



AFB/PPRC.17/10
25 September 2015

Adaptation Fund Board
Project and Programme Review Committee
Seventeenth Meeting
Bonn, Germany, 6-7 October 2015

Agenda Item 6 e)

PROPOSAL FOR PERU

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 project concept document titled “AYNINACUY: Strategies for adaptation to climate change, for the preservation of livestock capital and livelihoods in highland rural communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Arequipa Region” was submitted by the Corporación Andina de Fomento (CAF), which is a Regional Implementing Entity of the Adaptation Fund.

10. This is the first submission of the proposal. It was received by the secretariat in time to be considered in the twenty-sixth Board meeting. The secretariat carried out a technical review of the project proposal, assigned it the diary number PER/RIE/Rural/2015/1, and completed a review sheet.

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

12. 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

Peru – AYNINACUY: Strategies for adaptation to climate change, for the preservation of livestock capital and livelihoods in highland rural communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Arequipa Region

Implementing Entity: CAF

Project/Programme Execution Cost: USD 179,695

Total Project/Programme Cost: USD 2,071,226

Implementing Fee: USD 165,698

Financing Requested: USD 2,236,925

Project Background and Context:

Peru is affected by an increasing frequency of extreme climate events. This is materialized by an increasing number of intense droughts, cold spells and frosts in some regions of Peru, notably the Andean highlands. The project will target highlands Andean communities living in the provinces of Arequipa, Caylloma, Castilla, La Union, and Condesuyos. Its aim is to reduce the vulnerability of these communities, and to increase their adaptive capacity to respond to the impacts of climate change. In order to plans to achieve these objectives, the project will diversify and strengthen the affected communities' livelihoods and sources of income through the development of local processes of adaptation and climate risk reduction, and the strengthening of communities' capacity to reduce economic losses due to climate-induced impacts.

Component 1: Establishment of small-scale infrastructure programs and technology transfer, for the adoption of resilient infrastructure and food security measures, to manage risks due to climate change (USD 1,655,239)

The project will support agricultural production through the construction of 270 shelters and the organization of health campaigns aiming at improving the sanitary conditions of Alpacas, in addition to the construction of 72 protective fences. In addition, the project will improve fodder production by sowing 900 hectares with feed grains, 72 hectares with clover, and 72 hectares of pastures. Water production will also be improved through the construction of 36 micro-dams, the rehabilitation of 10,000 meters of irrigation canals, and the installation of 72 pressurized irrigation modules. The project will also build cold-resistant composting latrines.

Component 2: Strengthening of the capacity of community leaders, educational communities, and beneficiary heads of households, for the implementation of projects to improve rural housing, health, production, forage stockpiling, livestock encampment management and implementation of modern irrigation systems. (USD 236,292)

This component will strengthen the capacity of community leaders, educational communities, and heads of households to facilitate project implementation and to sustain the project activities. Technical manuals on adaptation to climate change, use of early warning system, risk prevention, and livestock production will be drafted, and a long-term adaptive management and dissemination strategy will be prepared.



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project Concept

Country/Region: **Peru**
 Project Title: **AYNINACUY: Strategies for adaptation to climate change, for the preservation of livestock capital and livelihoods in highland rural communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Arequipa Region**
 AF Project ID: **PER/RIE/Rural/2015/1**
 IE Project ID: Requested Financing from Adaptation Fund (US Dollars): **\$ 2,236,925**
 Reviewer and contact person: **Hugo Remaury** Co-reviewer(s): **Shyla Raghav, Pascal Martinez**
 IE Contact Person: **Ligia Castro, Development Bank of Latin America (CAF)**

Review Criteria	Questions	Comments on 21/8/2015	Comments on 10/9/2015
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?	Yes, Peru is particularly vulnerable to the impacts of climate change, especially with the observed reduction of glacier cover and its consequences on the water resources availability, as well as desertification in Andean regions.	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes	
	2. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive	Possibly. The rationale for implementing adaptation in the proposed areas is clear. However, the proposed interventions are generic and do not appear to directly respond to	

	<p>capacity to the adverse effects of climate change and build in climate resilience?</p>	<p>the climate change impacts experienced/projected. If the proposed measures are important to improve the livelihood of the communities and contribute to build in climate resilience, their link with the impacts is not always clear. For instance, the housing conditions improvement and especially the water purification systems are not clearly associated to a climate change impact in particular. Additionally, the number of activities proposed in Component 1 is considerable. It would be important to clarify how these activities were selected and how the project will maintain focus for communities, as well as how they will contribute to overall resilience of the communities.</p> <p>Further, the drivers of the degradation and the baseline for the project intervention are not clear: Arequipa province does not appear within the most vulnerable (see map p.4), its HDI, life expectancy, literacy and educational indices are better as the average in Peru, and the adverse effect of climate change are not described in relation the area of the project.</p> <p>CR1: Please consider focusing the multitude of activities to a consolidated set of activities/outputs.</p> <p>CR2: Please, specify and provide more details of the adverse climate change effects in the area of the project, so as</p>	<p>CR1: Addressed – activities have been reorganized and consolidated.</p> <p>CR2: Mostly addressed – but full proposal should elaborate further on Component 2.</p>
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		<p>to be able to better justify the selected area. Please also provide more information on how the proposed activities were selected, establishing a clear link between the observed or projected climate change impact and the intended outcome of the proposed intervention, for each output.</p> <p>CR3: Please complete the description and rationale of the activities and describe, when missing, how they contribute to climate resilience.</p> <p>CR4: Please clarify how the scale/size of each activity will be decided, as well as the number of beneficiaries or communities it will target, how this addresses the climate impacts identified from CR1/2, and whether certain activities will be combined or implemented together to ensure maximum impact and feedback.</p> <p>CR5: Please reassess the level of each item under the components, as many of the outputs themselves are activities that lead to outputs.</p> <p>CR6: Please elaborate on how activities in Component 2 will be applied to long-term adaptive management through implementation or a dissemination strategy.</p>	<p>CR3: Addressed but the description of project activities and rationale should be further elaborated.</p> <p>CR4: Partially addressed but should provide significantly more detail at the full proposal stage.</p> <p>CR5: Addressed.</p> <p>CR6: Addressed</p>
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	<p>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?</p>	<p>Possibly. The project proposal presents some conditions to be addressed for improving the resilience and achieving outputs with socio-economic and environmental benefits. But, as the drivers of degradation and vulnerability are not well specified in the area of the project, it remains unclear if the benefits are provided while avoiding or mitigating negative impacts. Further, the environmental benefits presented are only based on the improvement of the pasture and animal genetic diversity. With respect to social issues, the gender issue is considered. Nevertheless women are presented as beneficiaries mainly because of the absence of the men looking for job opportunities in other sectors.</p> <p>CR7: Please provide more information to better associate the benefits to the negative impacts they avoid or mitigate.</p> <p>CR8: Please clarify whether other possible environmental benefits are foreseen (e.g. soil preservation, land degradation and erosion reduction, carbon stock increase in the soils), and provide some information on how the project will contribute to these benefits.</p> <p>CR9: Taking into account the lack of men in this economic sector, please specify more clearly how the involvement of women will be ensured, both throughout project execution and</p>	<p>CR7: Addressed</p> <p>CR8: Addressed</p> <p>CR9: Addressed</p> <p>CR10: Addressed</p>
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		<p>after completion.</p> <p>CR10: Please describe how the Environmental and Social Assessment and Management Plan will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy of the Adaptation Fund (the plan is required at the fully-developed stage but some initial information is requested on how the plan will be developed).</p>	
	4. Is the project / programme cost effective?	<p>Not clear. The proposal does not always provide an output clearly responding to climate change impacts and the number of beneficiaries is not clarified. Furthermore, resources seem scattered across many activities. The healthy housing and water purification systems comprise nearly 1/3 of the budget, without a clear justification. Further, the project structure weighs Component 1 much more than Component 2. Given that lack of awareness is presented as a key driver of vulnerability, please clarify the balance of resources.</p> <p>CR11: Please provide more details about the origin and the reliability of the data presented that are supposed to demonstrate the cost-effectiveness.</p> <p>CR12: Please justify the proposed organization of the project or evaluate the opportunity to better organize it. Please support your analysis by providing cost-effectiveness information from similar</p>	<p>CR11: Not addressed, with data from only the national level, it is not clear how this project in the proposed region is cost-effective relative to viable alternatives.</p> <p>CR12: Mostly addressed.</p>

	<p>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 and adaptation programs of action and other relevant instruments?</p>	<p>activities/projects in the region, if any.</p> <p>As presented in the institutional context, the proposal is globally aligned with the national strategy set up by the National Environmental Action Plan 2011-2021 and in particular with its 5th goal addressing regional and local adaptation strategies, land and soil degradation, the effects of droughts and the development of a weather monitoring and forecasting system. The project is also presented as aligned with the policy framework and in particular the National Climate Change Strategy and the National Action Plan on Adaptation, Mitigation and Climate Change. Nevertheless, the institutional and policy context could be more specific and concentrate on the elements that are related to the region, issues and outcomes of the project. Further, no details are provided regarding sub-national development plans nor poverty reduction strategies nor other relevant instruments if any. CR13: Please concisely specify the components of the institutional and policy framework that are aligned with the project area, issues to be addressed and objectives. CR14: Please clarify the alignment of the project with the institutional and policy framework at subnational level, as well as the poverty reduction strategies and, if any, other relevant</p>	<p>CR13: Addressed.</p> <p>CR14: Addressed but more description and explanation required.</p>
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		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?	Requires clarification. The proposal mainly focuses on the executive agency, COPASA and provide some legal framework containing very little link with national technical standards. CR15: Please precise the relevant national technical standards (including but not limited to EIAs, water-specific regulations, building codes) that have to be met by the project and describe how the project will meet them, in compliance with the Environmental and Social Policy of the Adaptation Fund.	CR15: Mostly addressed.
	7. Is there duplication of project / programme with other funding sources?	Requires clarification. It is unlikely that there are no initiatives or programs that are not underway or completed in the target regions, upon which the program can draw. CR16: Please identify and describe other initiatives in the target regions, and clarify potential complementarity/duplication in a logical manner. CR17: Please expand on how the proposal will complement and add to the outcomes of the COPASA project.	CR16-17: Not addressed - a more complete assessment of initiatives in the target regions/s is required.
	8. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	Requires clarification. The project relies on the long experience learned by the COPASA implementing project since 1985 and cites a "learning by doing" methodology. However, the comprehensive approach and strategy to knowledge management through	

		<p>Component 2 is not adequately described.</p> <p>CR18: Please, provide more details about the project's knowledge management approach, and especially how the knowledge from Component 2 will be learned and disseminated through a consistent strategy (rather than ad hoc), particularly the training days, field work, and development of guidelines. Finally, please detail how the KM strategy will be sustained over time.</p>	<p>CR18: Mostly addressed but additional detail will be required at the full proposal stage.</p>
	<p>9. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations?</p>	<p>Requires clarification. Scant information is given regarding the scale of the consultative process (how many members consulted, if women, indigenous groups, marginalized people were consulted).</p> <p>CR19: Please provide more details regarding the number of meetings and participants and the attendance of vulnerable groups.</p> <p>CR20: Please summarize the outcomes of the consultations and demonstrate how they have informed the design of the project at this stage, making sure that needs and concerns of the most vulnerable were taken into account.</p>	<p>CR19: Addressed.</p> <p>CR20: Not addressed. Additional information required on the outcomes of consultations.</p>
	<p>10. Is the requested financing justified on the basis of full cost of adaptation reasoning?</p>	<p>Further information required. The proposal presents the objectives and importance of the funding, including for its emphasis on gender, but a justification for the funding request is required, comparing the baseline</p>	

		(without AF resources) to the intended impact of the project. CR21: Please, present a more detailed justification of the funding request that takes into account the issues to be addressed and the cost full cost of the adaptation.	CR21:Not addressed. The full cost of adaptation reasoning has not been provided, comparing project components to the baseline (no AF funding).
	11. Is the project / program aligned with AF's results framework?	Pending clarification and elaboration of the CRs contained in this review.	
	12. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	Requires clarification. Much of the sustainability of the project will depend on the extent to which it is designed with the support of strong institutions that can continue and maintain the processes put into motion by the project. It also depends on strategies to promote the uptake of the lessons of the project. Lastly, it requires capacities that will be able to sustain and maintain certain standards. CR22: Please provide more information on the institutional processes or other strategies that the project will create to sustain community or other jurisdictional management of activities beyond the lifetime of the project. CR23: Please clarify if there is any envisioned strategy for financial sustainability beyond the project.	CR22: Not addressed – this information has not been provided. CR23:Partially addressed.
	13. Does the project / programme provide an overview of environmental and social impacts / risks identified?	Requires clarification. All the principles are mentioned as “No further assessment required for compliance” and some few environmental possible impacts are listed and addressed.	

		CR24: Please provide additional justification for why no further assessment was deemed required, particularly for environmental and social impacts. Provided that this project has been categorized as Category B, please provide outlined risks relative to the 15 principles in the AF's Environmental and Social principles.	CR24: Addressed
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 budget before the fee?	Yes, 7.4%	
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget?	Yes, 8.7%.	
Eligibility of IE	4. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes, the proposal has been submitted through CAF, an accredited RIE.	
Implementation Arrangements	1. Is there adequate arrangement for project / programme management?	N/A	
	2. Are there measures for financial and project/programme risk management?	N/A	
	3. Are there measures in place	N/A	

	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.		
	4. Is a budget on the Implementing Entity Management Fee use included?	N/A	
	5. Is an explanation and a breakdown of the execution costs included?	N/A	
	6. Is a detailed budget including budget notes included?	N/A	
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators?	N/A	
	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?	N/A	
	9. Does the	N/A	

	project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?		
	10. Is a disbursement schedule with time-bound milestones included?	N/A	

Technical Summary	<p>The proposed project targets the Arequipa region of Peru to address a range of climate change impacts through building capacities in the agriculture, livestock, and production sectors. The project includes 2 components that implement a series of interventions aimed at various outputs. Overall, the project seems to be a relevant one for the region, but the consistency with addressing the pervasive climate impacts, as well as how the entire package of activities link together, needs to be clarified to justify the investment in the project for an adaptation purpose. The proposal would benefit from a greater degree of focus and organization of project outputs and activities to ensure cost-efficiency and clear linkages to the intended outcome.</p> <p>The following clarification requests were made during the initial review:</p> <p>CR1: Please consider focusing the multitude of activities to a consolidated set of activities/outputs.</p> <p>CR2: Please, specify and provide more details of the adverse climate change effects in the area of the project, so as to be able to better justify the selected area. Please also provide more information on how the proposed activities were selected, establishing a clear link between the observed or projected climate change impact and the intended outcome of the proposed intervention, for each output.</p> <p>CR3: Please complete the description and rationale of the activities and describe, when missing, how they contribute to climate resilience.</p> <p>CR4: Please clarify how the scale/size of each activity will be decided, as well as the number of beneficiaries or communities it will target, how this addresses the climate impacts identified from CR1/2, and whether certain activities will be combined or implemented together to ensure maximum impact and feedback.</p> <p>CR5: Please reassess the level of each item under the components, as many of the outputs themselves are activities that lead to outputs.</p> <p>CR6: Please elaborate on how activities in Component 2 will be applied to long-term adaptive management through implementation or a dissemination strategy.</p> <p>CR7: Please provide more information to better associate the benefits to the negative impacts they avoid or mitigate.</p>
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CR8: Please clarify whether other possible environmental benefits are foreseen (e.g. soil preservation, land degradation and erosion reduction, carbon stock increase in the soils), and provide some information on how the project will contribute to these benefits.

CR9: Taking into account the lack of men in this economic sector, please specify more clearly how the involvement of women will be ensured, both throughout project execution and after completion.

CR10: Please describe how the Environmental and Social Assessment and Management Plan will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy of the Adaptation Fund (the plan is required at the fully-developed stage but some initial information is requested on how the plan will be developed).

CR11: Please provide more details about the origin and the reliability of the data presented that are supposed to demonstrate the cost-effectiveness.

CR12: Please justify the proposed organization of the project or evaluate the opportunity to better organize it. Please support your analysis by providing cost-effectiveness information from similar activities/projects in the region, if any.

CR13: Please concisely specify the components of the institutional and policy framework that are aligned with the project area, issues to be addressed and objectives.

CR14: Please clarify the alignment of the project with the institutional and policy framework at subnational level, as well as the poverty reduction strategies and, if any, other relevant instruments.

CR15: Please precise the relevant national technical standards (including but not limited to EIAs, water-specific regulations, building codes) that have to be met by the project and describe how the project will meet them, in compliance with the Environmental and Social Policy of the Adaptation Fund.

CR16: Please identify and describe other initiatives in the target regions, and clarify potential complementarity/duplication in a logical manner.

CR17: Please expand on how the proposal will complement and add to the outcomes of the COPASA project.

CR18: Please, provide more details about the project's knowledge management approach, and especially how the knowledge from Component 2 will be learned and disseminated through a consistent strategy (rather than ad hoc), particularly the training days, field work, and development of guidelines. Finally, please detail how the KM strategy will be sustained over time.

CR19: Please provide more details regarding the number of meetings and participants and the attendance of vulnerable groups.

CR20: Please summarize the outcomes of the consultations and demonstrate how they have informed the design of the project at this stage, making sure that needs and concerns of the most vulnerable were taken into account.

CR21: Please, present a more detailed justification of the funding request that takes into account the issues to be addressed and the cost full cost of the adaptation.

CR22: Please provide more information on the institutional processes or other strategies that the project will create to sustain community or other jurisdictional management of activities beyond the lifetime of the project.

	<p>CR23: Please clarify if there is any envisioned strategy for financial sustainability beyond the project.</p> <p>CR24: Please provide additional justification for why no further assessment was deemed required, particularly for environmental and social impacts. Provided that this project has been categorized as Category B, please provide outlined risks relative to the 15 principles in the AF's Environmental and Social principles.</p> <p>The revised concept proposal reflects a reorganization of project outputs and outcomes to more directly respond to climate change impacts, in turn addressing the primary clarification requests raised in the initial technical review. The final technical review finds that a revised version of the project should pay particular attention to following issues, which were partially addressed in the concept revision:</p> <ul style="list-style-type: none"> (i) The proposal should include a more comprehensive description of project activities' response to climate change impacts, (ii) The proposal should provide significantly more justification and rationale for the cost-effectiveness of the project by comparing the proposed measures to viable alternatives in economic terms to the extent possible, (iii) A clearer justification of the full-cost of adaptation is required, (iv) A more comprehensive review of existing programs in the target regions should be supplied, including identification of complementary outcomes from other initiatives, (v) The sustainability of the project should be strengthened significantly through specification of institutions and other mechanisms to ensure longevity and maintenance of project outcomes, and (vi) The description of follow-up consultations should reflect on the findings and outcomes of the consultative process, including particularly vulnerable groups.
Date:	10 September 2015



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



ADAPTATION FUND

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Regular Project
Country/ies:	Peru
Title of Project/Programme:	AYNINACUY: Strategies for adaptation to climate change, for the preservation of livestock capital and livelihoods in highland rural communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Arequipa Region
Type of Implementing Entity:	Regional Implementing Entity (RIE)
Implementing Entity:	Development Bank of Latin America (CAF)
Executing Entity/ies:	Special Project COPASA
Amount of Financing Requested:	\$ 2,236,925.00 (in U.S Dollars Equivalent)

Project / Programme Background and Context:

More than one million small farmers in the central Andes of South America have alpacas and llamas as the primary means of subsistence. The animals provide meat, milk, fiber, transport energy and guano; also, they are an important element of the cultural identity of their peoples. ... Increasing production of fibers and other products of South American camelids, while preserving a critical animal genetic resource and the associated cultural values and improving the quality of life of many small producers, should be part of an overall strategy for sustained investment in appropriate research and development.

E.C. Quispe, T.C. Rodríguez, L.R. Iñiguez y J.P. Mueller¹

Summary

The process of global climate change is determined by progressive changes in the global, national and local climates; these fluctuations cause changes in the frequency and intensity

¹ Translated from E.C. Quispe, T.C. Rodríguez, L.R. Iñiguez y J.P. Mueller. Producción de fibra de alpaca, llama, vicuña y guanaco en Sudamérica. Animal Genetic Resources Information, 2009, 45, 1-14. © Food and Agriculture Organization of the United Nations, 2009-doi:10.1017/S1014233909990277

of extreme climate variability. We know that their effects are not now nor they will be the same in all regions of the planet. Countries in the tropics are more acutely affected by the retreat of glaciers in mountain ranges that were in previous years covered with snow. Peru is one of these countries and within its territory the effects of climate change will also differ, by region and socioeconomic levels. In the distribution of negative climate impacts, the rural poor of highland mountain ecosystems will bear the brunt of these changes.

In contrast to climate *change*, climate *variability* is more short-term and usually refers to more local areas. Climate variability can refer to extreme drought, cold spells, and frost; and while these phenomena have always been present in many regions, they have tended recently to be more frequent and intense, and to cause greater damage in fragile environments, especially among the most vulnerable populations such as Andean highland communities in the Arequipa region.



This project constitutes an initiative focused on the endeavor to develop capabilities and preventive measures for risk management in a context of adaptation to climate change. It seeks to generate a process of sustainable Andean rural development which will contribute to the reduction of poverty and extreme poverty. Families from 36 rural communities in the provinces of Arequipa, Castilla, Caylloma, Condesuyos and La Union will participate in the project.



The process of increasing global temperatures that affects the planet is made apparent in the Peruvian highlands through an accelerated rate of loss of water resources. The glaciers are disappearing and the rivers have dramatically decreased their flows, producing negative impacts on flora and fauna.

One particular manifestation of climate change affects Andean rural livelihoods is the acceleration of topsoil desertification. The process of topsoil desertification is caused in part by loss of vegetation cover from overgrazing, and the abandonment of traditional practices that allowed for soil recovery periods. Now, with climate change causing additional stresses on the soil due to rising temperatures and changing rainfall patterns, the loss of natural pastures for livestock makes raising camelids, criollo sheep, and cattle, highly precarious. This is a direct way in which climate change is affecting the local economy of rural households.

Climate change is also reflected in the widening gap between nighttime and daytime temperatures, ranging from minus 15 ° C to 25 ° C. Temperatures are lower at night and more notably so in the months when frost forms (May and June). Moreover, the highest temperatures occur in the months when it does not rain: there is sweltering heat during the day, punishing people, animals and plants (a sort of Indian Summer).

From our point of view, the construction of scenarios is essential in the perspective of the development of a climate change adaptation project for a number of reasons. Among the main reasons we emphasize that scenarios are excellent tools for producing a concrete illustration of the effects of climate change on an area or system. Likewise, these scenarios allow us to identify the main variables that are more likely to increase or reduce vulnerability to climate change, to communicate the potential consequences of this phenomenon, to generate information for decision-making and finally to lay out concrete measures to address them.

Rural poverty in the highlands of Peru will worsen due to climate change's negative effects, such as reduced availability of water volumes in area springs and increasingly irregular rainfall. Both of these sources are principal conditions for the sustainability of the livelihoods derived from raising livestock and dryland farming in the highlands. The technologies that we propose to implement in the project will enable greater resilience to climate change, as much for their effect on income as for the cost savings gained from reducing negative impacts on health and livestock.

The following table provides the changes in temperature and precipitation recorded in the area of interest for the Project: Arequipa.

Table 1

Region	Period	Variable	Trend
Arequipa	1964-2006	Low Temperatures	Annual: from +0.12 to +0.57 C°/decade
			Summer: from -0.07 to +0.56 C°/decade
			Winter: from +0.26 to +0.5 C°/decade
	1964-2006	High Temperatures	Annual: from +0.06 to +0.42 C°/decade
			Summer: From -0.07 to +0.42 C°/decade

			Winter: From +0,02 to +0,44C°/decade
	1964-2006	Precipitation	From -2 to +1.5 mm/decade
			Annual: from +/-01 to +0.2mm/year

Source: Inter-American Development Bank: The Economics of Climate Change in Peru/Inter-American Development, Economic Commission for Latin America and the Caribbean-2014

In addition to the changes recorded in temperature and precipitation, a significant reduction in the areas covered by glaciers in Peru has been observed. These glaciers regulate the water flow within hydrologic basins fed by snowmelt as irrigation systems (see Tables 1 and 2) (Majes River, Arequipa-Peru).

Based on the analysis of ten indices of extreme events conducted by the SENAMHI (2009) covering the period from 1965 to 2006, the following is reported:

- The minimum and maximum temperatures have increased as much as 0.2 °C per decade in almost the entire country.
- There is a greater recurrence of droughts as regards rainy seasons in the whole country, particularly in the central mountain region.
- The southern mountain región has seen a greater frequency of mild and severe droughts in the preceding decades.
- The annual variations in Peru's climate are in large measure determined by the presence of the climate phenomenon known as "El Niño" Southern Oscillation (ENSO). The ENSO² cycle displays two phases: a warm and positive one (El Niño) and another cold or negative phase (La Niña).



Photographic montage: Rural family and their livelihoods; Herd, livestock production, irrigation technology; Forage and Silage and rustic reservoirs in the rural community of Jachaña in the province of Caylloma. Source: COPASA Archives (2012)

Glacier Retreat Trends in Peruvian Andes:

The following table synthesizes the evidence of glacier retreat in the Peruvian Andes.

(i) ² The ENSO cycle is part of complex set of interactions which connect the ocean's surface and the atmosphere in the tropics of the Pacific Ocean. Changes in the ocean affect the atmosphere and influence climate patterns on a global level.

Table N° 2³

REFERENCE/PERIOD	TRENDS AND IMPACTS
Mark and Seltzer (2003) (1965-2002)	22% reduction in the total area of glaciers; 12% reduction in the supply of drinking water in the coastal region (where 70% of the population lives). The estimated volume of water lost is approximately seven billion cubic meters.
Consejo Nacional del Ambiente (CONAM, 2001) (1970-2002)	Up to an 80% reduction in the extent of smaller glaciers (below 5200 masl) and the loss of 188 million cubic meters of water reserves during the past 50 years.
Mark et al. (2005) (1998-2004)	In the Cordillera Blanca mountains, the Yanamarey glacier retreat between 2001 and 2004 was 23% higher than between 1998 and 1999, and was responsible for increases of 58% of the annual average discharge in the Santa River.
Mark et al. (2005) (1977-2004)	Retreat of Yanamarey glacier, receding at a rate of 20 m/year (average 1977-2003), four times faster than the 5 m/year observed between 1948 and 1977.
Pouyaud et al. (2005) (1953-1997)	13% increase in discharge from the Llanganuco lagoon in the Cordillera Blanca mountains.
Pouyaud et al. (2005) (1985-1996)	In the last ten years the ice cap of the Pastoruri ⁴ glacier has shrunk by almost 40%.
Silverio (2004) (1950-2006)	Up to a 50% reduction in the extent of the Coropuna ⁵ glacier, creating problems in the irrigation of the Majes Pampas.

Source: Inter-American Development Bank, The Economics of Climate Change in Peru / Inter-American Development Bank, Economic Commission for Latin America and the Caribbean-2014

Environmental Context

In the Peruvian Andes, where the project is focused, the highland areas found above 3,800 mts (*Altiplano* and *Puna*), are characterized by a frigid climate, where the average annual temperature is 3.1° C, with highs of 14.0° C in summer and 10.7° C in the winter. The rainfall reaches amounts varying between 481-926 mm annually.

Socioeconomic Context

The project focuses its attention on the highland Andean communities in the provinces of Arequipa, Caylloma, Castilla, Condesuyos and La Union. They are located in the Arequipa region of Peru, whose only feasible economic activity is raising alpacas, an activity originating in the Andean region, where the headwaters of the largest water resources in the region are located (lakes, snowcapped mountains, springs, etc.), and where few highland crops can be grown.

(ii)³ (La base para la elaboración de esta tabla fue extraída del documento realizado por el Banco Interamericano de Desarrollo (BID) y la Comisión Económica para América Latina y el Caribe (CEPAL), en el marco del Estudio Regional de la Economía del Cambio Climático (ERECC) en América Latina y el Caribe, coordinado por la CEPAL, con el apoyo del Gobierno de Perú y el financiamiento del BID)

(iii)⁴ A snow-capped peak located in the department of Ancash, Peru.

(iv)⁵ Snow-capped peak in the Arequipa region.

The water resources on which development in the high Andean zones is based originate with water flows at 3800-4000 metres above sea level. These headwaters are very fragile and vulnerable to climate change and to environmental and social impacts, all of which are leading to the gradual abandonment of agricultural activities in the Andean highlands. A consequence of the abandonment of agriculture is to push internal male migration, further towards the pull of employment expectations generated by mining.

These areas are inhabited by populations residing in highland climates, financially dependent on high Andean flocks such as alpacas, llamas, vicuñas, creole sheep and cattle. They are subject to profound climatic vulnerability and deep poverty, due to the fact that they make their livelihood solely through the shearing of their alpacas for fiber, and of vicuñas on a smaller scale. These herds represent the only capital these family groups have to ensure their survival. In spite of these precarious circumstances, Peru continues to be the world leader in the production of alpaca fiber, notwithstanding the limited shearing technology which is done manually in the main as well as the high mortality rate among the herds during cold spells and droughts as a consequence of lack of adequate forage.

The alpaca raising communities occupy a very low position on the HDI list (Human Development Index); life expectancy and education within these communities show a great disparity in comparison to other cohorts with similar current average national income levels. In the near future climate change will be more pronounced, representing risk in terms of both life expectancy (high mortality of children and seniors due to respiratory diseases) and household income (higher mortality and decreased fiber production alpaca).

Below is a table illustrating the demographic composition of the population of the project's area of interest. It is included for its relevant description of the local economy and livestock production (2013).

Table N° 3⁶

POPULATION DATA ⁷						
N°		PROVINCE	DISTRICT	ALTITUDE (masl) ⁸	POPULATION (inhabitants)	PRINCIPAL LIVESTOCK PRODUCTION (camelids)
P	D					
1	1	Arequipa	San Juan de Tarucani	4210 to 5400	2,195	40,000
	2		Chiguata	2960	2,896	3,000
	3		Pocsi	3047	565	1,500
	4		Quequeña	2550	1,344	1,500
	5		Polobaya	3091	1,481	2,500

(v) ⁶ IV National Agriculture and Livestock Census 2012

(vi) ⁷ Source: Population and Housing Census

(vii) Chart: Provided by COPASA-Arequipa

(viii) ⁸ Meters above sea level

TOTAL					8,481	48,500
2	1	Caylloma	San Antonio de Chuca	4800	1,522	43,000
	2		Sibayo	4200	710	16,000
	3		Tuti	4200	794	14,000
	4		Callalli	4300	2,138	84,000
TOTAL					5,164	157,000
3	1	Castilla	Chachas	4200	1,791	34,000
	2		Andagua	3587	1,201	5,000
	3		Orcopampa	4200	9,381	14,000
TOTAL					12,373	53,000
4	1	Condesuyos	Chuquibamba	3500	3,447	3,000
	2		Andaray	3500	689	15,000
	3		Yanaquihua	3500	5,633	2,000
TOTAL					9,769	20,000
5	1	La Union	Pampamarca	3200	1,315	6,000
	2		Huaynacotas	3200	2,321	14,000
	3		Puika	3658	2,848	24,000
TOTAL					6,484	44,000
GRAND TOTAL					42,271	322,500

Source: National Institute of Statistics and Computing-INEI Peru (2012)

Table N° 4

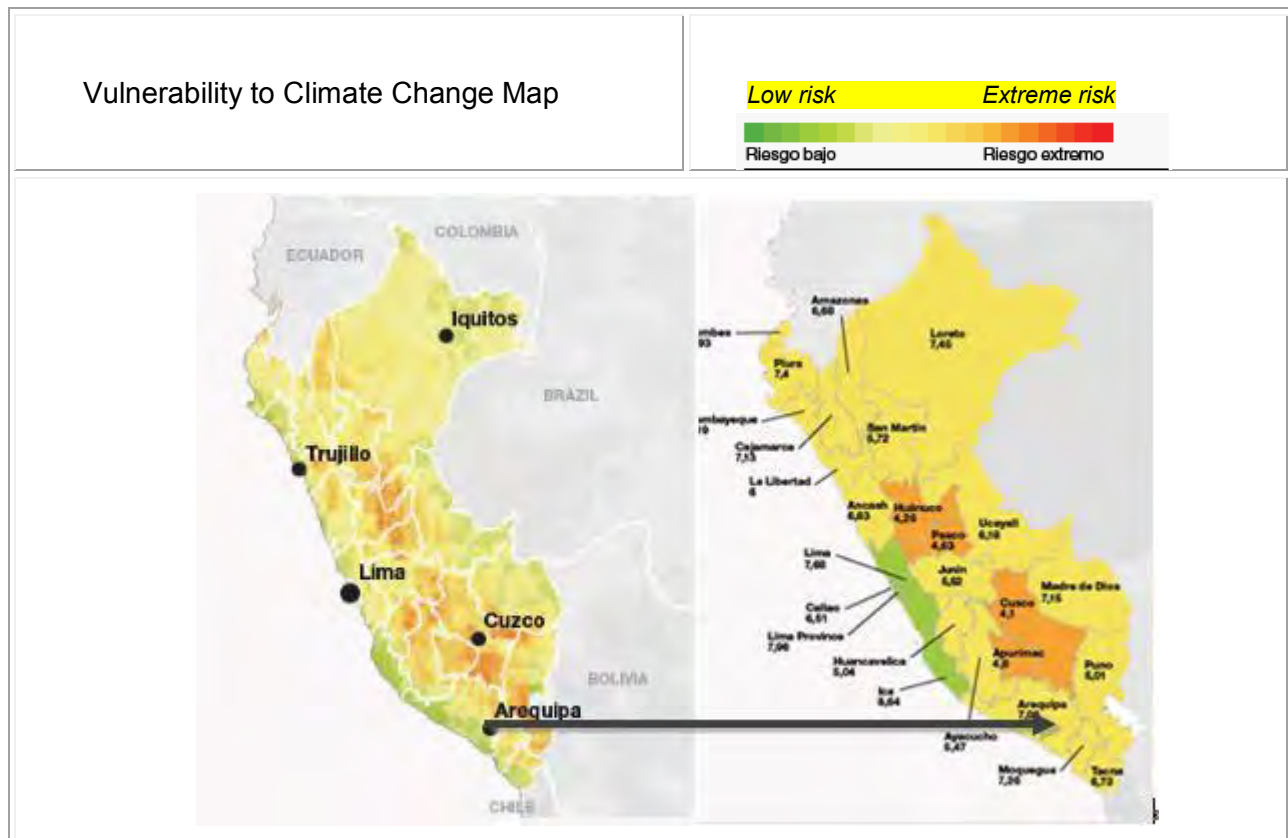
Peru: Human Development Index, at the national, departamental, provincial and district levels 2009⁹														
LOCALE	Population		Human Development Index		Life expectancy at birth		Literacy		Level of Schooling		Educational Achievement		Per capita Family Income	
	INHABITANTS	RANKING	HDI	RANKING	YEARS	RANKING	%	RANKING	%	RANKING	%	RANKING	MONTH	RANKING
PERU	27 428 615		0.62 34		73. 07		92. 86		85.7 1		90.48		374 .1	1
AREQUIPA	1 152 303	8	0.647 9	5	73. 51	8	95. 87	6	90.7 3	2	94.19	3	434 .8	2

(ix) ⁹ Source: UNPD

Source: UNDP (Peru: Human Development Index, at the district, provincial, departmental and national levels, 2007, Pg. 164)

Environmental Context: Vulnerability to Climate Change

Below is the vulnerability map for administrative areas and cities in Peru as well as vulnerability indices to climatic changes, exposure, awareness and adaptive capacity in the administrative areas and cities.



Área administrativa	Índice de vulnerabilidad al cambio climático	Índice de exposición	Sensibilidad	Índice de capacidad adaptativa	Ciudad	Índice de vulnerabilidad al cambio climático	Índice de exposición	Sensibilidad	Índice de capacidad adaptativa
Amazonas	6,66	6,00	5,31	5,32	Chachapoyas	4,19	5,91	2,93	5,32
Ancaash	6,63	7,88	3,45	5,32	Huaráz	4,76	7,00	2,90	5,32
Apurímac	4,60	4,65	4,12	5,32	Abancay	2,97	3,36	4,41	5,32
Arequipa	7,06	6,65	6,47	5,32	Arequipa	3,63	5,37	2,21	5,32
Ayacucho	5,47	5,74	4,47	5,32	Ayacucho	2,75	3,45	3,63	5,32
Cajamarca	7,13	6,23	2,43	5,32	Cajamarca	5,16	7,58	3,23	5,32
Callao	6,51	9,26	2,57	5,32	Callao	4,95	8,16	1,24	5,32
Cusco	4,10	3,74	5,05	5,32	Cuzco	3,94	5,58	3,13	5,32
Huancavelica	5,04	6,01	3,29	5,32	Huancavelica	3,78	4,40	4,40	5,32
Huánuco	4,26	4,26	4,37	5,32	Huánuco	2,99	3,90	3,35	5,32
Ica	8,64	9,71	5,51	5,32	Ica	6,47	9,74	2,76	5,32
Junín	5,52	5,74	4,37	5,32	Huancayo	3,60	4,65	3,62	5,32

Image Insert: The table provides information on Arequipa, in both its urban and rural areas, as pertains to its place on indices covering vulnerability, awareness, exposure, and adaptive capacity. **Source:** Development Bank of Latin America-CAF: Vulnerability and Adaptation to Climate Change Index in Latin America and the Caribbean, Chart 31, Pg. 162

Área administrativa	Índice de vulnerabilidad al cambio climático	Índice de exposición	Sensibilidad	Índice de capacidad adaptativa	Ciudad	Índice de vulnerabilidad al cambio climático	Índice de exposición	Sensibilidad	Índice de capacidad adaptativa
La Libertad	6,00	7,06	3,02	5,32	Trujillo	5,69	8,81	2,41	5,32
Lambayeque	7,19	9,37	2,83	5,32	Chiclayo	1,80	3,15	2,09	5,32
Lima	7,68	8,47	3,72	5,32	-	-	-	-	-
Lima Province	7,96	9,50	2,72	5,32	Lima	5,51	8,89	1,65	5,32
Loreto	7,45	7,53	8,01	5,32	Iquitos	3,74	4,34	4,64	5,32
Madre de Dios	7,15	6,54	8,25	5,32	Puerto Maldonado	4,07	5,31	3,75	5,32
Moquegua	7,26	6,90	5,15	5,32	Moquegua	3,80	3,74	5,96	5,32
Pasco	4,63	4,10	6,41	5,32	Cerro de Pasco	3,09	3,56	4,27	5,32
Piura	7,40	8,56	2,42	5,32	Piura	5,73	9,05	2,10	5,32
Puno	5,01	5,41	5,17	5,32	Puno	2,19	1,97	3,48	5,32
San Martín	5,72	5,76	5,58	5,32	Moyobamba	4,91	5,92	5,68	5,32
Tacna	6,73	6,79	6,33	5,32	Tacna	6,04	9,09	2,85	5,32
Tumbes	5,93	6,98	3,34	5,32	Tumbes	1,93	3,41	1,88	5,32
Ucayali	6,18	6,45	7,93	5,32	Pucallpa	4,72	6,56	3,61	5,32

Source: Development Bank of Latin America-CAF: Vulnerability and Adaptation to Climate Change Index in Latin America and the Caribbean, Chart 31, Pg. 162

[NOTE. Here an image and its description were deleted]

PROJECT LOCATION MAP

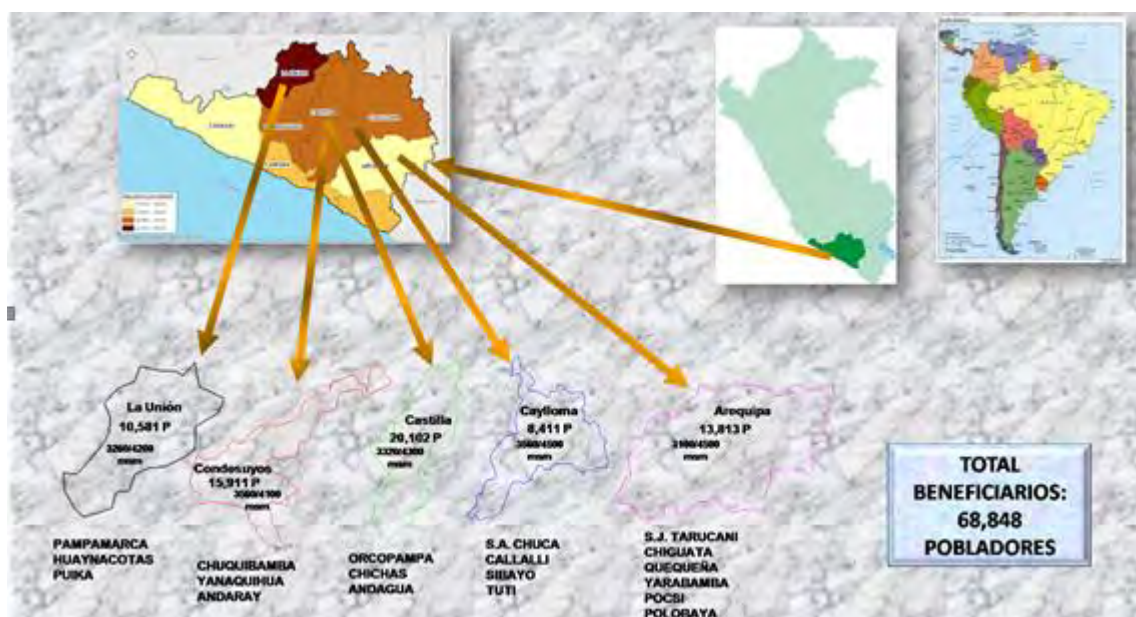


Image Insert: This map identifies the Project's various locations in the Arequipa Region, as well as population information and the number of beneficiaries.

Environmental Context, Climate Change Impacts:

The Regional Strategy for Adaptation to Climate Change in the Region of Arequipa¹⁰ identifies the following impacts of climate change in the target area of the project:

1. Changes in agricultural production, and in Alpaca fiber production: Water shortage will favor the reduction of irrigated areas and the advance of desertification. Changes in temperature will favor increased frost, Indian summers, and the rise of pests and diseases to higher altitudes. The scarcity of natural pastures, especially for the Andean cattle will become dramatic in the upper parts, and result in malnutrition, disease and reduced capital camels important livestock in the region itself extremely impoverished. Water availability and the increased presence of extreme climatic events can seriously affect food security in the region.

2. Water shortage: The main result of changes in temperature and rainfall will be the relative scarcity of water available. The volume of water deficit in the coming years can reach between 20 and 30%, with lower rates of up to 50% in the highlands. A severe drought in the years 2015-2016 is highly probable. The provision of this resource in the region depends mainly on rainfall regime, as well as the retention capacity of the snowy glacier. On the other hand the water capture infrastructure is insufficient and mainly aimed at providing water to cities; 6 of the 8 provinces have a reduced infrastructure for provisioning and management of water. The main vulnerability of the region to projected climate scenarios is due to the limitations of topography and infrastructure for seasonal water harvesting.

(x) ¹⁰ a Gobierno Regional de Arequipa, Autoridad regional Ambiental. Estrategia Regional de Adaptación al Cambio Climático, Avance de Agosto 2009, capítulo IV.

3. **Displacement and Migration:** The reduced availability of water, along with the damages to agricultural production, is likely to increase poverty in rural areas and increase rural migration to the cities. The populations most prone to these displacements are those who inhabit the poorest places in the region, especially in the provinces of Condesuyos, La Union, Caylloma and Caraveli (3 of them belong to the targeted project area).

4. **Human Health:** Climate changes are impacting heavily on the health of the population; in the last 9 years, cases of IRAS (acute respiratory infections) in children under 5 years have increased more de 190.000 cases.

Public Health



Photograph: Rural family in their home, in the Rural Community of Ñequeta, Province of Caylloma. **Source:** COPASA Archives (2012)

The prevalence of diseases like acute respiratory infections (ARIs) and acute diarrheal diseases (ADD's), Andean highland dwellers, increases the rates of malnutrition, morbidity and mortality, especially among the most vulnerable: children, gestating women and older adults (see Tables Nos. 4, 5, 6, and 7).

Table N° 5

ARIS AND PNEUMONIAS BY PROVINCE ¹¹							
PROVINCE	ARIS					Pneumonia + 5	
	Population - 5	Population 5	Population +5	Total	TIA - 5	Cases	TIA (x)
Arequipa	75,541	3,158	4,763	7,921	42.02	62	0.82
Caylloma	9,376	35	475	833	38.18	8	0.85
Condesuyos	1,713	69	154	223	40.28	0	0.00
Castilla	3,791	127	261	388	33.50	0	0.00

(xi) ¹¹ Source: Regional Office of Public Health, Arequipa; Chart: Provided by COPASA-Arequipa

La Union	1,728	51	164	215	29.51	0	0.00
(x) Cumulative Incidence Rate							
In the province of Arequipa, the rates for ARIs are 42.02 episodes per thousand children below the age of 5, and for pneumonia, 0.82 cases per thousand children below the age of 5. Source: Arequipa Regional Health Department – 2013							

Table N° 6
ARIS IN MINORS OF 5 YEARS AGE FOR THE MONTHS IN 2014 ¹²

ARIS	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
IRAS(x)	13252	9326	9737	18211	14363	15050	8613	0	0	0	0	0	88552
PNEUMONIAS	76	40	38	80	115	193	149	0	0	0	0	0	691
ABO (xx)	592	405	383	788	689	688	546	0	0	0	0	0	4091
DEATHS	0	0	0	0	0	2	1	0	0	0	0	0	3

(xx) Acute Bronchial Obstruction Syndrome

(x) ARIS: Acute Respiratory Infections – Source: Arequipa Regional Health Department: 2013-14

Table N° 7

CASES DE ADDS PER DIAGNOSTIC TYPE BY PROVINCE ¹³												
PROVINCE	CASES OF S.E. 52				CUMULATIVE S.E. 52				CUMULATIVE TOTAL OF ADDS			
	ADD watery		ADD amoebic		ADD watery		ADD amoebic		Minors younger than 5 years		Older than 5 years	
	-5	+ 5	-5	+ 5	-5	+ 5	-5	+ 5	Nº	Rate	Nº	Rate
REGION	422	638	14	23	0	0	0	0	34437	1758.89	39658	22819.55
Arequipa	353	551	11	18	28488	33061	798	847	29286	394.32	33908	3932.75
Caylloma	27	44	2	3	2347	2469	115	155	2462	271.26	2624	3387.29
Condesuyos	10	10	1	0	759	903	181	5	940	541.16	908	5403.80
Castilla	28	28	0	2	1067	1331	66	64	1133	298.94	1395	3963.07
La Union	4	5	0	0	575	783	41	40	616	253.21	823	6132.64

Table N° 8

ADDs IN MINORS OF 5 YEARS FOR THE MONTHS OF 2014 ¹⁴													
ADDs	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
ADDs watery	2743	3621	3469	3107	2490	2526	3123	3637	2911	2311	2354	2669	34961
ADDs amoebic	114	168	188	135	97	88	106	56	100	68	104	102	1326
Hospitalizations	26	33	58	51	59	53	79	76	33	32	26	20	546
Deaths	0	0	0	0	1	0	0	0	0	1	0	0	2

(xii) ¹² Source: Arequipa Regional Department of Health; Chart: Provided by COPASA-Arequipa

(xiii) ¹³ Source: Arequipa Regional Department of Health; Chart: Provided by COPASA-Arequipa

(xiv) ¹⁴ Source: Arequipa Regional Department of Health; Chart: Provided by COPASA-Arequipa

The most affected province was Condesuyos, with an incidence rate of 541.16 per 1000, in of 5 years of age, and La Union with an incidence rate of 6132.64 per 1000 in children older than 5 years of age.

2 **TEMA DEL DÍA** Miércoles 1 de julio de 2015 AREQUIPA | diario **Correo** | p. 2

DIREMID: AFIANZAN MEDIDAS DE CUIDADO PARA EVITAR EPIDEMIA DE GRIPE POR EL INTENSO FRÍO

Prevenir para no lamentar

Ya van 20 muertos y recién comienza el invierno

PARA EL SANADO
Requieren de S/. 4 millones

Cuatro millones de soles ha requerido la Gerencia de Agricultura al Ministerio de Economía y Finanzas para poder enfrentar la temporada de invierno. Según informó el gerente de agricultura, Minko Avendaño, cuentan con 260 mil soles, monto insuficiente para apoyar a criadores de alpacas de las zonas altas de Arequipa. El gerente además explicó que el frío en zonas de sobre los 3800 metros de altura afecta al ganado alpacero, mientras que en tierras que se encuentran por debajo de esta medida, el perjuicio será para el ganado lechero.

20 MUJERES antes del inicio de temporada de invierno. Entre las víctimas del frío se encuentran dos niños.

ADVIERTEN SENAMHI
Temperatura bajará a 5

El director del servicio Nacional de Meteorología e Hidrología (SENAMHI) en Arequipa, Guillermo Gutiérrez Huamán, precisó que en nuestra ciudad la temperatura descenderá de 9.2 a 5 cinco grados, durante los siguientes tres días. Asimismo, mencionó que en otras localidades ubicadas sobre los tres mil metros de altura, soporan la baja desde ayer. Infatti, por ejemplo, registra 14.6 grados bajo cero durante el día, mientras que en Sibayo la temperatura es de 9.6 grados bajo cero.

Un millón de soles ha utilizado la Dirección Regional de Medicamentos, Insumos y Drogas de Arequipa (DIREMID) en la compra de fármacos para afrontar el invierno. La jefa de la DIREMID en la región, Carolina Jara, informó que el dinero se utilizó para la compra de sesenta tipos de drogas entre antibióticos y antipalúdicos. Los químicos servirán para combatir la neumonía, asma y faringo-anginas. Respecto a la influenza A(H1N1), se repartieron 100 mil dosis para adultos y 40 mil para niños. En Arequipa, de acuerdo al departamento de Epidemiología, en la última semana se han reportado 14 mil 644 casos de Infecciones Respiratorias Agudas (IRAS). En el caso de los niños, la cifra es de 4 mil

AYHNI y segundo para que reciba un tratamiento especializado. He conversado con el gerente de la GREA para que los directores de colegio aseguren facilidades a los estudiantes que previenen influencias para que puedan faltar hasta tres días. De esa manera, se va a evitar el contagio", explicó Velarde. Las vacunaciones contra la AYHNI es de forma gratuita, de la misma manera que la vacuna contra el neumococo.

20 Mujeres antes del inicio de temporada de invierno. Entre las víctimas del frío se encuentran dos niños.

Contagio. Recomendamos cubrirse la boca con el antebrazo al toser o al estornudar, manteniendo las manos constantemente lavadas.

ESCOLARES PODRÁN FALTAR POR TRES DÍAS AL COLEGIO.

MUERTES. Según Jorge Velarde, jefe de Epidemiología de Arequipa, la situación preocupa debido a que se reportaron las cifras cuando aún no había iniciado la temporada de frío. "El 80% del total de casos se ha registrado en la ciudad. No es una situación que se haya salido de control, pero debemos tener más cuidado del que se le ha dado en estos días", expresó Velarde. En Arequipa, de enero a junio han muerto 20 personas, entre ellas dos niños. Velarde informó que requirió a la Gerencia de Educación de Arequipa, Mercedes Vera Amargosa, para que permita la inasistencia de niños en caso de que estos presenten síntomas de infecciones respiratorias o gripe. "Si el niño tiene fiebre, tos, resaca, agitación, deben ser llevados a un centro de salud cercano, primero para que se descarte la influenza

Source: Article from local newspaper EL CORREO that describes the effects of climate change on health, in the province of Caylloma, one of eight provinces that make up the Department of Arequipa. (2015)

The prevalence of diseases like acute respiratory infections (ARIs) and acute diarrheal diseases (ADDs), among Andean highland dwellers, increase the rates of malnutrition, morbidity and mortality, especially the most vulnerable: children, pregnant women and the older adults.

Environmental Context, Impacts of Climate Change: Local Economy

The list below enumerates the impacts of climate change already present in Arequipa's local economy.

1. Strong winds usually destroy the houses (especially roofs), and crops. They also affect the health of people and animals.
2. Scarce and Poorly Managed Water Resources: The main source of water resources are constituted by the melting and drainage from nearby peaks, from which springs originate, as well as ponds and creeks. The rivers crisscrossing the territory are of a torrential type, reaching their peak flows during December, January, February and March, with their flow reduced to exhaustion in the months of May to October.

3. Frosts occur in the southern hemisphere's autumn and winter periods, affecting people, crops and livestock, provoking diseases and causing high mortality rates among the alpaca herds. (See Table No. 8)
4. While the livestock sector shows a less significant share of the national GDP than other sectors, this activity is vital for a sector of the Andean highland population, which represents 12% of the GDP share generated by animal husbandry. Toward the end of 2010, there were 6,609 recognized peasant communities in Peru, characterized by high levels of poverty and principally engaged in extensive livestock grazing. These peasant families constitute about 69% of rural households and 30% of households in the country (Flores *et al.*, 2007). Most cattle, sheep and camels in Peru are found at elevations ranging from 2,200 to 4,500 meters above sea level (masl), and belong to peasant communities, using grasslands as a basic source of forage for their animals. The *Puna* eco-region, where most of livestock raising is done, covers an area of more than 21 million hectares of grasslands, wetlands, glaciers, bodies of water and protected areas. It is a key ecosystem for the national economy, on account of the products and environmental services it provides the society (Brown and MacLeod, 2011). Due to the fragile ecosystems that this area encompasses, and to the high poverty rates present there, it has been identified as an area highly vulnerable to the impacts of climate change (Vidal Muñoz. 2010, Flores *et al.*, 2012).

Jueves 11 de Junio de 2015
REGIÓN 13
10 REGIÓN
Domingo 28 de Junio de 2015

FRÍO PREOCUPA A CRIADORES DE CAMÉLIDOS, PIDEN VACUNAS

4 mil crías muertas en la provincia de Caylloma

El alcalde provincial de Caylloma, Rómulo Tinta, informó ayer que debido al frío que recrudece en su provincia han muerto entre 3 mil a 4 mil crías de camélidos sudamericanos en los distritos de Callalli, Tisco y Sibayo.

"Esto representa el 4% de la mortandad del ganado especialmente en crías. Antes, estas muertes se registraban a partir del 21 de junio pero ahora el frío se adelantó y preocupa", dijo.

Reveló que el último domingo se registró una temperatura de menos 15 °C en el distrito de San Antonio de Chuca.

Ante esta situación precisó que ha pedido apoyo al Ministerio de Agricultura y Riego y Agrorural con vacunas y cobertizos. "Entregarán 160 cobertizos a nivel nacional, hemos pedido que esto aumente", dijo.

Finalmente señaló que en Caylloma, hay 500 mil camélidos sudamericanos.



Las crías de los camélidos se mueren por el frío.

SIETE MIL ALPAQUEROS AFECTADOS POR BAJAS TEMPERATURAS

Camélidos mueren por frío en Caylloma

Un total de 25 mil camélidos han muerto en la provincia de Caylloma. Las bajas temperaturas, menos doce grados centígrados, han sido la causa de mortandad. "En el 2014 tuvimos una pérdida del 10%, de las 500 mil alpacas, hoy a pocos días del inicio de temporada ya llegamos al 5%", expresó el alcalde de la provincia de Caylloma, Rómulo Tinta.

Según informó la autoridad edil por cada animal muerto se pierde de 200 a 300 nuevos soles. Tinta además, informó que gestiona ante el Ministerio de Agricultura (Minagri) que Caylloma sea integrada en el programa "Seguro alpaquero". En la actualidad la única región que es beneficiada es Puno. Esta semana el Minagri enviará 65 mil vacunas para tratar diarreas.



Source: Articles from local newspaper REGION which describe the effects of climate change on the breeding of camelids, in the province of Caylloma, one of the eight which make up the Department of Arequipa. (2015)

5. Frequent electrical storms in the area bring excessive rain, lightning, and thunder causing damage to the lives of people, animals as well as the destruction of homes. The rains, when heavy, cause bronchial diseases, animal mortality, mostly young camelids (alpacas and llamas).
6. Hail storms are common, often accompanied by cold winds. These occasionally are accompanied by the added aggravation of snowfall, causing further harm to the health of local residents, as well as their livestock and crops, and hindering access to these communities.

Landslides, primarily caused by torrential rains, vibrations and explosions, seismic activity, excavation (mining), construction at the foot of gorges, and the presence of subsoil water filtration.



Photograph: Effects of the cold spell in the Arequipa Region, which caused significant mortality among the camelid herds and the destruction of homes due to heavy snowfall. **Source:** COPASA Archives (2012)

7. Strong winds usually destroy the houses (especially roofs), and crops. They also affect the health of people and animals.

The table below provides a summary of recent impacts due to climate change on the local economy:

Table N° 9

GENERAL SUMMARY OF DAMAGES DUE TO COLD AND DROUGHT ACCORDING TO THE NATIONAL INSTITUTE OF CIVIL DEFENSE (For 2013) ^{15 16}		
Population		
Persons Affected	217,997	Persons
Dwellings Affected	129,127	Homes
Communications		
Road System Affected	500	Km
Agriculture		
Crops Affected	1663	Ha

(xv) ¹⁵ INDECI (Acronym in Spanish): National Institute of Civil Defense

(xvi) ¹⁶ The reasons asserted by the INDECI are that the losses have been due to the fact that one of the primary manifestations of climate change in the area has been the alarming climate fluctuations, producing during the day temperatures which reach 18° C and at night fall to as low as -18C°, among populations which are not prepared to handle such marked variations (the dwellings are not suitable; the coats these individuals have are not appropriate for this weather; their health tends to be very precarious due to elevated levels of malnutrition common to the area; and others).

Natural Pastures Affected	216,756	Ha
Animals Affected		
Cattle	65,576	Heads
Sheep	664,569	Heads
Camelids	652,550	Heads
Dead Animals		
Cattle	2005	Heads
Sheep	127,677	Heads
Camelids	129,387	Heads

Source: Provided by COPASA-Arequipa (2015)

Table N° 10¹⁷

ANNUAL EFFECTIVE LOSSES (x) ¹⁸¹⁹				
SPECIES	AVERAGE NUMBER OF ANIMALS	DEAD ANIMALS	PER UNIT PRICE S/. HEAD	TOTAL LOSSES
Alpaca	92.36	14.97	120.00	1,796.40
Sheep	40.39	3.49	50.00	174.50
Llama	23.53	1.79	120.00	214.80
Cattle	9.12	0.25	350.00	87.50
Totals	165.4	20.5	640.00	2,273.20

(x) Analysis of the impact of **anual events** in periods of extreme cold / Andean Highland family Food and Agriculture Organization of the United Nations, FAO, Emergency Rehabilitation and Coordination Unit

(xvii) 17 For the elaboration of this chart, the results from field assessments in six regions of Peru and the preliminary study of the impact of cold spells elaborated by the FAO Office's Emergency and Rehabilitation Coordination Unit in Peru were taken into account: Coordinating document: Yon Fernández de Larrinoa Arcal Sub-Regional Coordinator for Emergencies in the Andean Region FAO), and in it, it is indicated that the losses are reported annually (See notes from local newspapers which are found in the appendix).

(xviii) ¹⁸Regional Agriculture Bureau, Arequipa

(xix) 19 For the elaboration of this chart, the results from field assessments in six regions of Peru and the preliminary study of the impact of cold spells elaborated by the FAO Office's Emergency and Rehabilitation Coordination Unit in Peru were taken into account: Coordinating document: Yon Fernández de Larrinoa Arcal Sub-Regional Coordinator for Emergencies in the Andean Region FAO), and in it, it is indicated that the losses are reported annually (See notes from local newspapers which are found in the appendix).

Institutional Context

The project is aligned with the National Environmental Action Plan - PLANAA Peru 2011-2021 which establishes as its fifth goal - Forests and Climate Change Strategies for Reducing Vulnerability to Climate Change, Developing and Implementing Regional and Local Adaptation and Mitigation Strategies in the face of Climate Change, Reducing Land and Soil Degradation, as well as Increasing the Capacity to Mitigate the Effects of Drought, and Strengthening the System of Monitoring and Forecasting of Weather Phenomena of Natural and Human Origin.

This proposal is framed in a similar manner to, and coincides with, the Action Plan for Adaptation and Mitigation in the face of Climate Change, which states:

The Ministry of the Environment is the Focal Point of the United Nations Framework Convention on Climate Change (UNFCCC) and also presides the National Commission on Climate Change; in that sense, it is responsible for coordinating the implementation of the NSCC (ENCC as per its acronym in Spanish), promoting policies on vulnerability and adaptation to climate change in the process of sustainable development. The NSCC has defined eleven strategic lines of action, in order to establish the framework for all policies and activities developed and related to climate change in Peru. Participating institutions in the design of the Strategy defined the lines of action according to priority:

- 1) Promote and develop scientific, technological, social and economic research on vulnerability to, adaptation to, and mitigation of climate change.
- 2) *Promote policies, measures and projects to develop the ability to adapt to the effects of climate change and the reduction of vulnerability.***
- 3) Peru's active participation in international climate change negotiations, to defend the country's interests and protect the global atmosphere.
- 4) Development of policies and measures aimed at sound management of GHG emissions, other air pollutants and the reduction of the impact of climate change, taking into account the mechanisms available in the Kyoto Protocol and other economic instruments.
- 5) *Dissemination of knowledge and national information on climate change in Peru as it relates to vulnerability, adaptation and mitigation.***
- 6) *Promotion of projects that have as their goal poverty relief, vulnerability reduction and/or mitigation of GHG.***
- 7) *Promoting the use of adequate and appropriate technologies for adaptation to climate change and mitigation of GHG and air pollution.***
- 8) *Engaging society to enhance the capacity for adaptation to the effects of climate change, reduce vulnerability and mitigate GHG emissions and environmental pollutants.***
- 9) *Management of forest ecosystems to reduce vulnerability to climate change and improve the carbon sequestration capacity.***
- 10) *Explore the possibility of achieving a just compensation for the adverse effects of climate change generated mainly by industrialized countries.***

11) Management of fragile ecosystems, especially mountain ecosystems to mitigate vulnerability to climate change.

The text in bold and italicized are those where the Project will provide its experience to achieve the expected adaptation measures. The other entries (1, 3, and 4) correspond to spheres under the National Government.

Policy Framework:

National Climate Change Strategy (Executive Decree No. 086-2003-PCM); its purpose is to reduce impacts and conduct research in the field of vulnerability and design action plans directed at ecological mitigation based on the CDM (Clean Development Mechanism).

National Action Plan on Adaptation, Mitigation and Climate Change (PACC) 2011-2021: provides specific adaptation measures and covers the following aspects: instruments for presenting information reports on GHG emissions, mitigation, adaptation, research and development of technology systems, financing and management, and public education.

Commitment 2020: 33% of energy mix from renewable sources; eradicate deforestation of primary forests (responsible for more than half of GHG emissions), it has the support of the National Plan for Forest Conservation to Mitigate Climate Change.

A certain lack of awareness persists on the part of authorities and community leaders about the consequences of climate change, and as a result their commitments are still weak and they do not assume fully their corresponding responsibilities in the leadership of risk management and climate change adaptation programmes. This limits the adoption of disaster prevention and adaptation programmes and projects, which is why increased motivation and awareness through training and/or field days are indispensable.

Project/ Programme Objectives:

Short Title of the Project: AYNINAKUY (A word from Quechua that means 'we together adapting')

The project objective is to reduce vulnerability and increase adaptive capacity to respond to the impacts of climate change of the highland Andean indigenous communities in the provinces of Arequipa, Caylloma, Castilla, La Union, and Condesuyos. The project seeks to reduce the exposure of these communities, dependent on alpaca herding, to climate-related threats, by diversifying and strengthening their livelihoods and sources of income through the development of awareness of local processes of adaptation and climate risk reduction and through the strengthening of community capacities to reduce the risks associated with economic losses from climate-induced effects.

This project is aligned with the Results Framework of the Adaptation Fund and directly contributes to the following results:

Result 1: Strengthening of the institutional capacity to reduce the risks associated with the socioeconomic and environmental losses caused by the climate.

Result 2: Strengthening of the awareness and adoption of adaptation and climate risk reduction processes at the local level.

Result 3: An increase in the resilience of ecosystems in the face of climate change and stress caused by variability.

Result 4: Diversification and strengthening of livelihoods and incomes for vulnerable populations in the targeted areas.

The project seeks to implement programs that allow for the incorporation and improvement of levels of resilience, using techniques and tools for adaptation and risk management to improve food security in areas prioritized by the project; Develop field days in the project area's local context, aimed at the heads of households and institutional representatives, in order to transfer knowledge and technology that can maximize their strategic potential by optimizing the role that women play in their homes and communities, given that it is the women who are engaged in the activities of livestock breeding and crop due to the fact that the men, forced by circumstances, are obliged to migrate to cities in search of work to increase family income).



Photographic Montage: Dangers, vulnerabilities and cold spells that affect Andean highland inhabitants and the urgency of adaptation measures that should be enacted in order to minimize risks. **Source:** COPASA Archives (2012)

Project / Programme Components and Financing:

Project Components:

1. Establishment of small-scale infrastructure programs and technology transfer, for the adoption of resilient infrastructure and food security measures, to manage risks due to climate change.
2. Strengthening of the capacity of community leaders, educational communities, and beneficiary heads of households, for the implementation of projects to improve rural housing, health, production, forage stockpiling, livestock encampment management and implementation of modern irrigation systems

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)	Total Amount (US\$)
1. Establishment of small-scale infrastructure programs and technology transfer, for the adoption of resilient infrastructure and food security measures, to manage risks due to climate change.	1.1. 36 SAT early warning modules for rural communities are implemented;	Reduction of regional exposure to the dangers and threats related to the climate.	21,600	1,655,239
	1.2. Living conditions of 72 rural housing are improved with cold resistant specifications and composting latrines	Enhance adaptive capacity to friaje (cold spell) that affects health	185,400	
	1.3. 5 Community water purification systems are installed to prevent diseases.	Enhance adaptive capacity to water scarcity that affects health		
	1.4. Livestock production is improved with 270 alpacas shelters and health campaigns to improve the sanitary conditions of the alpacas and 72 protective fencing that are constructed.	Reduce vulnerability to herd mortality and strengthening livelihoods and sources of income for vulnerable people in selected areas.	786,600	
	1.5. Fodder production is improved with 900 Ha of high altitude feed grains, 72 Ha of Clover sown in recovered wetlands and 72 Ha of cultivated pastures for high	Reduce vulnerability to herd mortality and strengthening livelihoods and sources of income	534,039	

	altitude forage and 36 high altitude wetlands recovered.	for vulnerable people in selected areas.		
	1.6. Water production and management is improved with 36 micro-dams for rainwater storage, 10,000 m of improved rural canals that permit expanding high altitude wetlands and 72 pressurized irrigation modules installed.	Reduce vulnerability to water scarcity and strengthening livelihoods and sources of income.	127,600	
Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)	Total Amount (US\$)
2.- Strengthening of the capacity of community leaders, educational communities, and beneficiary heads of households, for the implementation of projects to improve rural housing, health, production, forage stockpiling, livestock encampment management and implementation of modern irrigation systems.	2.1. Community awareness regarding climate risk reduction and capacity building: 1. conformation of civil defense committees; 2. Educational competitions; 3. training of heads of households; 4. Training workshops and fieldwork days on technical subjects.	Direct Effect 3: Improved awareness regarding adaptation, climate risk reduction and community capacity building.	37,392	236,292
	2.2. Preparation of technical guides on: 1. adaptation to climate change; 2. use of the early warning system; 3. adaptation and risk prevention for educational institutions; 4. Livestock production, fodder production water production and management and family housing improvement.		135,000	
	2.3. Capacity building complementary activities: 1. Workshops for 5 teams (assessment of damages and needs analysis); 2. prevention plans and training for educational institutions; 3. Training workshops for municipales authorities and community leaders; 4.		18,900	

	Disaster simulations at the district level;			
	2.4. Long-term adaptive management and dissemination strategy.		45.000	

Project/Programme Execution cost	179,695
Total Project/Programme Cost	2,071,226
Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)	165,698
Amount of Financing Requested	2,236,925

Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	April 2016
Mid-term Review (if planned)	
Project/Programme Closing	October 2018
Terminal Evaluation	December 2018

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.**

COMPONENT 1

The project aims to reduce various aspects of the vulnerability of the population, which mostly converge in alpaca and vicuña fiber production and the herds preservation, which allows the sustainability of the main livelihood of the target communities:

- Facing water shortages: 1. micro dams for storage of rain water will be built; 2. rural water channels will be improved, which is expected to expand wetlands; 3. basic water infrastructure (with 73 irrigation modules) will be introduced. 4. 5 community water

purification systems will be installed to prevent diseases, benefiting five districts (systems in 1, 2, and 3. will strengthen the livelihood of the target communities).

- Facing the shortage of natural pastures in the region essential for raising alpacas and the weakening of the animals: 1. Fodder production will be improved, with the expansion of the planted area with appropriate altitude species and clover growing in adequate wetlands areas. 2. Vaccination campaigns will be undertaken to protect the alpacas, shelters will be built and fences will be lifted.
- Facing the climate impacts that favor migration (cold spells, water shortage): 1. strengthening livelihoods and sources of income for vulnerable people in selected areas, by enhancing the productive capacity with technical training offered in the local language (Quechua);
- The capacity building component of the communities seek to secure the sustainability of other project actions, favoring communities to take ownership of adaptation activities and understand the climate change and its implications.

The activities are explained in more detail:

1.1. Early warning systems

An early warning system is installed in each of the 36 communities.

1.2. Housing conditions improvement.

Housing conditions of 72 families in 36 rural communities will be enhanced with the installation of a heating system, electricity, compost latrine and / or upgraded kitchen, as adaptation measures to climate change. The beneficiaries will be the families located in the lowest level of poverty in each community.

1.3. Potable water purification systems.

5 water purification systems will be installed to reduce the incidence of diarrheal diseases. These systems will benefit 13,989 families in the districts of San Juan de Tarucani, Callali, Chachas, Yanaquihua and Puica.

1.4. Livestock production improving

- 270 shelters will be built in 36 rural communities to benefit 480 rural families. This action is expected to reduce by 10-12% morbidity and mortality of alpaca dams and their offsprings.
- In selected rural communities, 10,000 camelids will be served in 36 campaigns to improve the health of the herd (campaigns include vaccination).

- Installation of protective fencing, with livestock netting, preserves natural meadows and cultivated pastures.²⁰ With the implementation of these fences, it will be possible to put into practice rotational grazing, a proper management system for natural grasslands implemented to restore the vegetation cover and thereby increase the productivity of livestock.

1.5. Fodder production improving

- Introduction of high altitude feed grains (resistant to low temperatures) that improve the level of feed reserves in the livestock encampments, through the transfer of appropriate technologies (post-harvest techniques). This is intended to avoid the annual loss and damage in the herds subsequent from frost damage resulting from climate change.²¹
- Clover is installed on wetlands to improve the forage floor of the same. 72 hectares of clover will be installed in 36 Rural Communities.
- Introduction of cultivated pastures for high altitude forage. 72 ha of pasture, installed in 36 communities will benefit 360 farm families.
- Selected high altitude wetlands are recovered and/or improved through maintenance campaigns, optimizing their water infiltration capacity and renovation of the stock of natural pastures.²²

1.6. Improving water production and management

- Construction of earth dykes, to create micro-dams for rainwater storage. The storage of water from melt and/or rain runoff to allow for the availability of sufficient water through the construction of storage ponds.
- Build and/or enhance unimproved irrigations canals to optimize the management of water resources, allowing for the expansion of wetlands in the Andean highlands.^{23 24} Attention will be paid to water intakes improvement.
- Pressurized Irrigation Modules, installed in selected rural communities²⁵ The principal vulnerability Andean highland inhabitants face are the short periods of rains, lasting no more than forty-five days, that occur in the area, why is which no

(xx)¹⁹ Institute of Water Use and Environment: Management of Andean Highland Meadows: The Experience of the Mayubamba annex in the Community of Cucuchiray, Province of Paruro.

(xxi)²¹ Moya, Enrique; Torres, Juan (Ed.); Familias alpaqueras enfrentando al cambio climático [Alpaca-raising Families confronting climate change.] / Editors: Enrique Moya, Juan Torres. Responsible with project systemization: Yolanda Carazas, Ernesto Ccana, Washington Chañi, Roland Chávez, Pedro Ferradas, Alcides Vilela. Revisión: Javier Coello. — Lima: Soluciones Prácticas-ITDG; 2008

(xxii)²² Andean Highland Wetlands: Regional Strategy: RAMSAR or The Convention on Wetlands of International Importance

(xxiii)²³ TECHNICAL SPECIFICATIONS FOR THE DESIGN OF GRAVITY CATCHMENT OF SURFACE WATER: Pan American Health Organization

(xxiv)²⁴ TECHNICAL SPECIFICATIONS FOR THE DESIGN OF GRAVITY CATCHMENT OF SURFACE WATER: Pan American Health Organization

(xxv)²⁵ DESIGN OF SMALL HILLSIDE SPRAY IRRIGATION PROJECTS , by Michiel Anten and Has Willet, advisors from the SNV Dutch Development Organisation in PRONAMACHCS, which is the National Hydrologic Basins Management and Soil Conservation Project. Among its project goals are small hydrologic projects in rural Andean highlands. SNV Dutch Development Organisation is an aid agency based in the Netherlands, specialized in advising institutions related to development in marginalized rural areas. Published in Cajamarca, Peru, April 2000.

forage crop of temporary character can be installed, unless they are bolstered by irrigation to guarantee their vegetative period. It is for this reason that the modern irrigation projects are such a priority given that they are a highly appropriate means of adaptation that the local population can put into practice.

COMPONENT 2

Strengthening the capacity of community leaders, educational communities, and beneficiary heads of households, is a way to complement and facilitate the implementation of the project activities and also to favor the sustainability of its positive results. Awareness, training and capacity building activities will accompany all the Component 1 activities: improving of rural housing, health, production, forage stockpiling, livestock encampment management and implementation of modern irrigation systems.

2.1. Community awareness regarding climate risk reduction and capacity building

- Advisory and Followup support for the processes of strengthening district and community level, civil defense committees for their recognition and launching.
- Educational innovation competitions in environmental topics, climate change, coordinated the local education administration entities and schools.
- Training and developing heads of households to elaborate diagnostics of dangers, vulnerabilities, interactive risk maps, prevention plans, community care.
- Training days for the installation, use and operation of community SAT early warning systems, for the strengthening of district and community level civil defense committees.

2.2. Elaboration of technical guides on:

- adaptation to climate change in the context of environmental risks.
- the use and functioning of the early warning system as a climate change adaptation measure.
- adaptation and risk prevention topics in educational institutions.
- technical adaptive practices that orient readers on the sowing of feed grains, cultivated pastures, installation of modern irrigation pilots, wetlands management, animal health, construction of shelters, improvement of family housing, as a risk management and adaptation measure in the face of climate change.
- Fieldwork days for the transfer of
 - knowledge on installation, use and maintenance of feed grains.
 - techniques for introduction, management, and maintenance of clover in the high altitude wetlands.
 - techniques for installation, use and maintenance of modern irrigation equipment.
 - techniques for introduction, management, and maintenance of associated pastures in selected communities.
 - techniques for animal health and management, beneficiaries to producers in rural communities.
 - techniques for building shelters.

- building techniques for improving rural Andean highlands dwellings, stand-alone photovoltaic rural electrification systems, composting latrines and improved stoves.

2.3. Capacity building complementary activities

- Workshops for the establishment of 5 basic teams for the assessment of damages and needs analysis at the district level.
- Prioritized educational institutions will be trained in topics on adaptation to climate change, risk management, and environmental protection.
- Educational institutions will elaborate their plans for prevention and disaster relief, as an adaptation to climate change measure.
- Training workshops directed at municipales authorities and community leaders.
- Disaster simulations to be held at the district level.

2.4. Long-term adaptive management and dissemination strategy.

About the beneficiaries and the scale and combination of the activities:

The number of beneficiaries will be defined on the basis of a census available with the local authorities SIFHO (Sistema de Focalización de Hogares, Household Targeting System). Such survey identifies their living conditions, including the poverty levels; on the other hand their willingness to actively participate in the project will be also verified, giving priority to female heads of household mothers. Based on that census and on previous contacts with the communities, the scales of the activities have been determined, giving priority to the more extreme poverty levels.

The activities will be performed transversely, combining different themes and and a ludic way to spark the interest of the peasants, considering they are not used to theoretical sessions, but rather practical activities; therefore the methodology uses learning by doing and training materials produced in a playful manner they find most attractive and appealing.

Long-term adaptive management and dissemination strategy

Training activities are dynamic, based on training in action processes and focused on the identified production interests of the peasants. In addition it is planned to work with Yachachis, expert local farmers, to transference the techniques and cultural support.

On the other hand, it is planned to make agreements with local governments to incorporate in their monitoring activities the follow up of the project, and to replicate the models developed in the project. Other areas where the experience could be replicated are: Puno (region with the major alpaca fiber production), Cuzco, Tacna and Moquegua.

The project replication could be envisaged also in other countries where the production of alpaca and vicuña fiber is important: Bolivia, Chile and Argentina.

As project follow up strategy these activities are foreseen: 1. Project impact evaluation (about six months after the end of the project); 2. Indicators follow up (at least one year after the end of the project); 3. A follow up budget allocation to be negotiated with the local governments; 4. COPASA periodic visits, after the end of the project (to be negotiated).



Photographic Montage: Various natural dangers to which Andean Highland inhabitants are exposed in the Arequipa Region, in a community of Caylloma during a cold spell. **Source:** COPASA Archives 2015

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.

Social benefits: gender Issues in the Context of the Project (title moved)

This Project focuses its attention on Andean Highland communities in the provinces of Arequipa, Caylloma, Castilla, Condesuyos and La Union, located in the Arequipa Region, whose sole possible activity is alpaca breeding and high altitude crops, in large measure under the responsibility of women as a consequence of male migration in search of labor. The intervention will focus its gender efforts to propose a women involvement in the making decisions processes as well as in training events, because although male migration is important, women's participation in decision-making is still limited. It is necessary to settle upon appropriate strategies to promote and enhance the capabilities and skills of women in different manners, both productive and social.

The women participation model will be explicitly maintained throughout all the project activities. To make it sustainable beyond the project, both the project follow up and the follow up and replication agreements with the local authorities will include a section dealing with this subject.

[NOTE: Title “Engagement with Rural Communities” and its content were deleted]



Photographic Montage: Women working in various activities. **Source:** COPASA Archives-2012

Table N° 11

TOTAL POPULATION, BY RURAL AND URBAN AREA, AND GENDER, BY REGION, PROVINCE, DISTRICT AND AVERAGE AGES ²⁶					
REGION, PROVINCE, DISTRICT	GRAND TOTAL	MEN	%	WOMEN	%
Arequipa Region	42,271	20,276	48%	21,995	52%
Province-Arequipa	4,312	2,736	63%	1,576	37%
Province- Caylloma	5,384	2,658	49%	2,726	51%
Province-Castilla	11,721	6,609	56%	5,112	44%
Province-Condesuyos	13,079	5,214	40%	7,865	60%
Province-La Union	7,775	3,059	39%	4,716	61%

Source: Provided by COPASA Arequipa

Environmental Benefits: [Note: this title was displaced here]

The water management activities of the project will allow the recovery and expansion of the wetlands in the projec area and will increase the conservation and improvement of the pastures. In addition, the expansion and preservation of the planted areas will reinforce this last aspect. Consequently, in the areas of project, the soil is going to be preserved, and the land degradation en erosion processes will be avoided while the carbon stock in those soils will increase. To make

(xxvi) ²⁶ National Institute of Statistics and Computing (INEI:acronym in Spanish)

sustainable this reduction of climate change impacts the monitoring and follow up of the project results will be essential.

Recovering high altitude wetlands optimize their water infiltration capacity and the renovation of the stock of natural pastures.²⁷ High altitude paramo, *puna* and *jalca* wetlands are not isolated bodies of water but complex systems, and are, thus, essential to micro-basin dynamics. In addition to being important as water sources, high altitude Andean wetlands have a singular biological diversity. Many species of plants and animals that inhabit them are not found elsewhere and in them several species of migratory birds congregate temporarily. Some of these wetlands are a refuge and breeding site for a number of endangered animals such as Andean flamingos and Harlequin frogs of the *Atelopus* genus. These wetlands are also essential habitat components for mammals of economic and ecological importance such as vicuña, guanaco and Chinchilla. High altitude Andean wetlands are considered by the Ramsar Convention as ecosystems of great fragility associated with natural causes such as climate change, prolonged drought in the highlands and human intervention, such as in cases of unsustainable agriculture, overgrazing and open pit mining. With the wetlands recovery, the project will improve and will help to make sustainable the complex environmental services these systems offer.

[NOTE: Paragraph starting with "By building livestock shelters..." was partially deleted]

Note: The water infrastructure we propose is innovative at high altitudes, avoiding negative impacts that may be associated with larger infrastructure, since it is small-scale appropriate infrastructure that is also natural resources management.

Genetic improvement and the management of high Andean mixed herds - camelids and sheep, is a long-term process and has at its core forage and protection from the elements (the combination of drought and low temperatures, brief frosts, led to a series of events called "cold snaps").



Photographic Montage: Women working in various activities. **Source:** COPASA Archives-2011

Social and Economic Benefits:

(xxvii) 27 Andean Highland Wetlands: Regional Strategy: RAMSAR or The Convention on Wetlands of International Importance

As explained in section C, considering direct and indirect beneficiaries, the implementation of the project may avoid, over 5 years, the losses of about 140.000 alpacas and vicuñas heads, corresponding to prevent losses in revenue from an order and \$ 2,8 million (USD) per year. An indirect consequence of such economic benefits could be the reduction of migration effects.

The project directly benefits 68,848 inhabitants in the highland provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union. It is aimed at meeting the needs of people living in extreme poverty, according to the Human Development Index (HDI), the targeted populations are located at 0.5219 and 0.5658 on the HDI place which is below the national average of 0.598.

The project will contribute to improving the quality of life of this population, specifically, a worsenind in the rural poverty in the highlands of the Peruvian Andes due to the negative effects of climate change will be avoided. Effects such as the reduced availability of flows in springs and more irregular rainfall, both central to the sustainability of livelihoods obtained from high altitude livestock and dry farming, will be alleviated. [rest of the paragraph: deleted]

Beneficiaries [Title, paragraph and table displaced here]

We have selected five (5) of the most remote provinces and 18 districts in the highlands (at elevation \pm 3,800 masl), where the effects of climate change and the lack of any focus on risk management and adaptation are evident. These provinces have a total population of 240,467 inhabitants in their rural areas, characterized by extreme poverty and vulnerability to the effects of climate change, with scattered populations, of which the project will benefit 68,848 beneficiaries directly. The direct beneficiaries comprise 28.63% of the Arequipa region's total population, while the remainder will benefit indirectly. (See Table 12).

Table N° 12

DEMOGRAPHIC DATA IN THE AREQUIPA REGION				
Population-Arequipa Region				1,259,562
(Residents)				Inhabitants
PROVINCE	URBAN (Residents)	RURAL (Inhabitants)	% Selected	SELECTED POPULATION (Head/House hold)
Province-Arequipa	868,922	78,862	7.16%	5,645
Province-Caylloma	0	89,042	7.16%	6,373
Province-Castilla	0	38,887	7.16%	2,783
Province-Condesuyos	0	18,340	7.16%	1,313
Province-La Union	0	15,336	7.16%	1,098
Province-Camana	57,776			
Province-Islay	52,914			
Province-Caraveli	39,483			
TOTAL	1,019,095	240,467		17,212
Percentage	80.91%	19.09%		
Total Covered by the project (Each head of household represents an average of 4 members)				68,848
Percentage of population attended directly by the Project				28.63%
Percentage of population attended indirectly by the Project				71.37%

Source: National Institute of Statistics and Computing-INEI (acronym in Spanish); Chart: Provided by COPASA Arequipa

Selected Project Areas: [\[Title, paragraph and table displaced here\]](#)

Based on the analysis of vulnerability in each of the provinces, taking into account remoteness, poverty levels, and climate impacts, the following most vulnerable districts were selected: San Juan de Tarucani, Chiguata, Polobaya, Pocsi and Quequeña, with a total population of 8,471 inhabitants.

In Caylloma, which has twenty districts, the most remote districts have been selected: San Antonio de Chuca, Sibayo, Callalli and Tuti; with a total population of 5,164 inhabitants.

Castilla, which has fourteen districts, of which the districts in the highest elevations, such as Orcopampa, Andagua, and Chachas, have been selected; with a total population of 12,373 inhabitants.

Condesuyos, which has eight districts, of which the districts of Chuquibamba, Andaray and Yanaquihua have been selected, being those that contain elevated poverty indices; with a population of 9,271 inhabitants.

La Union, which has eleven districts, of which those that are found in the most elevated areas have been selected: Pampamarca, Huaynacotas, and Puyca; with a population of 6,484 inhabitants. (See Table 13)

Management of Environmental Impacts in Compliance with the Environmental and Social Policy of the Adaptation Fund

The project has been categorized as **Category B** as a result of CAF's screening performed to identify potential environmental and social impacts and risks of the Project. According with the Adaptation Fund Environmental and Social Policy Statement (Approved in November 2013), and considering that the Project's Environmental and Social Assessment, to be executed by CAF as Implementing Entity, represents a minor part of the project, and that the inclusion of the assessment report in the proposal has not been feasible, Project's Environmental and Social Assessment, as well as its corresponding Environmental and Social Management Plan and Monitoring, Reporting and Evaluation Plan will be delivered to the Adaptation Fund Secretariat as soon as the assessment is completed.

During project implementation, CAF's annual project performance report will include the status of implementation of the Environmental and Social Management Plan and also of any corrective actions that had considered necessary to avoid, minimize, or mitigate environmental and social risks. On the other hand, CAF's project mid-term and terminal evaluation reports shall also include an evaluation of the project performance with respect to environmental and social risks.

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

PROJECT COST-BENEFIT ANALYSIS TABLE

CURRENT ALPACA POPULATION

LIVESTOCK CAPITAL OF:	CURRENT POPULATION (number of heads)	MORTALITY RATE	LOSS IN 5 YEARS (number of heads)	PROJECTION IN 5 YEARS (number of heads)
DIRECT BENEFICIARIES	190000	30%	57000	133000
INDIRECT BENEFICIARIES	278380	30%	83514	194866
TOTAL POPULATION	468380		140514	327866

ALPACA POPULATION WITH THE PROJECT

LIVESTOCK CAPITAL OF:	CURRENT POPULATION (number of heads)	GROWTH RATE (annual)	GROWTH IN 5 YEARS (number of heads)	PROJECTION IN 5 YEARS (number of heads)
DIRECT BENEFICIARIES	190000	3%	30262	220262
INDIRECT BENEFICIARIES	278380	3%	44339	322719

TOTAL POPULATION	468380	74601	542981
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ESTIMATE OF	No. of heads	Relative Value (%)
RATE OF EFFECTIVENESS	215115	
Annual income per alpaca (S/)	290.00	
Current Annual Total Income (S/)	135,830,200.00	
Projected income w/o project (S/)	95,081,140.00	70.00
Estimated losses (S/)	40,749,060.00	30.00
Projected income w/ project (S/)	157,464,429.37	115.93
Incremental value w/ project (S/)	21,634,229.37	15.93
Cost efficiency	62,383,289.37	45.927
Cost efficiency ratio	0.459274074	

Analysis of the information presented in the table:

- If there is no project, the villagers will lose 40,749,060 soles, however, with a disbursement of US \$ 2,900,000 (project financing, which would be on the order of 9 million in soles-PEN), the economy of the villagers, in addition to avoiding losses, will improve, and their income will increase by 21,634,229 soles, i.e., in total an additional 61 million soles would be generated. That is the incremental value that this project will achieve. That is to say, 45% improvement.
- Then, if with 9 million soles (project investment and expenses), 61 million of additional product are generated, the ratio is 61 million / 9 million, or 6.8 times the amount spent. That is the project's cost-effectiveness projected over 30 months.

There is another aspect that reinforces the cost-effectiveness of the project: The Special Project COPASA has been developing capacity for several years and the capitalized experience is a starting point that prevents costs arising from typical preliminary contacts and surveys of information in each project. In particular, the knowledge management strategy does not require the preliminary investigation stage, and therefore, the planned activities are based on knowledge of the communities and the experience of prior interaction with them.

About the data source

The data have been screened according to information published by the Ministry of Agriculture of Peru and its source is the Census of Agriculture 2012. It is official information, at country level. Information about similar activities/projects in the region was not found.



PHOTOGRAPHIC MONTAGE: Women working in various activities. **Source:** COPASA Archives 2011

NOTE: alpaca fiber has several marketing options, as shown in the following table:²⁸ [Note: Text and table are new]

Cuadro 5. El valor añadido que generaría 400 000 Kg de fibra (USD)	
Si se vende en FIBRA (6 USD/ Kg)	2'400.000
Si se vende en vende en TOPS (10,5 USD promedio/Kg)	3'100.000
VALOR QUE GENERA	25%
Si se vende en hilo (30 USD promedio/Kg)	7'200.000
VALOR QUE GENERA	200%
Si se vende en prenda (40 USD promedio/chompa)	19'200.000
VALOR QUE GENERA	700%

Added value that would produce 400.000 kg of alpaca fiber (USD)

- 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,**

(xxviii) ²⁸ Agronomes Vétérinaires sans Frontières. Alpaca fiber World market behavior http://www.avsf.org/public/posts/1559/folleto_mercado_mundial_alpacas_feb2013_avsf.pdf

national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

Alignment of the project with the institutional and policy framework at regional (subnational) level

The Regional Strategy for Adaptation to Climate Change in the Arequipa region 2008-2018 states:²⁹

6.2. Strategic axes

1. Climate Change Policy, inserted in the Regional Development Plans and Local Governments.
3. Protection of biodiversity and water sources.
5. Training, awareness and dissemination at all levels.

6.3. Measures and policies to address climate change in Arequipa region

6.3.1. Regional Climate Change Policy

1. Integration of an adaptation and mitigation of the effects of climate change in the plans and programs at regional level.
3. Strengthening the sustainable and integrated management and water management, based on the real and strategic assessment of this resource.

6.3.3. Protection of biodiversity and water sources

The Concerted Development Plan 2013-2021 of the Arequipa Region, axis 4 Environment and Natural Resources expresses as specific objectives: Natural resources and environment protected, recovered and exploited sustainably; Conservation and sustainable use of natural resources and biodiversity

Relationship with National Policy [Note: text was reduced]

The AYNINAKUY project is strongly aligned with the policies, plans and priorities for sustainable development and adaptation to climate change, including the following national guidelines:

1. **General Law of the Environment, Law No. 28611 published on October 15th, 2005, in its preliminary title, Rights and Principles,**
 - in Article III of the right to participate in environmental management:
 - In Chapter 2 BIODIVERSITY CONSERVATION, Article 100. On mountain ecosystems, notes that the State protects mountain ecosystems and promotes their sustainable use. In the exercise of their functions, public authorities adopt

²⁹ http://www.regionarequipa.gob.pe/arma/index.php?option=com_content&view=article&id=1168&Itemid=473

file:///servidor/Users/proyectos/Mis%20Documentos/Downloads/estraregcampli.pdf

measures to: a. Promote the use of biodiversity, land use and social organization. b. Promote the development of ecological corridors that integrate the potential of the different slopes of the mountains, taking advantage of the opportunities offered by the traditional knowledge of their inhabitants. c. Encourage research on the cost-benefit relationships and the economic, social and environmental sustainability of various productive activities in mountain areas. d. Encourage educational systems adapted to the specific conditions of life in the mountains. e. Facilitate and encourage access to information and knowledge, properly articulating traditional knowledge and technologies with modern knowledge and technologies, in Article 110.

2.- The “BICENTENNIAL PLAN, PERU 2021” **[Note: text was reduced]**

With regard to soil Axis Six indicates that desertification, defined as the process of land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, such as climatic variations and human activities, constitutes a high priority environmental problem in the country.

Under the rubric OBJECTIVES, GUIDELINES, PRIORITIES, GOALS, ACTIONS and STRATEGIC PROGRAMMES, point C of the PRIORITIES notes what category should be prioritized: 1. Sustainable use and management of natural resources. 2. Improving environmental quality (air, water and soil). 3. Ensuring adequate water availability throughout the country. 4. Adapting the country to climate change. 5. Implementing the National Environmental Management System.

4.- National Environmental Action Plan - Peru 2011-2021 **PLANAA [Note: new title and text added, text form previous title was reduced]**

Prioritized goals. GOAL 6

6.5.-conservation and sustainable use of ecosystems and genetic resources (Camelids)

Goal No. 5 - Forests and Climate Change the following: (See Table 14).

The State has developed the Multisector Plan against frost and cold fronts, which aims at articulating multisector efforts for prevention and risk reduction during frosts and the cold season of 2015, as well as preparedness activities; developing Government intervention strategies, designed to intervene in those critical areas where the population is highly vulnerable and that given their geographical location, the state's presence is weak; with the goal of protecting the life and physical integrity of the local population and their livelihoods. This nation-wide plan is in keeping with the implementation of the programme in an area that needs large amount of support.

Table N° 14

Strategic Action	GOAL FOR 2017	GOAL FOR 2021
------------------	---------------	---------------

Estimate and reduce vulnerability in the face of climate change.	Vulnerable areas in the face of climate change at the regional and national levels, identified	Vulnerability has been reduced and/or adaptation capacity in the face of climate change has been increased at the local, regional and national levels.
	Responsible entities: RG, LG, MEF, MINAM, MINAG, MVCS, MINEM, MINSA, MINEDU, PRODUCE. ³⁰ Co-Responsible entities: ANA, SENAMHI, INDECI, National Commission on Climate Change and like entities at the regional level, Businesses, Civil Society.	
Develop and implement Regional and Local Strategies of Adaptation and Mitigation in the face of Climate Change.	50% of regional government develop and implement strategies of adaptation to and mitigation of climate change.	100% of regional governments develop and implement strategies of adaptation to and mitigation of climate change.
	Responsible entities: RG, MINAM. Co-Responsible entities: MINAG, SENAMHI, IGP, LG, Universities, Businesses, Civil Society. ³¹	
Reduce land and soil degradation 118 and, as well as increase the capacity to mitigate the effects of drought.	The area of degraded soils has been reduced by 30% in relation to the updated baseline. – Early Warning System for Drought, implemented. –The area of zones affected by drought have been reduced by 5%.	- The area of degraded soils has been reduced by 50% in relation to the updated baseline. - The area of zones affected by drought have been reduced by 20%.
	Responsible entities: MINAM, MINAG, SENAMHI, ANA, RG, LG. Co-Responsables: MEF, MINEM, PRODUCE, CONCYTEC, IGP, National Commission for the Fight against Desertification, Unions, Businesses, Civil Society. ³²	

The project will be executed by the COPASA Special Project of the Regional Government of Arequipa, responsible for the Integrated Rural Development Program, with a focus on Disaster Risk Management and Adaptation to Climate Change, aimed at the rural poor and those in extreme poverty.

COPASA possesses the category of Special Project, which facilitates the execution of projects in a fast, versatile and autonomous manner.

(xxix) ³⁰ RG: Regional Government, LG: Local Government, MEF: Ministry of Economy and Finance, MINAM (Spanish acronym): Ministry of the Environment, MINAG: Ministry Agriculture, MVCS (Spanish acronym): Ministry of Housing, Construction and Sanitation, MINEM: Ministry of Energy and Mines, MINSA (Spanish acronym): Ministry of Health, MINEDU: Ministry of Education, PRODUCE (Spanish acronym): Ministry of Production.

(xxx) ³¹ SENAMHI (Spanish acronym): National Meteorology and Hydrology Service of Peru, IGP (Spanish acronym): Geophysical Institute of Peru, Universities, Businesses, Civil Society

(xxxi) ³² ANA (Spanish acronym): National Water Authority, CONCYTEC (Spanish acronym): National Council on Science, Technology and Innovation, National Commission for the Fight against Desertification, Unions, Businesses, Civil Society.

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.³³

The environmental impacts of the project activities are expected to be minimal. Therefore EIAs and water protection specific regulations will not be applicable. The construction activities will be also minimal and hand made, and they will have low environmental impact; consequently no specialized building codes will be applicable.

To comply with the Environmental and Social Policy of the Adaptation Fund, a CAF Environmental officer, to verify if all the E&S applicable AF's principles are well managed by the project, shall conduct an Environmental and Social Evaluation. Findings of this Evaluation shall be solved by mitigation or management actions/solutions described in an E&S Management Plan for the project, defined by the CAF responsible environmental officer (to be complementary to any other E&S management plan existing and applicable to the project).

Normally, the CAF Environmental officer responsible of formulating such Plan, shall visit the project Area and interview both the project proponent and the communities representatives.

For the project implementation phase, the project proponent shall designate an officer responsible for the E&S Management Plan implementation, monitoring and reporting. A CAF Environmental officer CAF will review the periodic reports of the implementation and monitoring of the E&S Management Plan, and if he/she considers it adequate, the necessary additional request or verification visit shall be executed.

NOTE: At the end of the document a list of minimal environmental impacts is shown, to demonstrate that such impacts are minor.

(xxxii) ³³ LEGAL REGULATIONS THAT GUIDE THE EIS (Environmental Impact Study; Spanish acronym-EIA):

(xxxiii) • Law N° 28611, General Law on the Environment.

(xxxiv) • Law N° 28245, Framework Law of the National Environmental Management System.

(xxxv) • Law N° 27446, National System for the Assessment of Environmental Impact Law.

(xxxvi) • Legislative Decree N° 1013, Legislative Decree that approves the Law of the Creation, Organization and Functions of the Ministry of the Environment.

(xxxvii) • Law N° 26839, Law for the Conservation and Sustainable Use of Biological Diversity.

(xxxviii) • Law N° 26834, Protected Natural Areas Law.

(xxxix) • Executive Order N° 038-2001-AG, Regulations for the Protected Natural Areas Law.

(xl) • Law N° 27314, General Law of Solid Wastes.

(xli) • Executive Order N° 029-94-EM, Regulations for Environmental Protection in Electrical Activities.

(xlii) • Law N° 28749, General Law of Rural Electrification.

(xliii) • Executive Order N° 025-2007- EM, Regulations for the General Law of Rural Electrification.

(xliv) • Executive Order N° 031-2007-EM, Regulations for the Organization and Functions of the Ministry of Energy and Mines.

(xlv) • Decree Law N° 25844, Law of Electrical Concessions.

(xlvi) • Law N° 27783. Decentralization Framework Law.

(xlvii) • Ministerial Resolution N° 535-2004-MEM-DM, Regulations for Citizen Participation for the execution of Energy Activities within the Administrative Procedures for the Assessment of Environmental Studies.

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El Peruano
DIARIO OFICIAL
FUNDADO EN 1825 POR EL LIBERTADOR SIMÓN BOLÍVAR
NORMAS LEGALES
Director: Enrique Sánchez Hernani

Lima, lunes 3 de febrero de 1997

AÑO XV - N° 6662

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PRES

Crean el Proyecto Especial "Programa de Desarrollo Rural de la Cooperación Peruano Alemana de Seguridad Alimentaria"

DECRETO SUPREMO N° 002-97-PRES

EL PRESIDENTE DE LA REPUBLICA

CONSIDERANDO:

Que, por Decreto Ley N° 21086 del 21 de enero de 1975 se aprobó el Convenio Básico de Cooperación Técnica entre los Gobiernos del Perú y de Alemania;

Que, el Programa de Desarrollo Rural de Cooperación Peruano-Alemana de Seguridad Alimentaria (PDR-COPASA), a partir del año 1984 es un Programa Presupuestario con Código actual N° 077-181, contando por tanto con cierta autonomía para la administración de los recursos asignados por el Tesoro Público;

Que, es de interés regional que el PDR-COPASA, se convierta en un Proyecto Especial, acorde con la prioridad que la Región Arequipa le ha otorgado, solicitando normas complementarias para su implementación;

Que, la nueva condición jurídica como Proyecto Especial, no implicará ningún egreso adicional ni modificación presupuestal en la contrapartida nacional que se asigna anualmente al Programa COPASA, a través del Pliego Regional;

Que, es necesario cautelar la continuidad del trabajo desarrollado y dar sostenibilidad y estabilidad al Programa COPASA, como un Proyecto Especial de Desarrollo Rural, con intervención en las provincias altas de la Región Arequipa;

Que, se requiere sentar las bases para mantener y/o ampliar el financiamiento externo del Proyecto COPASA;

Que, es necesario continuar la atención prioritaria de las áreas de extrema pobreza, localizadas en las provincias altas de Arequipa, mediante una programación y ejecución de acciones concentradas de alto rendimiento social, que garanticen la seguridad alimentaria de su población;

De conformidad con el Artículo 3° del Decreto Legislativo N° 560 y Decreto Supremo N° 021-93-PCM;

DECRETA:

Artículo 1°.- Créase el Proyecto Especial "Programa de Desarrollo Rural de la Cooperación Peruano Alemana de Seguridad Alimentaria (PDR-COPASA)" dependiente de la Región Arequipa encargada de la ejecución de programas de desarrollo rural regional; con autonomía técnica, administrativa y financiera.

Artículo 2°.- Incórrase al Programa de Desarrollo Rural de la "Cooperación Peruano Alemana de Seguridad Alimentaria (PDR-COPASA)" dentro de los alcances de la Resolución Ministerial N° 198-94-PRES, debiendo ser aprobado su Reglamento de Organización y Funciones por el Consejo Transitorio de Administración Regional de la Región Arequipa.

Artículo 3°.- El Proyecto Especial señalado en el Artículo 1° del presente Decreto Supremo, constará de una Dirección Ejecutiva que se organizará en base a los recursos del "Programa de Desarrollo Rural-Cooperación Peruano Alemana de Seguridad Alimentaria".

Artículo 4°.- Los trabajadores del Proyecto Especial PDR-COPASA estarán sujetos al régimen laboral de la actividad privada normada por Decreto Legislativo N° 728 y demás disposiciones complementarias, conexas y análogas.

Artículo 5°.- El presente Decreto Supremo será refrendado por el Ministerio de la Presidencia.

Dado en Lima, a los treinta días del mes de enero de mil novecientos noventa y siete.

ALBERTO FUJIMORI FUJIMORI
Presidente Constitucional de la República
DANIEL HOKAMA TOKASHIKI
Ministro de la Presidencia

COPASA Special Project for the Self-sustaining development of Arequipa was originally created by Executive Order No. 002-97, PRES, under the technical cooperation agreement between the governments of Peru and Germany; it has technical, administrative and financial autonomy, with budgetary allocations provided by the Regional Government of Arequipa as well as funding and assistance from various sources of national and international cooperation, aimed at the implementation of projects related to food security, rural development, risk management, climate change adaptation, rural social infrastructure programs and strengthening the operational capacity of the Regional Public Administration.

The project does not affect nor is contrary to the environment, it will neither change nor influence waterways. To the contrary it will support their recovery and preservation, combining modern technology with ancient practices without affecting the customs and traditions of the people in the areas selected.

COPASA has operated since 2007, under the aegis of Regional Ordinance No. 090-Arequipa, once the financial support of the government of the German republic came to an end. Its roles were redefined, becoming the counterparty to the Regional Government of Arequipa for Technical and Financial Cooperation Agreements it may enter into, or have delegated to it.

The Special Project COPASA's scope of action are the eight provinces of the Arequipa Region, giving priority to the less developed districts and annexations in which the highest levels of extreme poverty are concentrated.

- a) The project is aligned with the policies, national development plans and sub-national focus on adaptation to climate change, including the following standards:

- b) General Environmental Law (Law No. 28611 of 13 OCT2005) Framework Law of the National Environmental Management System (June 2004) Article 9 defined as functions of the National Environmental Authority follows: "a) propose, coordinate, direct and evaluate the National Environmental Policy b) Approve the Plan and the National Environmental Action Agenda". Similarly, Article 4 paragraph 4.1 states that the environmental functions under the responsibility of the entities that make up the National Environmental Management System are carried out in a coordinated, decentralized manner and subject to the National Environmental Policy Plan and the National Environmental Action Agenda and cross-sector rules made to achieve their objectives.
- c) Executive Order No. 012-2009-MINAM (May 2009), approved the National Environmental Policy, incorporating in its paragraph 6, Compliance Standards, the obligation to establish specific targets and performance indicators among other provisions, which should allow monitoring their effective implementation, throughout all three levels of government.
- d) With the international treaties signed by the country, the political constitution of Peru, according to paragraph 22 of Article 2 declares the fundamental and inalienable right to enjoy an environment adequate and balanced for the development of life, coupled with the Ministry of Environment which is the lead agency in the environment sector and the competent authority for the formulation of the national environmental policy applicable to the three levels of government in accordance with the provisions of Legislative Decree 1013 of May 13, 2008 which approved the law of creation, organization and functions of the Ministry of Environment.
- e) The objectives of the Ministry of Environment are focused on four strategic pillars that define the full and gradual incorporation of the environmental dimension in public policies:

Axis 1: Sovereign State and Guarantor of Rights

Axis 2: Improving the quality of life in a healthy environment

Axis 3: Reconciling the harmonious use of natural resources

Axis 4: Natural Healthy Patrimony: individual and social duty to preserve it.

Framework Law for Decentralization, (Act No. 27783 of 17JUL2002)

Organic Law of Regional Governments. (Act No. 27867 of 16NOV2002)

Organic Law of Municipalities (Law No. 27972 of 26MAY2003)

Organic Law for Sustainable Use of Natural Resources

(Act No. 26821 of 25JUN1997).

As described in section C, the Project has been classified as category B according to the procedure of environmental and social screening conducted by CAF. While the negative environmental and social impacts of the project are expected to be minimal or nil, CAF conducted an environmental and social assessment to verify this assumption and as a result of the evaluation

will formulate a Plan of Environmental and Social Management for the project and a Monitoring, Reporting and Assessment of Environmental and Social Management Plan for the Project. During the project implementation in their annual performance reports of the project, CAF will include a description of the status of implementation of the Environmental and Social Management Plan, as well as corrective measures that have been necessary to implement in order to avoid, minimize or mitigate environmental and social risks. CAF's final and mid-term reports will also include an evaluation of the project with respect to environmental and social risks.

The preliminary assessment of the project's proponent states that no additional assessment for compliance is required for the following aspects are central to the environmental and social principles of the Adaptation Fund. While this statement is recognized as reasonable, CAF's Social and Environmental Assessment shall, if applicable, include the relevant actions in the Plan for Environmental and Social Management.

F.- Describe if there is duplication of project/ programme with other funding sources, if any. The project does not overlap with or support activities that are already supported with other funding sources. Furthermore, the project will complement, build on and learn from a number of ongoing projects.

The Project does not overlap nor support activities that are being executed in the Project with other funds. [Currently, there are not other initiatives in the target regions that complements the project, but it is expected that the project experience will be used by the local governments to replicate it with other communities.](#)

[COPASA Special Project is the name of an entity; it is not a specific project. COPASA Special Project \(Cooperation with the process of sustainable development of Arequipa\), is a decentralized body of the Regional Government, created by DS 002-97-PRES of 30 January 1997. It has an Executive Directorate, under the President of the Regional Government, providing technical, administrative and financial autonomy. Copasa Special Project acts as the regional counterpart for technical cooperation agreements and finance that the Presidency of the Regional Government may require. In its years of operation, it has developed many and varied work programs and the institution is able use such experience for the benefit of the project.](#)

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

The PE-COPASA has successfully executed 11 projects since 1985, addressing in a focused manner various situations such as emergencies and post-quake reconstruction, disaster risk management, access to energy services, adaptation to climate change, food security, and improved stoves. This depth of experience has provided COPASA with several lessons learned about how to develop a project like this one with Andean highland communities, so that their beneficiaries can take ownership of the project, participate in activities, sharing the effort in the follow-up to the 'learning by doing' methodology.

This methodology allows for the creation of foundations of a real sustainability as per the proposal's objectives, to ensure that the impacts of the extreme cold spells cease to be a recurring

situation, as is currently the case, and that the population inhabiting the mountainous region of Arequipa develop its capacity to better face the consequences of climate change and to reduce their impacts, particularly for the most vulnerable members of the population (children and older adults) and their livestock capital.

Thus, the preliminary phases for developing a knowledge management strategy, necessary in order to know the resources and awareness levels regarding the Project's several facets, have already been carried out. All activities under component 2 make up the main body of the Project's knowledge management strategy and are critical for engaging communities and some authorities both in the Project's activities as well as in and sustaining its results.

The implementation of component one activities will be implemented after component two activities have been developed. Learning activities will be based on various methodologies for adult training, including "field days", which are training days where the participants put into practice what they are learning. Learning is expected to be facilitated by the fact that participants are expected to use the techniques learned in his private life due to its practical importance. Additionally, the peasants technical experts (Yachachis) will support the development of the project with home visits. To enhance the follow up and sustainability of the learning, local vigilance committees, leaded by the Yachachis, will be constituted.

Every workshop and fieldwork day shall produce a written memory, with the lessons learnt reported by the participants and by the activity responsables at the end of each activity, and complemented during the corresponding practical activity.

The planned development of teaching materials will also bring to capture and disseminate the knowledge already developed in the communities. The preparation of every written guide will include two consultations steps, the first to capture the existing knowlegde of interest to be disseminated; particularly in the reported more experienced persons of the community, and the second one to verify the adequacy of the guide design, by using a preliminary version to be tested with community members.

The final version of the teaching materials shall be also transferred to the local authorities during the follow up and replication agreements.

The Project's assessment and monitoring activities will incorporate criteria and indicators for assessing knowledge management activities and will include items for the identification, description and reporting of lessons learned.

At the Project's conclusion, a final report on lessons learned will be made in digital format and will be presented to the authorities and institutions related to the project. This report will have printed report for dissemination to participating communities and other identified communities that may be interested in the experience and that share conditions of vulnerability prior to project.

Section J includes a description of follow up strategies que are complementary to the learning strategy here described.

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.

The Project responds to the vital needs of the population that resides in the Andean highlands of Arequipa, Perú found above 3,800 masl, with the population attempting to adapt to the climate changes they are enduring, such as the cold spells in which the average annual temperature is 3.1°C, circumstances that directly affect their principal economic activity, Andean Highland livestock herding of alpacas, llamas, vicuñas, criollo sheep and cattle, the damages suffered are devastating due their vulnerable condition; the pastures are covered by snow, which once frozen are irreversibly damaged, leaving the camelids (alpaca, llamas, and vicuñas) without forage for several days, weakening them and making them more prone to illnesses and therefore putting them at imminent risk.

During the process of project formulation, coordination meetings have been held with local community leaders and representatives of public organizations, to develop strategic partnerships in order to evaluate the problems of selected areas, and in concert, propose coherent solutions that would have to be carried to minimize the effects of climate change, and implement an Adaptation to Climate Change Project, including the SP-COPASA of the Regional Government, local governments at both the provincial and district levels, and representatives of community organizations.

To develop the project, coordination meetings have been held with each of the 17 districts selected for the implementation of the proposal, at the level of: local authorities (2), municipal authorities (1), Womens Organizations (1) irrigation Organizations (1). The participation in those meeting has been verified with the information provided by the SIFHO (Sistema de Focalización de Hogares, Household Targeting System).

The working meetings were held between the months of January and February of the current year, in each of the selected provinces of Arequipa, Caylloma, Castilla, Condesuyos and La Union. In the meetings participated representatives from the following local district governments: San Juan de Tarucani, Chiguata, Pocsi, Quequeña, Polobaya, San Antonio de Chuca, Sibayo, Tuti, Callalli, Chachas, Andagua, Orcopampa, Chuquibamba Andaray, Yanaquihua, Pampamarca, Huaynacotas Puika. Below are included samples of the supporting documentation from the consultation process.

The project outputs, based on the dominant needs, requests and interests of the participants, summarize the agreements of the meetings. The project target population are the members of the participant communities in the lowest levels of poverty (which will be verified and documented with the SIFHO information system), whose livelihood is the alpacas raising and the sale of the alpaca fiber.

Minutes and Photographs of the Meetings held in the various Provinces



AÑO DEL BICENTENARIO DE LA GESTA PATRIÓTICA DE MARIANO MELGAR
VALDIVIESO

PLANILLA DE ASISTENCIA

TALLER... *Presentación Proyecto Aymaqui* ... LOCALIDAD... *Cajón*
FECHA... *Mayo 2015* ...

Fredy Apaza Paz	IE-40127 "S.E.S."	<i>[Signature]</i>
Oscar Apaza Llano	PAR	<i>[Signature]</i>
HELENA ALCAZAR	GOBERNADORA	<i>[Signature]</i>
Centro de Salud Chiguata	Asistente Social	<i>[Signature]</i>
Adela Flores Cuyo	Asistente Social	<i>[Signature]</i>
Matteo Macedo	presidente AS. Uchicanchi	<i>[Signature]</i>
Regente Legas	Presidente Junta	<i>[Signature]</i>
MARIO Quispe S.	Cari Cari	<i>[Signature]</i>
Jose Ushinahu	REP Obras Publicas	<i>[Signature]</i>
Oscar Cayo Suñia	Regidor Municipalidad	<i>[Signature]</i>
Bernal Coaquira Yselin	Asistente ODUR	<i>[Signature]</i>
GREGORIO CORRALSS D.	Alcalde	<i>[Signature]</i>
Juan Talavera R.	C. Regente	<i>[Signature]</i>
Antony Rivera V.	GRA-Copasa	<i>[Signature]</i>

PLANILLA DE ASISTENCIA

TALLER *Presentación Proyecto Ayaymarku* LOCALIDAD *Pestilla*
FECHA *Abril 2015*

Gladys Molina Huamán	Directora	<i>Gladys Molina</i> 22-05-2015
Mayra Delgado Ruiz	Gobernadora Yarabamba	MINISTERIO DEL INTERIOR <i>Mayra Delgado Ruiz</i>
Rita Poma Steven Neyra C.	Sacerdote encargado	<i>Rita Poma</i>
Morales Perez Vargas	Responsable P.S. Yarabamba	<i>Morales</i> CEP 23317
Leonor Acuña Yucra	Prof. I.E. N° 40209 "Iterares de Yarabamba"	<i>Leonor</i> 29423135
Anny Fierla de yza Ruedes	Pobladora	<i>Anny</i> 40560446
Kelly Inga de la Cruz	Pobladora	<i>Kelly</i> 4041102
Nilagros Coaguila Centeno	Pobladora	<i>Nilagros</i> 44356386
Karol Quevezana Lopez	Pobladora	<i>Karol</i> 71949263
Moifel Condori Olazábal	Poblador	<i>Moifel</i> 40231191
Humberto Romani V.	Trabajador	<i>Humberto</i> 24584164
Alexander Soza	Trabajador	<i>Alexander</i> 29549062
Esther Cruz Malaga	Poblador	<i>Esther</i> 71316589
FREDY VELA ZEGARRA	Trabajador	<i>Fredy</i> 29514573
EDICK CIEDE ALONSO	Trabajador	<i>Edick</i> 30862375
Zella Chaves Kichay	Trabajador	<i>Zella</i> 20911486
A. Rivera U.	GRN Copasa	<i>A. Rivera</i>

no?
vino?

PLANILLA DE ASISTENCIA

TALLER.....*Presentación Proyecto Ayuda Ky*.....LOCALIDAD.....*La Unión*
FECHA.....*Mayo 2015*.....










Lynbeth Alvarado Suarez	Trabajadora	<i>[Signature]</i>
Karel N. Guepezona Lopez	Participante	<i>[Signature]</i>
Mariela Vilma Sarmiento Choque	Trabajadora	<i>[Signature]</i>
Walter Gil (Suirpe Ancalle)	Trabajador	<i>[Signature]</i>
Edgar Flores A.	Trabajador	<i>[Signature]</i>
Kelly Luz Coaguila Estrada	Trabajadora	<i>[Signature]</i>
Angel Bautista Ramos	Trabajador	<i>[Signature]</i>
Astun Rivera V.	GRA - COPASA	<i>[Signature]</i>

26-05-2015- 10.00 AM.
PLANILLA DE ASISTENCIA/Aseguradora






Ing. Capatzen
 C.U. Quequena
 Corinto municipal -
 A.S.S. Villa Herosa
 P.S. Quequena
 I.E. 40192
 Regidor Villa de Quequena
 Presidente A.S.S. de Villa Herosa
 Francisco Billand
 Area tecnica Municipalidad.
 A.S.S. Casa Villa Herosa de Quequena
 ASPEQU
 Sacerdote encargado de la Parroquia
 San José de Quequena
 Hacer Reparatrices

ASISTENCIA A LA REUNIÓN DE LA PLATAFORMA DEFENSA

CIVIL MDVQ 23 DE ABRIL DEL 2015

Nº	NOMBRE O RAZON SOCIAL	CARGO	IDENTIDAD	FIRMA
1.	Abel Mercedes Pérez Reina de Chap	Presidente	29597058	
2.	Club de Madres Villa Poma	Presidente	45323372	
3.	ANCA SANCATICAORA KUME	CONSEJO MANABAZA	43746127	
4.	Grupa Jura Solas COMISIDEC LATINOAM	Presidente	2959426	
5.	Bilama Bellée Jelles	Directora IE 40192	29548531	
6.	Reflexe Quito Poma. Gremio Jura	Presidente	09164733	
7.	Cecilia Poma Jura Rep. v. F. Financiera	Presi	305818	
8.	Rod Hecano Capo	Presidente Villa Grande	29713073	
9.	Asamblea Manabaz Poma Jura	HOPEQS		

02
Buenos Aires

Nº	NOMBRE O RAZON SOCIAL	CARGO	IDENTIDAD	FIRMA
10.	Cady Rana Chelana	Presidenta S.S.	4118597	
11.	Vilma Riquel como Concejales	Alimentación, Círculo de Madres	29604772	
12.	Antonia Riquel Vigil	Pl. Capasa GRA	2920301	
13.	Dora María Borges Zala	Expediente del auto. S. V. G. Presidencia de Club de Madres	01476448	
14.	Agustín Santillana	Asesor Legal de Quevedo		
15.				
16.				
17.				
18.				



Photograph: Meeting held in the District of Huaynacotas in the Province of La Union. **Source:** COPASA Archives (2015)



Photograph: Meeting held the offices of the Regional Department of Agriculture in Arequipa, to present the proposal **Source:** COPASA Archives (2015)



Photograph Meeting held in the District of Andagua, Province of Castilla, to introduce the proposal. **Source:** COPASA Archives (2015)



Photograph Meeting held in the District of Orcopampa, in the Provincia of Castilla. **Source:** COPASA Archives (2015)



Photograph Meeting held in the District of Chiguata, Province of Arequipa, to introduce the proposal. **Source:** COPASA Archives (2015)



Photograph Meeting held in the District of San Juan de Tarucani, Province of Arequipa, to introduce the proposal. **Source:** COPASA Archives (2015)



Photograph Meeting held in the District of Yarabamba, Province of Arequipa, to introduce the proposal. **Source:** COPASA Archives (2015)



Photograph Meeting held in the District of San Antonio de Chuca, Provincia de Caylloma, to introduce the proposal. **Source:** COPASA Archives (2015)

Principal Stakeholders of the Project:

- The Regional Government of Arequipa.
- Regional Office of Agriculture of Arequipa
- Regional Office of Education of Arequipa
- Administrative Water Authority of Arequipa
- Local Water Authority of Arequipa
- Regional Office of the Environment of Arequipa.
- National Meteorological and Hydrological Service of Peru, Arequipa
- National Institute of Natural Resources, Arequipa Region
- National Animal Health Service, Arequipa Region
- The local governments of the eighteen districts, project's area of influence, belonging to the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union.
- Representatives of Community Organizations
- Representatives of the Andean Camelid Breeders' Associations in the Highland areas of the Arequipa Region.
- Representatives of the various Health Centers, Posts and Stations in the eighteen districts, within the Project's area of influence.
- Representatives of the Civic Organizations in the selected provinces and districts.
- Rural associations or communities within the Project's area of influence.

I. Provide Justification For Funding Requested, Focusing On The Full Cost Of Adaptation Reasoning.

At present, the development of adaptation action by local and national authorities in the project area, not explicitly address in a practical manner the impacts of climate change that this project assumes. The levels of development of these authorities are aiming for now at levels of generality, research and identification of scenarios. To achieve that the impacts of climate change facing the project are addressed directly by the authority, it is estimated a few years or an administrative period (five years) in a more critical scenario. The alternative of financing funds is recognized and even encouraged by the authorities.

In the event that the project is not implemented, the economic losses that may be the direct and indirect beneficiaries may range from \$ 2.8 million / year in revenue by alpaca fiber production.

Moreover, the non-execution of an initiative such as that proposed by the project will continue to encourage migration to other sources of employment and the local economy devaluation of Alpaca, which threatens to undermine a traditional time know with a high cultural value significant.

In the event that the project is not implemented, the health impacts resulting from water shortage leading to uses of unhealthy sources of the resource will continue to be maintained in the population of the five districts which can benefit the implementation of the water purification systems, and diarrheal diseases will continue to affect particularly among children previously described.

Adaptation Fund resources will be used to ensure that vulnerable communities targeted by the project are provided with adequate knowledge and resources in order to strengthen and develop their livelihoods and reduce their vulnerability to climate change risks. [The project is expected to be replicated subsequently in more regions of the Andean highlands in Peru.](#)

This project has an emphasis on gender, as it is largely the responsibility of women to do the alpaca herding and tend to the highland crops, considering male migration in search of employment options.

The project has been designed to integrate with government programs and the knowledge and experience gained will be shared with authorities at the municipal, regional and national levels to encourage their replication.

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

Project sustainability is guaranteed in the first place because it responds to the most urgent needs of the prioritized and consulted population. Hence, it is highly likely to achieve local ownership of the appropriate solutions to climate risks.

[As mentioned, the main strategy to sustain the community management of activities \(in addition to the capacity building activities\) is to make agreements with the local authorities to include the project outputs and activities in their monitoring activities and also to expand or replicate them. Currently it is not defined if those agreements will include additional financial support to ensure sustainability beyond the project.](#)

[The design and implementation of the training activities are based on the experience of COPASA with the communities of the project area. This is why the Yachachis and the Quechua are going to be considered, and a participative paradigm of teaching. On the other hand, the empowerment of the women the project will seek is expected to promote participation, leadership and decision of the women in the production activities to be developed and improved. It is expected to favour an active and respected role of the women, not only to influence the sexist dominant culture, but also to enrich that culture with the dynamism of a recognized role that will seek to affirm his presence in the community by leading what they have been trained to do.](#)

[As mentioned in section A, the project follow up strategy includes: 1. Project impact evaluation \(about six months after the end of the project\); 2. Indicators follow up \(at least one year after the end of the project\); 3. A follow up budget allocation to be negotiated with the local governments; 4. COPASA periodic visits, after the end of the project \(to be negotiated\). Follow up findings shall be solved by reinforcement plans or action in order to cover gaps of the learning process \(the actions may consider the local experts support\).](#)

[To ensure the financial sustainability beyond the project, in addition to the follow up budget allocation to be negotiated with the local governments, strategic alliances with development banks will be explored.](#)

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

CHECKLIST OF ENVIRONMENTAL AND SOCIAL PRINCIPLES	NO FURTHER ASSESSMENT REQUIRED FOR COMPLIANCE	POTENTIAL IMPACTS AND RISKS – FURTHER ASSESSMENT AND MANAGEMENT REQUIRED FOR COMPLIANCE
Compliance with the Law		To be reviewed during E&S Evaluation
Access and Equity		To be reviewed during E&S Evaluation
Marginalized and Vulnerable Groups		To be reviewed during E&S Evaluation
Human Rights		To be reviewed during E&S Evaluation
Gender Equity and Women's Empowerment		To be reviewed during E&S Evaluation
Core Labour Rights		To be reviewed during E&S Evaluation
Indigenous Peoples		To be reviewed during E&S Evaluation
Involuntary Resettlement	Not applicable	Not applicable
Protection of Natural Habitats		To be reviewed during E&S Evaluation
Conservation of Biological Diversity		To be reviewed during E&S Evaluation
Climate Change		To be reviewed during E&S Evaluation
Pollution Prevention and Resource Efficiency	Not applicable	Not applicable
Public Health	Not applicable	Not applicable
Physical and Cultural Heritage	Not applicable	Not applicable
Lands and Soil Conservation		To be reviewed during E&S Evaluation

NOTE: The Project Environmental and Social Evaluation shall be executed after the presentation of this proposal to the AF Secretariat. Its corresponding Environmental and Social Management Plan and the Monitoring, Reporting and Evaluation Plan will be delivered to the Adaptation Fund Secretariat as soon as the assessment is completed. The impacts of the project activities are expected to be very low, and the project has been categorized as B in order to verify this assumption. Following, a list of minimal environmental impacts is shown, just to demonstrate that the impacts have been reviewed and why they are considered minor impacts.

Preliminary Analysis of the Project's Environmental Impact

[NOTE: paragraph deleted]

Physical Impact

This project, given the areas of the terrain involved in the process, the use of tools and equipment eminently friendly to the environment, as well as the use of materials native to the areas, in the various construction processes, the use of local labor for required earthworks, the use of seeds indigenous to the area, the avoidance of project location in reserved areas or ecological buffer zones, non-alteration of natural rural landscape, endeavors to make the environmental impacts minimal in the area. Even so, following the parameters set forth in the preceding paragraph, a set of potential environmental impacts has been established at each stage and component of the project, which are as follows:

Impact on vegetation

During the operation and maintenance phase, the impact on vegetation will not be relevant in the ecological context.

Impact on fauna

During the operation and maintenance phase, the impact on fauna will be minimal, given that it will become accustomed to movement in the area, and be able to return from the areas it will have migrated to during the construction phase.

Impact on the aquatic environment

During the operation and maintenance phase the impact on the aquatic environment will be minimal.

Socioeconomic Impact

During the construction phase, which will last for one month, a positive impact on the sector is expected due to the participation of the villagers themselves in construction projects, which will allow them to receive a salary for their contribution as labor.

Impact Control and Mitigation

While environmental and social assessment of the project is done, we have established the following measures to control and mitigate impacts that will be confirmed, transformed or replaced as a result of the evaluation.

Avoiding air pollution:

The ground will be sprayed with water to control dust; the vehicles will be operated at low speeds.

Transported materials should be adequately wetted and covered to prevent their dispersal.

Avoiding potential soil contamination:

Construction areas will be demarcated to avoid impacts on soils outside the perimeter of the building site.

No material will be deposited inside the canal trenches to avoid their contamination.

The organic soils removed during the initial construction phase will be stockpiled in designated areas for later use during the operation and maintenance stage.

The inorganic soils removed during the initial construction phase will be stockpiled in designated areas for their use during this same phase.

Septic tanks, ponds for sewage treatment, and drainpipes will be sealed.

Avoiding the potential contamination of moving water:

The dewatering system chosen must not cause any turbidity in water, puddling or other damage to the environment.

To avoid generating particulate matter (dust), access roads and work areas will be kept wet.

The disposal sites for excess material will be at a sufficient remove from bodies of water, so that, even during flooding, they will remain unaffected.

During the Closing Phase:

The embankments resulting from cutting in quarries must be replanted in order to increase their soil stability. This measure will minimize the landscape alterations that occur in the area.

During the construction's execution period environmental training activities must be held, aimed in a preferential manner at the construction personnel (professional and technical), since this stage constitutes the period in which the environment will be most exposed to changes arising from the construction of the project's proposed works.

To avoid altering the area's landscape, reforestation is recommended using native vegetation, in areas where the camps and workshops have been built camps, or other places where excavation has been done (quarries and trenching for canals).

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme implementation.

The project will be carried out in direct coordination with local governments of the 18 districts within the project's area of influence. Its implementation will engage stakeholders such as the Regional Government of Arequipa, local authorities, Andean camelid breeders' associations, health centers in the districts, associations and rural communities and civil society. All of this will be done in coordination with the Ministries of Environment, and Agriculture, and the National Water Authority. The Project's institutional arrangements that are designed to work through the PE COPASA in direct collaboration with the Regional Government and local governments, maintaining constant communication, and as far as possible, will be aligned with other initiatives.

Executing Entity:

The COPASA Special Project (Cooperation with the process of self-sustaining development in Arequipa), is an autonomous agency of the Regional Government, created by EO 002-97-

PRES on January 30, 1997, under the Technical Cooperation Agreement between the governments of Peru and Germany. To date and in compliance with its purpose, it has Executive Management, reporting to the President of the Regional Government, and possessing technical, administrative and financial autonomy

The applicant has previous experience in technical cooperation in this topic, fulfills its function as the region's counterpart for technical and financial cooperation accords that the Presidency of the Regional Government of Arequipa entrusts to it. In its years of operation it has developed many and varied work programmes, among which we can highlight:

Integrated Food Security Programme – PISA [Spanish acronym] (1985 – 1993)

- Marginal Urban Areas Emergency Programme – PEUM [Spanish acronym] (1985 - 1993)
- Colca Valley Rural Development Programme - PDR [Spanish acronym] (1995 - 2001)
- Emergency: Post Earthquake Reconstruction Project (2001 – 2002)
- Emergency: Special Measures to Mitigate Cold Spell Effects (2002)
- Disaster Risk Management Project with a Focus on Food Security – PGRD [Spanish acronym] (2002 - 2007)
- Adaptation to Climate Change Programme (2006 – 2007)
- Access to Energy Services Programme (2007 – 2008)
- Energy, Development and Life Programme – ENDEV [Spanish acronym] (2008)
- Andean Highlands Social Development Programme (2009)
- Execution of Framework Agreement undersigned by the RGA and the UNDP (United Nations Development Programme) (2009 – 2011)
- Programme for the Installation of Improved Stoves in the Arequipa Region (2010 - 2011)
- Program to strengthen local governments, leading to participatory planning processes, and local budgeting, taking into account criteria of rationality and efficiency, guiding the implementation of projects as planned and per the approved budget (2015 - 2018)
- Program to strengthen local governments, for them to know and apply methodologies and tools in which risk management and adaptation to climate change are incorporated, reducing their levels of vulnerability, implementing an environmentally responsible management of natural resources (2015 - 2018)
- Program to strengthen local governments, to carry out maintenance, construction and use of improved stoves, contributing to environmental improvement and sustainability of the technological proposal. (2015 - 2018)

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

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

- D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.**
- E. Include a results framework for the project proposal, including milestones, targets and indicators.**
- F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund**

Project Objective(s)³⁴	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)

(xlix) ³⁴ The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

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.

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

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

A. Record of endorsement on behalf of the government³⁵ *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:*

<i>Viviana Grissel Zaldívar Chauca, Asesora Gabinete de Asesores de la Alta Dirección Ministerio del Ambiente del Perú</i>	<i>Date: July, 31, 2015</i>
--	-----------------------------

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*

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.

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 (General Law of the Environment, Law No. 28611; Bicentennial Plan, Peru 2021; National Environmental Action Plan - Peru 2011-2021 PLANAA); [The Regional Strategy for Adaptation to Climate Change in the Arequipa region 2008-2018](#); [The Concerted Development Plan 2013-2021 of the Arequipa Region](#);

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.

Ligia Castro

Dirección de Ambiente y Cambio Climático

Implementing Entity Coordinator

Date: *August, 4th, 2015*

Tel. and email: lcastro@caf.com
+58.212.209.66.34

Project Contact Person: María Carolina Torres

Tel. And Email: mctorres@caf.com
+571.743.73.68



PERÚ

Ministerio
del Ambiente

"Decenio de las Personas con Discapacidad en el Perú"
"Año de la Diversificación Productiva y del Fortalecimiento de la Educación"

Lima, July 31, 2015

Letter N° 001-2015-MINAM/DM/VZCH

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

Subject: Endorsement for Project "AYNINACUY: Estrategias de adaptación al cambio climático, para la preservación de su capital pecuario y medios de vida en comunidades campesinas en las zonas altas de las provincias de Arequipa, Caylloma, COndesuyos, Castilla y la Unión, de la Región Arequipa"

In my capacity as designated authority for the Adaptation Fund in Peru, 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 of climate change in Arequipa, Peru.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project will be implemented by CAF-banco de Desarrollo de America Latina and executed by Government of Arequipa.

Sincerely,

Viviana Grissel Zaldívar Chauca
Adviser Minsitry of Environment
Designated Authority