legalización de sus tierras/territorios:

i. Entender que las Comunidades Indígenas constituyen entes autónomos, con sistema de autoridad propio y que además se rigen en base a derechos

Formatted: Spanish (Paraguay)

consuetudinarios y leyes específicas distintas a la de los demás actores/colectivos involucrados en el proyecto; en consecuencia introducir el componente/apartado correspondiente, reconociendo tales características y derechos, organizándolos proactivamente.

ii. Informar a las autoridades de las organizaciones representativas de los pueblos indígenas del área respecto al Proyecto (Objetivos, Alcances, Metodología, Rol/Competencia institucional).

iii. Desarrollar el componente y/o estrategia indígena del Proyecto en base a un abordaje responsable y congruente con las cuestiones relativas a los derechos y cultura de los Pueblos Indígenas.

iv. Producir información actualizada sobre el estado de salud de los recursos naturales o ecosistemas indígenas, uso de suelo, en base a imagen satélite y otras fuentes que permitan establecer una línea base y priorizar acciones en base a peculiaridades preliminarmente identificadas.

v. Diseñar/proponer con base a estas acciones líneas de aproximación específica acorde a su competencia y al derecho indígena y, con base a estos conocimientos/instrumentos, proponer funciones, actividades, perfiles, herramientas metodológicas, estrategia y recursos humanos que intervendrán en el proceso de ejecución del Proyecto, garantizando en adelante el proceso de participación de las autoridades representativas de organizaciones/comunidades indígenas.

b. Potenciar el fortalecimiento de las reparticiones de la SEAM vinculadas directa e indirectamente a la aplicación de leyes e instrumentos estratégicos, tales como los de impacto ambiental, agua, delitos ecológicos, vida silvestre, entre otros relacionados con la protección y defensa de los derechos indígenas a sus recursos naturales y ante eventuales vacíos identificados, realizar esfuerzos necesarios para la generación de instrumentos, protocolos y procedimientos requeridos para el abordaje responsable y 68
sostenido.

c. Reconocer la importancia de aportar acciones concretas y viables para las comunidades/pueblos Indígenas en función a las conectividades/restauraciones necesarias, de indudable valor para éstas culturas ancestrales desposeídas y para la valiosa biodiversidad remanente.

A fin dar cumplimiento o aplicar en cada caso las leyes y políticas socioambientales de tal suerte a que el proyecto contribuya a la restauración, visibilidad y fortalecimiento de los pueblos indígenas garantizando la plena participación de las instituciones indígenas, autoridades comunales, organizaciones étnicas o interétnicas, en la ejecución del proyecto se tendrá en cuenta:

a. Realización de jornadas de socialización de la política socioambiental con enfoque de derecho; acciones realizables, priorizando la restauración de sus ecosistemas y su relación vital con los mismos; rescate de los patrones de asentamientos y usos.

b. Identificación de los factores/agentes del deterioro y destrucción de la vida silvestre y de alternativas de recuperación del hábitat/vida silvestre fundado en el conocimiento y modelos autóctonos, junto a técnicas apropiadas no indígenas.

c. Planificación de la productividad duradera de los recursos naturales según

Formatted: Spanish (Paraguay)

criterios técnicos y científicos respecto de los daños que ocasionan las practicas extractivas extremas presionadas por demandas del mercado, tales como acopio intensivo de animales silvestres, elaboración masiva de carbón, metros, rajas, praderizaciones, obras varias de infraestructura productiva y vial.

d. Revitalización de las prácticas de subsistencia tradicionales que aseguran la alimentación básica; producción de rubros de consumo o de doble efecto (consumo /venta) cuyo conocimiento tradicional las sociedades Indígenas la tienen, desalentando rubros o actividades no energéticos saludables.

e. Consideración del estamento femenino chaqueño administradora/distribuidora entre otros roles, para la introducción de fuentes de alimentación manejables a nivel de familias extensas, de cara a necesidades nutricionales de la niñez fundamentalmente.

f. Aportes de importancia al manejo duradero de los recursos naturales, tales como, el respeto de la capacidad productiva del suelo, las necesidades energéticas para la cocción de sus alimentos (leña), necesidades de materiales para la construcción de sus viviendas y demás infraestructuras comunales, padrones de asentamientos comunales, parentesco.

g. Reconocimiento de la situación crítica en que se encuentran los recursos naturales y su impacto en las comunidades indígenas, su ambiente, vida

69

silvestre, uso masivo de agrotóxicos, la destrucción del entorno, la presión del mercado, destrucción progresiva de la biodiversidad, proliferación de incendios, pasturas invasivas, erosión del suelo y pérdida de agua disponible por contaminación, colmatación, salinización.

h. Valoración de las fortalezas de las prácticas Indígenas, de las instituciones sociopolíticas y normativas, su cultura, sistema económico, conocimientos, sus técnicas y sobre todo el buen manejo cultural de sus ecosistemas. Aparecen como indiscutiblemente necesarias:

- La protección de los linderos de las tierras/territorios indígenas con implantación de barreras vivas con especies nativas y cumplimentar instrumentos de mitigación ambiental por parte de los vecinos de las tierras/territorios indígenas.
- La asignación y respeto a los espacios de protección entre áreas de asentamientos humanos y cultivos extensivos, praderas implantadas/invasivas, y otros cultivos intensivos, monocultivos que requieren aplicación de agro-tóxicos.
- La aplicación de normativas y técnicas para la protección y restauración de fuentes/reservorios de agua, humedales incluyendo toma y análisis de muestras periódicas y continuadas.
- La planificación/ampliación del uso de tierras y bosques nativos y en lo posible la recuperación del sistema tradicional aunque ya no se logre a escala efectiva deseable (extrema reducción del espacio físico) y prevención de necesidades futuras (crecimiento demográfico).

Formatted: Spanish (Paraguay)

Translation of Annex ~~43~~

Secretariat of Environment of Paraguay´s Socio-environmental Policy Approach on Human Rights and Indigenous Peoples.

(Please note this is an unofficial translation of a SEAM document)

The SEAM promotes a socio-political environmental approach on Human Rights, which incorporates the link between populations and the ecosystems where they live and carry out their social, cultural and economic activities.

Based on this, the project proposal *"Ecosystem Based Approaches for Reducing the Vulnerability of Food Production to the Impacts of Climate Change in the Eastern and Chaco Regions of Paraguay"* would bring a suitable tool to start real recovery, restoration and conservation processes of native ecosystems and therefore the preservation of indigenous cultures.

If properly applied, this will provide concrete and viable contributions for the preservation of these cultures in respectful interaction with biodiversity, advancing at the same time in the development of liaisons; territorial, socio-political and cultural restoration through their lands, natural resources and ecosystems; and based on their particular autonomies, characteristics and organizations.

In this context, and respecting their rights to participate and to defend their lands and natural resources, it will be necessary to apply a specific and differentiated approach on the design, implementation and monitoring of the restoration dynamics. These processes are expected to imply highly interdisciplinary work with short, medium and long term programs and activities.

Indigenous peoples have not adopted harmful widespread practices while using their natural resources; and is the maintenance of appropriate traditional knowledge and techniques what has enabled the conservation of biodiversity in these ecosystems.

The ILO Convention 169, states the essential relationship between indigenous peoples and their cultural heritage, reiterates and guarantees the importance of to not separate traditional knowledge and practices from their geographical and ecological context.

Unfortunately, in circumstances where this sort of knowledge is disassociated from their communities of origin, indigenous cultural resources are more easily commercialized.

The objective of collective rights currently recognized for indigenous peoples is the protection of human dignity, autonomy; their rights to participation, land, territories and natural resources; and public policies that are inclusive, sustainable and based on such rights. This implies the recognition of indigenous (socio-cultural and political) institutions and of the value of its cultural diversity; the recognition and affirmation of their identities and collective relevance of these indigenous peoples, which facilitates the establishment of management channels based on their own guidelines and rhythms, on the management and control of their own members and organizational systems. These recognitions shall in turn allow and guarantee that indigenous organizations and/or communities to be conscious of their respective processes, of the economic, ecological and cultural limits that they consider necessary to establish and preserve.

Consequently, the contribution of environmental initiatives, opportunities and mechanisms should be adequately managed by indigenous organizations and

Formatted: English (United States)
Formatted: English (United States)
Formatted: English (United States)
Formatted: English (United States)
Formatted: Font: (Default) ArialMT, English (United States)
Formatted: English (United States)
Formatted: Spanish (Paraguay)

communities; and validated by governments and multilateral agencies.

Policy and Regulations of the Functions of the Secretariat of Environment - SEAM

Indeed, the policy and regulatory functions of the SEAM are based, among others, on:

- **The National Constitution** recognizes the people of Paraguay rights to life in a healthy and ecologically balanced environment; and declares the preservation, conservation and improvement of environment and its link with the integral human development to be of great social interest. It also recognizes the equality of rights and opportunities for all its inhabitants.
- **Law 1561/2000** created the National Environment System (SISNAM for its initials in Spanish), composed by the National Environment Council (CONAM for its initials in Spanish), as a deliberative and advisory body that defines the national environmental policy; and the Secretariat of Environment (SEAM for its initials in Spanish) as an executive body whose main objectives are the formulation, coordination, execution and enforcement of the National Environmental Policy (PAN for its initials in Spanish).
- **Political and strategic instruments** such as the Public Policy Plan for Social Development for All (2010-2020), SEAM Strategic Plan 2009 - 2012, Action Plan for the Conservation of Biodiversity, the National Climate Change Program and its Five-Year Plan 2008-2012, the National Action Plan to Combat Desertification, the National Forestry Action Plan under the Forest Policy workframe, 2010 National Wildlife Protection and Conservation System (SINAVISI for its initials in Spanish), the 2011 National Human Rights Plan. (Axis 1. Transformation of structural inequalities on the exercise of Human Rights and Axis 4. Human Security (Items 5,6,7); others.
- **Laws for the environmental protection, regulation and management,** such as Law 294/93 for Environmental Impact Assessment, Law 751/95 to Combat Illicit Wood Trade, Law 716 against *Environmental Crime*, Law No. 40/90 that creates the *National Commission for the Protection of Natural Resources*, Law No 92/96 - Wildlife Law, Law No. 253/93 which ratifies *The Convention on Biological Diversity*, Law 2515/93 of Climate Change, Law 350/94 on Wetlands, Law No 536/95 Forestation and Reforestation, Law No 970/96 that ratifies the *Convention on Desertification*, Law No 816/96 on *Measures for the Defense of Natural Resources*, Law No 3239/07 on Water Resources, Law No 1328/98 on Copyrights.

The guarantees of indigenous rights were established in the National Constitution (Chapter V), Law No. 234/93 which ratifies the ILO Convention 169, Law No. 904/81 Statute of Indigenous Communities, whose enforcement authority is the SEAM, as relevant. The legal and policy basis on indigenous law and on its institutions of natural resources defense and protection are more specifically established under:

- **1992 National Constitution (CN for its initials in Spanish). Chapter V on Indigenous Peoples and ethnic groups. Article 65.** It is guaranteed for indigenous peoples to have the right to participate in the economic, social, political and cultural life of the country, in accordance with its customary practices, this Constitution and national laws. Section 66. The State shall respect the cultural peculiarities of indigenous peoples (...) It will additionally act on its defense against

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

Formatted: Spanish (Paraguay)

demographic decline, predation of their habitat, environmental pollution (...).

- **Law 904/81. Statute of Indigenous Communities (ECI for its initials in Spanish).** Article 1. The objective of this Law is the social and cultural preservation of indigenous communities, defense of their heritage and traditions, improvement of their economic conditions, their effective participation in the national development process and their access to a legal system that guarantees their ownership of land and other productive resources under equality of rights with other citizens. Article 7. The state recognizes the legal existence of indigenous communities (...).
- **Law 234/93 which ratifies ILO Convention 169 on Indigenous Peoples.** Article 7.7.4. Governments shall take measures, in cooperation with the peoples concerned, to protect and preserve the environment in those territories that they inhabit. Article 15.1. The rights of the peoples concerned to natural resources in their lands shall be specially safeguarded. These rights include the right of these peoples to participate in the use, management and conservation of these resources.
- **Law 1328/98 on Copyright and Related Rights**. Article 83. Published or nonpublished expressions of Folklore will be permanently protected from inappropriate exploitation, reproduction or distortion. It is responsibility of the State, through the National Directorate of Copyrights and other institutions in charge of the traditional Cultural Heritage, to defend these against abusive exploitation attacks to their integrity.
- **The UN Declaration on the Rights of Indigenous Peoples (2007)** Article 29. Indigenous peoples have rights to the conservation and protection of the environment and the productive capacity of their lands or territories and resources (...) Article 39. Indigenous peoples have the right to financial and technical assistance from States and through international cooperation to access the rights set forth in this Declaration.

Issues to Consider

Consequently, the SEAM under its jurisdiction, based on its socio-environmental policy focused on human rights, and being the regulatory enforcement authority on indigenous rights concerning ecosystems and natural resources restoration contemplates the following:

a. The old/current indigenous ownership/ existence is equal to the respectful interaction with biodiversity and to advance towards the restoration or connectivity across communities, land/natural resources of indigenous peoples, some still settled in their traditional places, but mostly in processes claims and management related to legalization of their lands / territories:

vi. To understand that the indigenous communities are autonomous entities with their own authority system and that they are governed on the basis of customary rights and specific laws other than those of the other actors/groups involved in the project; consequently, to enter the corresponding component/section that recognizes such characteristics and rights, and to proactively organize them.

vii. To inform authorities of the representative indigenous organizations of the

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

Formatted: Spanish (Paraguay)

area about the Project (Objectives, Scope, Methodology, Role/institutional competency).
viii. To develop the indigenous component and/or strategy of the Project based on a responsible and consistent approach to issues concerning the rights and culture of Indigenous Peoples.
ix. To produce updated information on the health status of indigenous natural resources or ecosystems, land use, based on satellite imagery and other sources to establish a baseline and prioritize actions based on peculiarities preliminarily identified.
x. To design/propose specific approach guidelines based on these actions and these knowledge/tools, and according to indigenous jurisdiction and rights, to propose functions, activities, profiles, methodological tools, a strategy and human resources that will intervene in the Project implementation process, guaranteeing hereafter the participation process of official representatives of indigenous organizations/communities.
b. To promote the strengthening process of SEAM's departments directly and indirectly linked to the implementation of strategic laws and legal instruments, such as those responsible for the areas of environmental impact, water, environmental crime, wildlife, among others related to the protection and defense of indigenous rights natural resources and to any gaps identified, efforts are needed for the generation of tools, protocols and procedures required for a responsible and sustainable approach.
c. To recognize the importance of providing concrete and viable actions to indigenous communities/peoples according to the necessary connectivity/restorations, which are of evident value to these deprived ancient cultures and for the remaining valuable biodiversity.
In order to enforce or apply in each case the social and environmental laws and policies, to ensure the Project's contribution to the restoration, visibility and strengthening of indigenous peoples, guaranteeing the full participation of indigenous institutions, community leaders, ethnic or interethnic organizations in project implementation; the following will be considered:
i. Performing socialization activities about social and environmental policy with a human rights approach, actions which may be achieve by prioritizing the restoration of their ecosystems and their vital relationship with them; and the recovery of settlement patterns and their uses.
j. Identification of wildlife deterioration and destruction factors/agents and of habitat/wildlife restoration alternatives, based on autochthonous knowledge and models, along with appropriate non-indigenous techniques.
k. Sustainable planning for natural resources productivity, based on technical and scientific criteria on the damages caused by extreme extractive practices, pushed by market demands, such as intensive collection of wild animals, massive carbon production, measures, gaps, logging, various productive and traffic infrastructure works.
l. Revitalization of traditional subsistence practices that ensure basic nutrition, consumption or double effect (consumption/sale) commodities production that exists in the traditional knowledge of indigenous societies, so that the production

Formatted: Spanish (Paraguay)

of unhealthy or non-energetic commodities is discouraged.

m. Consideration of the female management/distributor figure of Chaco, among other roles, for the introduction of food sources that are manageable (at the extensive family level), given the nutritional needs of mainly in children.

n. Important contributions to the sustainable management of natural resources, such as respect for the productive capacity of the soil, the energy needs for cooking their food (firewood), material needs for the construction of their homes and other community infrastructure, communal settlement patterns, and kinship.

o. Recognition of the critical situation of natural resources and its impact on indigenous communities, their environment, wildlife, massive use of agrochemicals, landscape destruction, market pressure, progressive destruction of biodiversity, proliferation of fires, invasive grasses, soil erosion and loss of available water by pollution, siltation, and salinization.

p. Valuation of the indigenous practices strengths, of socio-political and regulatory institutions, their culture, economic systems, knowledge, their techniques, and especially of the proper cultural management of their ecosystems. The following have proven to be evidently necessary:

- The protection of indigenous lands/territories' boundaries through the plantation of hedgerows with native species and complemented with environmental mitigation tools, by neighboring land owners indigenous lands/territories.
- The allocation and respect for the protected zones between human settlements areas and extensive plantations, implanted/invasive pastures, and other intensive plantations, monocultures that require the application of agro-chemicals.
- The application of standards and techniques for the protection and restoration of water sources/reservoirs, wetlands, including periodic and continued sample collection and analysis.
- The planning/extension of the use of native land and forests, and where possible, the recovery of the traditional system, even when the expected effective levels can no longer be achieved (extreme reduction of physical space) and prevention of future needs (demographic growth).

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

Formatted: English (United States)

Formatted: Spanish (Paraguay)

ANNEX 54. CONSULTATION PROCESS

Table 3321. Stakeholders that attended the consultation meeting on July 8th 2016

Enfoques Basados en Ecosistemas para Reducir la Vulnerabilidad de la Producción de Alimentos ante los Impactos del Cambio Climático en la Región Oriental y el Chaco de Paraguay.

Formulación de la Propuesta a ser presentada por Paraguay al Fondo de Adaptación

Fecha: 8 de julio de 2016
Lugar: Centro de Informaciones SEAM

Nº	Name/ Nombre	Position/ Cargo	Email.	Sing / Firma
1	Ethel Estigarribia	Directora DNCC	ethelyamil@hotmail.com	
	Karen Elizabeth G.	Coordinadora NCSA	karenelizabeth@gmail.com	
	Dorio Mandelburger	dorio mandelb@gmail.com	Director DGPCB	
	David Farina	Directo Gral DGPCLN	defarina@gmail.com	
	Carlos Monges.	GEF CHACO/SEAM	mongesgefchacopy@gmail.com	
	Gualberto Estigarribia	Director DPE	gualber_estiguer@hotmail.com	
	María José López	Consultora/SEAM/PNUMA	majolalit@gmail.com	

Formatted: Justified

Formatted: Spanish (Paraguay)

Adaptation Fund project proposal formulation for Paraguay

Ecosystem based approaches for reducing the vulnerability of food production to the impacts of climate change in the Eastern and Chaco Regions of Paraguay.

Enfoques Basados en Ecosistemas para Reducir la Vulnerabilidad de la Producción de Alimentos ante los Impactos del Cambio Climático en la Región Oriental y el Chaco de Paraguay.

Name/ Nombre	Institution / Institución	Position/ Cargo	Email.	Office phone/ Teléfono	Date/ Fecha	Sing / Firma
MIANA MANN	INFONA	ASESOR TECNICO	dami.mann@gmail.com		14/07/2016	
ngelica Villalba	INFONA	Directora	masoclepsydra@gmail.com angelica.villalba@infona.gov.py		"	
rlos González	ONCC – SEAM	Jefe de Zonal Norte	yoyus.to@gmail.com		"	

Formatted: Spanish (Paraguay)

Table 4422. Stakeholders that were interviewed

Adaptation Fund project proposal formulation for Paraguay

Ecosystem based approaches for reducing the vulnerability of food production to the impacts of climate change in the Eastern and Chaco Regions of Paraguay.

Name/Nombre	Institution / Institución	Position/ Cargo	Email.	Office phone/ Teléfono	Date/ Fecha	Sing / Firma
Ethel Estigarribia	ONCC-SEAM	Diretora	ethelyamil@hotmail.com	5/07/16		
Nora Páez	Adeptacion ONCC - SEAM	Departamento Adeptación	hypatia_86@hotmail.com	(0973) 515.814	11	
[illegible]	SEAM	Coordinadora	Karenelizabeth@gmail.com	0991 800 222	- /	
[illegible] González Parini	Gobernación Alto Paraguay	Secretario de Agricultura y Ganadería	pabogparini@gmail.com	(0483) 369 684	11/07/2016	
[illegible] Arias Barreto	" " "	Secretario de Medio Ambiente	iarias v3@gmail.com	(0481) 343 137	11/07/2016	
[illegible] González	ONCC - SEAM	Jefe de Dpto de Intervención y Reporte	yupus70@gmail.com	0983-915044	12/07/16	

Formatted: Justified

Formatted: Spanish (Paraguay)

Table 5523. Stakeholders that attended the consultation meeting on July 20th 2016

PLANILLA DE ASISTENCIA

Tema: *Taller de socialización de la propuesta "Enfoques Basados en Ecosistemas para Reducir la Vulnerabilidad de la Seguridad Alimentaria ante los Impactos del Cambio Climático en la Región del Chaco de Paraguay"*
Local: Salón Auditorio del Centro de Información Ambiental de la Secretaría del Ambiente.
Fecha: 20 de julio del 2016 **HORA:** 08:00 hs a 10:00 hs.

Nº	Nombre y Apellido	Institución	e- mail	Teléfono	Firma
1	SEBASTIÁN RÍOS	MAG/DGP	srios martel@yahoo.com.ar	0981.897327	
2	Teodoro Nunez	IPTA CICC	tdonu@hotmail.es	0981 721966	
3	Ismael Adas D	Gob. Alto Py	iaciasv3@gmail.com	(0981) 369137/440961	
4	Edson Becerra	INDERT	ebecerra@hotmail.com	0981 644 730	
5	Estelina Duarte	SEAM-DGCRH	adelinaduarte@gmail.com	0994152847	
6	[illegible]	SEAM-DGCRH	[illegible]	0981 977-086	
7	Maria Vega D		paz.vega.ro@hotmail.com	0984 [illegible]	
8	Isabel Diaz	SEAM	[illegible]	82 342 800	
9	Claudia Cuevas	SEAM	[illegible]	97.397929	
10	Gonzalo Gonzalez	SEAM	[illegible]	0971 [illegible] 279	
11	JARMIN TAFARI	APP	tecnicodesarrollo@snp.org.py	—	
12	Gilda Arzu	DPE	gildaarzu@gmail.com	0972 [illegible] 3657	

Formatted: Justified

Formatted: Spanish (Paraguay)

Oficina Nacional de Cambio Climático

TEKOHA RESAI ... AMBIENTE

TETÃ REKUÁI GOBIERNO NACIONAL

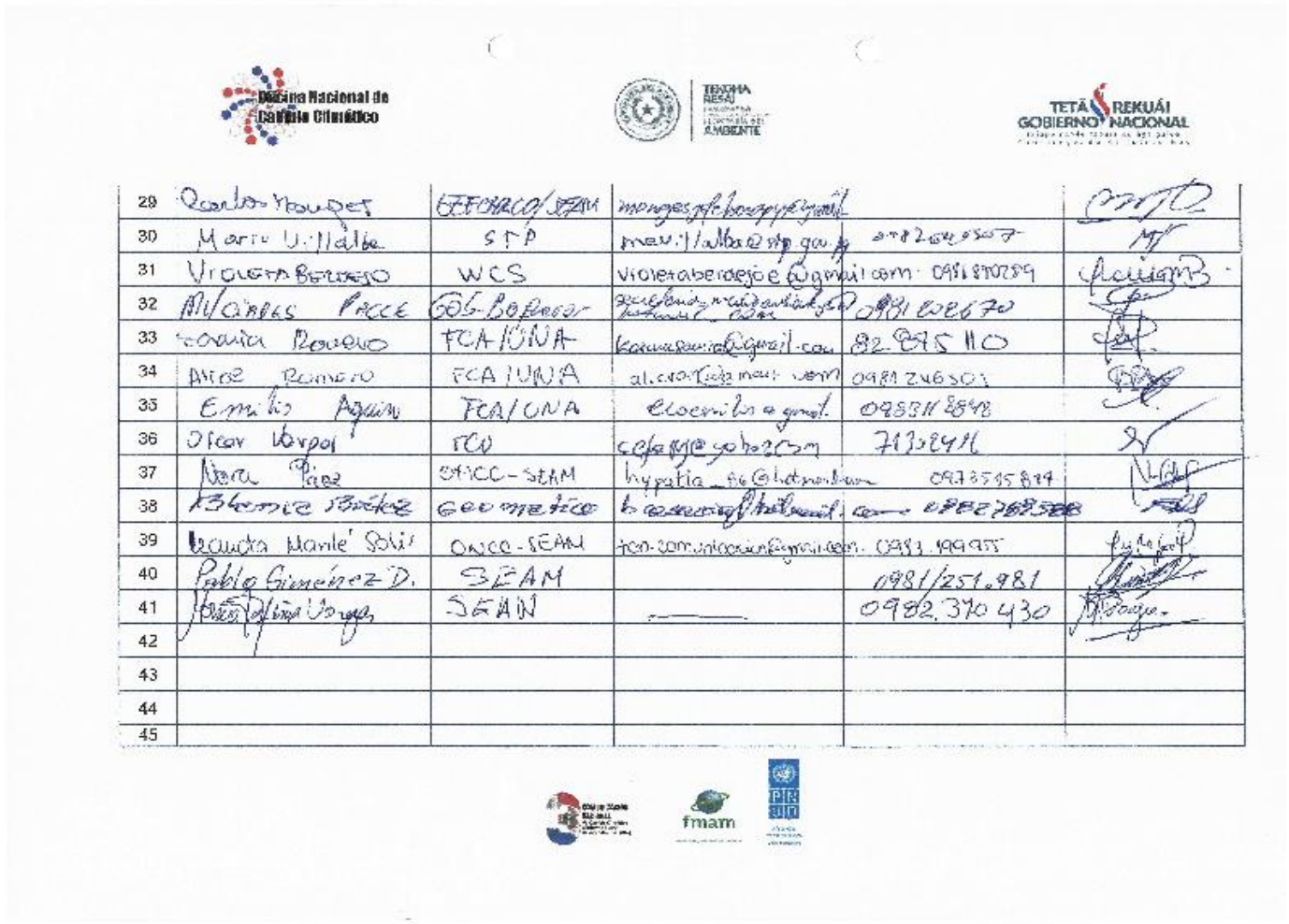
13	César Rojas	WWF	[illegible]@wwf.org.py	0981512589	
14	ANTERO CABRERA	FCA / UNA	[illegible]@hotmail.com	0981511908	
15	Sonia Samaniego	VMG / PNUD	sonysam2903@hotmail.com	0981600581	
16	Hans Holgado	SEDH	[illegible]	0971-410763	
17	Emilio Herrero	OSDPY [illegible]	emilioherreroz.o@gmail.com	0994-888651	
18	Alberto Herrera	OSDPY [illegible]	albertoherrerajeho@gmail.com	0985-670590	
19	Pablo González P.	[illegible] Alto Py		0983369639	
20	Mirtha Pereira	FAPI	[illegible]@fapi.org.py	0981365552	
21	José Luis Cartes	PROMESA CHACO	jlcartes@gmail.com	981-458729	
22	María M. Hermosa	INDI	madyhermosa@gmail.com	0984525772	
23	Richard Baier	FAPI	[illegible]	0976569969	
24	Jorge A. Sánchez	[illegible]	[illegible]@gmail.com	0981-963[illegible]	
25	Delia Núñez	ARP	[illegible]@arp.org.py	0981478[illegible]	
26	Graciela Miret	SEAM / DPE	[illegible]@gmail.com	0984341067	
27	Carlota Villagra	SEAM / DPE	[illegible]@gmail.com	0961419725	
28	Luys Canale	Global Chaco	[illegible]@gmail.com	0981230784	

Formatted: Spanish (Paraguay)

Formatted: Spanish (Paraguay)

Formatted: Justified

Formatted: Spanish (Paraguay)



29	Ramón Noguera	SEAM/DCC	mongesgfx@hotmail.com		
30	Mario Villalba	STP	mario.villalba@stp.gov.py	0982 [illegible]	
31	Violeta Beloso	WCS	violetaberaldo@gmail.com	0981 870789	
32	Alicia Pacce	GIG-Bolivia	[illegible]	0981 [illegible]	
33	Ivonne Romero	FCA/UNA	ivonneromero@gmail.com	82-995 110	
34	Alice Romero	FCA/UNA	alicromero@hotmail.com	0981 246503	
35	Emilio Aquino	FCA/UNA	elocenilo@gmail.	0983 118848	
36	Oscar Vargas	FCA	cefargo@yahoo.com	713941	
37	Nora Paez	DNCC-SEAM	hypatia_86@hotmail.com	0973 595 899	
38	Blanca Benitez	Geomatico	b.[illegible]@hotmail.com	0982 [illegible]	
39	Beatriz Maria Soria	DNCC-SEAM	ben.comunicacion@gmail.com	0981 199955	
40	Pablo Gimenez D.	SEAM		0981/251.981	
41	[illegible]	SEAM	———	0982.370 430	
42					
43					
44					
45					

Formatted: Spanish (Paraguay)

Formatted: Spanish (Paraguay)