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:

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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: Strengthening the livelihoods for vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru
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:	$ 2,941,446.00 (in U.S Dollars Equivalent)

Project / Programme Background and Context:

Introduction

South American camelids such as alpacas, llamas and vicuñas inhabit the Andean highlands above 3,000 meters, in Peru, Bolivia, Argentina and Chile. Peru, leading producer of alpaca fiber, is home to the greatest number of camelids, with a population of about 5 million of all kinds, predominantly alpacas (on the order of 3.7 million).

In Peru raising Andean camelids is the main livelihood among the highland communities, whose population engaged in this activity, is estimated to be approximately 1.5 million. Camelid producing

areas in Peru include the provinces with the highest levels of poverty and marginalization.[1] Moreover, this activity takes place mainly in highland *puna*[2] ecosystems (generally in Peru, above 3,800 meters), an ecosystem whose characteristics, although they allow for the raising of alpacas and llamas, hardly favor the development of agriculture.

Due to the impacts of climate change, whose peculiarities will be explained below, the activity of raising camelids by vulnerable Andean highlands communities in Peru has been being severely affected, with cyclical annual losses in thousands of heads of camelids, which threatens the sustainability of these communities' principal livelihood.

In the highland communities of the Arequipa Region, in Peru, raising these camelids, in particular, alpacas, centers on the production and sale of alpaca fiber. As this project is an initiative of an entity under the Regional Government of Arequipa, the project is focused on the development of a comprehensive strategy to strengthen the activity of raising alpacas for fiber production in the vulnerable Andean highland communities of the Arequipa Region.

The problem the project seeks to address

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 of extreme climate variability. Peru is one of the tropical countries that are more acutely affected by the retreat of glaciers in mountain ranges that were in previous years covered with snow. Within the Peruvian territory the effects of climate change also differ, by region and socioeconomic levels, and, in the distribution of negative climate impacts, the rural poor of highland mountain ecosystems will bear the brunt of these changes. In these areas, glacier retreat has reduced the availability of water and has led to the desertification and soil degradation.

On the other hand, while drought, cold spells, and frost are phenomena that have always been present in many regions, like the case of Arequipa, Peru, the effects of climate variability have resulted in these phenomena recently being more frequent and intense at these altitudes. Consequently, this intensification is causing severe damage to this region's fragile environment, affecting one of its most vulnerable population groups, located in the high Andean mountains. In particular, this has an impact on the health and survival of camelid herds, in the main, alpacas, which are essential for their subsistence.

The aforementioned effects of climate variability have an impact on overall alpaca fiber production in the highlands of the Arequipa Region: diminishing water availability increases desertification which leads to a decrease in the areas available for grazing; during droughts, the capacity for pastures to support grazing is significantly reduced. This absence of sufficient available areas leads

[1] E.C. Quispe, T.C. Rodríguez, L.R. Iñiguez y J.P. Mueller. Producción de fibra de alpaca, llama, vicuña y guanaco en Sudamérica [*Alpaca, llama, vicuña and guanaco fiber production in South America*]. Animal Genetic Resources Information, 2009, 45, 1–14. © Food and Agriculture Organization of the United Nations, 2009-doi:10.1017/S1014233909990277. NOTE: More recent information is not available.

[2] The *Puna* Ecoregion, or simply *Puna*, is a highland region, or high plains plateau, specific to the central zone of the Andes mountain range. It comprises a neo-tropical biome of the mountainous grassland type. It is found in regions stretching from northern Argentina, western Bolivia, northern Chile to the central and southern regions of Peru. Altitudinal parameters vary from country to country and per latitude. In Peru, the *puna* grasslands are found at 3,800 to 4000 masl.

to overgrazing; new wind patterns destroy traditionally built shelters for the protection of camelids; the exposure of the alpacas to more intense cold, coupled with the lack of pasture for adequate nourishment, has an impact on their health and induces seasonal mortalities in these herds; the reduction in the number of animals and the deterioration in their well-being significantly affects the production of alpaca fiber and threatens the sustainability of this way of life.

Moreover, the decreasing availability of water leads to the use for human consumption of unfit sources, which affects the population's health, while the new heightened cold conditions critically increase the frequency of respiratory diseases, particularly among children.

This project constitutes an initiative focused on the endeavor to strengthen the activity of obtaining and selling alpaca fiber, an activity that is the main and almost exclusive means of livelihood and source of income for the vulnerable Andean highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Arequipa Region of Peru.[3] To strengthen this way of life, the project seeks to strengthen the activity of raising alpacas to obtain fiber among the enumerated communities, while improving resilience at the local level through the development of basic infrastructure for access to water drinking and by implementing a pilot activity to strengthen the assets of housing communities covered by the project. In this way, the project will contribute to the sustainability of the economic activities of marketing, use and export of alpaca in Peru, as well as the livelihood and ancestral cultural values they represent.

Photo: The photograph illustrates the processes of overgrazing that occur in the project area, due to water scarcity as a consequence of climate change, in one of the Andean highland communities in the Arequipa Region**. Source:** COPASA Archives.

Climate change scenarios that weigh on the problem

<u>Temperature patterns, soil desertification and water availability</u>

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

[3] In Peru, the largest political administrative divisions are the departments, and their governments are called regional governments. Each region or department is then subdivided into provinces, and these into districts. This project is conceived for the Arequipa Region (Department), focusing on five (5) of the Region's eight (8) provinces: Arequipa, Caylloma, Condesuyos, Castilla and La Union. It can be noted that the name *Arequipa* is used to denominate both the Region and a province of the same. Additionally, the city of Arequipa is the capital of the Province of Arequipa and the Department/Region of Arequipa.

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[4] and cultivated pastures[5] for livestock makes raising alpacas, highly precarious. Climate change is affecting the local economy of rural households in this direct way.

On the other hand, there is a high risk that 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 alpacas for fiber production and marketing.

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).

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).

[4] In the area, natural pastures are provided by local typical high altitude wetlands (*bofedales*).

[5] The use of native varieties such as *ichu* and *chillihua*, which are not resistant to the cold, can be replaced by improved and more resistant varieties such as ryegrass and dactylis glomerata.

Glacier Retreat Trends in Peruvian Andes: The following table synthesizes the evidence of glacier retreat in the Peruvian Andes (ENSO). The ENSO[6] cycle displays two phases: a warm and positive one (El Niño) and another cold or negative phase (La Niña).

Table 2[7]

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[8] glacier has shrunk by almost 40%.
Silverio (2004) (1950-2006)	Up to a 50% reduction in the extent of the Coropuna[9] glacier, creating problems in the irrigation of the Majes Pampas.

Based on the 2009 analysis of ten indices of extreme events conducted by the SENAMHI (for its acronym in Spanish) –National Meteorological and Hydrology Service of Peru– 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 region has seen a greater frequency of mild and severe droughts in the preceding decades.

[6] The ENSO cycle is part of complex set of interactions that 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.

[7] The basis for the elaboration of this table was extracted from the document generated by the Inter-American Development Bank (BID, for its acronym in Spanish) and the Economic Commission for Latin America and the Caribbean (CEPAL), within the framework of the Regional Study of the Economy of Climate Change (ERECC for its acronym in Spanish), in Latin America and the Caribbean, coordinated by CEPAL, with support from the Government of Peru and financing from the IBD (BID).

[8] A snow-capped peak located in the department of Ancash, Peru.

[9] Snow-capped peak in the Arequipa region.

- 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.

Climate Changes Scenarios Anticipated for the Arequipa Region

Below are the description of some climate change scenarios for the provinces of Castilla Media and Condesuyos in the Arequipa Region. Given that the environmental characteristics of these provinces are representative of the project's target area, it can be reasonably expected that their outcomes, that is, those scenarios identified for these provinces, are applicable to the other highland areas of the Arequipa Region.

If the Castilla Media and Condesuyos provinces can be used as representative of the climate's comportment in the inter-Andean provinces in the Arequipa Region, then the studies realized by Climate Change Adaptation Pilot Measure point to the likelihood that significant disturbances in the climate will occur over the next twenty (20) years in the Region.[10]

Temperature Changes

The projections for temperatures changes to 2030 indicate that the variations of minimum and maximum temperatures will expand by almost 4^0 centigrades, both upward and downward. Both the winters and summers will tend to be atypical, with a predominance of heat waves and a reduction in the number of cold days and nights. In accordance with an initial study realized by the Brazilian entity Center for Weather Forecasting and Climate Study (CPETEC, for its acronym in Spanish) for the Arequipa Region, by the end of the twenty-first century in a best case scenario, air temperatures will vary upward between 2 and 3^0 C, and from 3 to 5^0 C in a worst case scenario, with the most intense increases occurring "the altitude band ranging from 3000 to 4000 masl.". For the period from 2017 to 2100, two scenarios have been identified, one best case (related to low emission) and another worst case (related to high emission).

For the aforementioned worst case scenario, the study concluded that, for summers, all the models show a warming trend, with gradually increasing temperatures until the end of the twenty-first century, in which the temperature could see increases on the order of almost 4 to 5^0 C greater than the current climate. The observed temperatures trends, although with few weather stations, suggest that during the past 40 years the air temperature has increased in the Arequipa Region, with the trend revealing itself more in the lower temperatures than the highs. This warming has been greater since the middle of the 1970s, with higher numbers, both in the maximum as well as the minimum temperatures during the years in which El Niño was active.

Rainfall

The trends in temperatures, as well as the eventual concurrent El Niño phenomenon, indicate that the favorables periods (Pro periods when water supply is expected by rain) disponibilidad in the past would last between 6 and 9 years are tending to last only 4 to 6 years. At the same time, the frequency of the return of critical periods (water supply decreased by rain) will likely be reduced from every 6 to 9 years to every 4 to 6 years. With this, there will be a reduction in precipitation,

[10] Climate Change Adaptation Pilot Measure. Study developed for COPASA (2007). José Marengo.

especially in the highlands, which will affect not only the water recharge cycles, but also the retention capacity of the snowpack at the highest elevations. As a result, the surface area of the glacier will continue to shrink a rhythm that could exceed by 50% the current rhythm, leading to their disappearance in a brief period of time. This, at the same time, will feedback into climate change factors further reducing the region's capacity to retain and store water. The areas of greatest social impact will likely be the lower and middle parts of the inter-Andean valleys, however, the ecological impact will be felt in the entire zone. In summary, the trends in temperature and in precipitation indicate that climate change in the region will tend to become more acute in the coming years both in rhythm as in intensity, principally manifesting itself in an increase in median temperatures between 2 and 4 centigrades in the areas immediately surrounding the Region's snow capped peaks. This will be accompanied by the reduction of rainfall and an increase in the return cycle and duration of critical periods. These scenarios are clearly subject to some uncertainty due to the confluence of unpredictable variables (variations in the emission of CO2, natural climate variations, unpredictable geodynamic events, etc.). These all do, however, raise an alert as to a high probability trend that makes the task of taking preventive measures essential.

AEDES[11] Experience

AEDES, in partnership with GWP Global Water Partner, produced a document titled 'Cambio Climático, Retroceso Glaciar y Gestión Integrada de los Recursos Hídricos' (Climate Change, Glacier Retreat and Comprehensive Management of Water Resources), in which it is noted that in the face of glacier retreat:

- "Climate Change is undeniable and evident. The principal cause is the burning of ever increasing amounts of petroleum, gasoline and coal, the felling of forests and some methods of agricultural production. These human activities have increased the volume of 'greenhouse gases' (GHG) in the atmosphere"
- The entirety of andean tropical glaciers is suffering visible processes of retreat.[12]
- The different studies point out that in the last 30 years Peru has lost 22% of its glacial area. Between 1980 and 2006, the *Cordillera Blanca* lost 33% of its area (annual loss, 9.3 km^2). The Pastoruri peak has lost 40% of its surface area between 1995 and 2007 (1.1 km^2 in 2007)17. The *Coropuna* peak retreats approximately 2.4 km^2 per year 18. Between 2003 and 2007, the area on the *Salkantay* peak has diminished by 4.11 km^2, which means a retreat of 1.02 km^2/year.
- This glacier retreat in the coming years will be catastrophic for various ecosystems and sectors, with the following consequences:

[11] AEDES: Asociación Especializada para el Desarrollo Sostenible (Specialized Sustainable Development Association) is an NGO located in Arequipa.

[12] In 2007, the Andean Community (CAN, for its acronym in Spanish) was noting that all the glaciers in Peru, Bolivia, Ecuador, Colombia y Venezuela were suffering visible recoil processes (Peruvian glaciers represent 71% of all the world's tropical glaciers, those in Bolivia 20%, in Ecuador 4%, in Colombia 4% and in Venezuela 1%) (Jordán 1991). Different studies show that in the last 30 years Peru has lost 22% of its glacier surface (Bernex, Nicole y Tejada, Manuel. Cambio Climático, Retroceso Glaciar y Gestión Integrada de los Recursos Hídricos - Climate Change, Glacial Retreat and Integrated Management of Water Resources-. Available, in Spanish at http://www.gwp.org/global/gwp-sam_files/publicaciones/varios/2011-cambio-climatico.pdf

- Reduction in the availability of water.
- Increase in desertification and arid areas.
- Pest infestations and blights will increase in harvests.
- The distribution of some human diseases will be modified and others will arise.

Socioeconomic Context

Peru accounts for 80% of supply of alpaca fiber in the world market. In 2014, the exports of this product totaled almost USD 60 million, which corresponded to 0.16% of the total Peruvian exports for the same period. Moreover, exports of garments made of alpaca fiber were valued at a similar amount for the same period, while they accounted for 3% of total Peruvian exports. Despite not occupying a dominant position, the manufacture of alpaca forms part of an important sector in the Peruvian economy (25% of Peruvian companies is dedicated to textiles and clothing, a sector that accounts for 11% of manufacturing GDP and 2 % of national GDP). In the production of alpaca fiber in Peru, the contributions by small breeders (small-scale production) are the majority, contributing 85%.

As regards breeding and raising alpacas in Peru, in the most recent census of the animal population[13], 12% of that population corresponds to the Arequipa Region. There are approximately 120,000 alpaca breeders in Peru and around 5,400 are in the region of Arequipa. The average farmer in the region of Arequipa has averaged 102 camelids. A breeder's average herd size in the Arequipa Region is 102 alpacas.

As regards producers' organizations, there are at least 50 camelid fiber producer organizations in Peru, of which nine are in the Arequipa Region. The camelid breeders' groups traditionally take the form of Civil Nonprofit Association (ACSFL, for its acronym in Spanish), although, in recent years, and particularly in Arequipa, they are tending to form Special Producers' Cooperatives.

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, snow-capped mountains, springs, etc.), and where few highland crops can be grown.

The water resources on which development in the high Andean zones is based originate with water flows at 3800-4000 meters 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 camelid raising in the Andean highlands. A consequence of the abandonment of this activity is to push internal male migration, further towards the pull of employment expectations generated by mining.

The populations residing in highland climates, who are financially dependent on high Andean flocks (mainly camelids: alpacas, llamas and vicuñas), 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

[13] Censo Nacional Agropecuario 2012 [National Livestock Census 2012]. http://censos.inei.gob.pe/cenagro/tabulados/

household groups have to ensure their survival (on average a household possesses 102 alpacas). 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.

Below is a table illustrating the demographic composition of the population of the project's target area. The registered camelid population is also included.

Table Nº 3

POPULATION DATA - 2012						
Nº		**PROVINCE**	**DISTRICT**	**ALTITUDE (masl)**[14]	**POPULATION (inhabitants)**	**CAMELIDS POPULATION**
	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
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**

[14] Meters above sea level

GRAND TOTAL	**42,271**	**322,500**

Table Source: National Institute of Statistics and Computing-INEI Peru (2012) Population and Housing Census **Chart:** Provided by COPASA-Arequipa[15]

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).

Next, a table is included which describes the human development indices in the target area.

Table Nº 4

Human Development Index for the Departmental, Provincial and District Levels 2012.
Recalculated according to the new methodology, PNUD (2010)

Location Code 2010	DEPARTMENT / Province / District		Population		Human Development Index		Life Expectancy at birth		Population w/ HS Educ		# Years in school (Pop. 25 and more)		Family Income per capita	
			Inhabitants	ranking	HDI	ranking	years	ranking	%	ranking	years	ranking	N.S. month	ranking
000000	**PERÚ a/**		**30,135,875**		**0.5058**		**74.31**		**67.87**		**9.00**		**696.9**	
040000	**AREQUIPA**		**1,245,251**	**8**	**0.5781**	**3**	**75.97**	**6**	**88.27**	**1**	**10.04**	**3**	**818.4**	**4**
040100		**Arequipa**	**936,464**	**3**	**0.6044**	**7**	**75.94**	**46**	**85.95**	**1**	**11.52**	**1**	**871.0**	**10**
040106	6	Chiguata	2,874	1174	0.4303	425	77.24	367	79.77	152	7.40	638	437.4	569
040113	13	Pocsi	574	1771	0.3557	693	74.48	759	37.91	1083	7.29	666	386.3	705
040114	14	Polobaya	1,483	1486	0.4894	298	74.52	752	80.04	138	9.20	265	577.0	368
040115	15	Quequeña	1,329	1537	0.5010	263	75.10	657	77.39	178	11.42	38	547.6	408
040119	19	San Juan De Tarucani	2,202	1312	0.3358	780	79.59	105	44.87	885	6.13	1051	312.3	939
040400		**Castilla**	**38,990**	**137**	**0.4810**	**41**	**74.26**	**74**	**59.76**	**56**	**8.48**	**51**	**665.2**	**31**
040402	2	Andagua	1,227	1569	0.3659	646	73.27	933	43.89	926	7.06	746	407.5	643
040404	4	Chachas	1,827	1390	0.2423	1366	76.89	404	28.81	1328	5.04	1442	193.0	1421
040409	9	Orcopampa	9,234	544	0.5235	199	75.54	593	46.48	846	9.44	241	874.3	99
040500		**Caylloma**	**86,542**	**71**	**0.4795**	**43**	**76.82**	**39**	**70.48**	**30**	**8.33**	**53**	**587.9**	**51**
040504	4	Callalli	2,210	1310	0.3777	596	78.97	185	64.85	428	6.56	894	351.7	814
040514	14	San Antonio De Chuca	1,510	1479	0.3213	845	79.81	87	38.32	1065	6.72	846	280.7	1040
040515	15	Sibayo	728	1720	0.4947	284	79.17	158	77.03	188	6.59	887	683.8	252
040518	18	Tuti	813	1697	0.3722	615	77.77	310	72.91	265	6.34	972	334.4	873
040600		**Condesuyos**	**18,540**	**176**	**0.4645**	**48**	**77.21**	**34**	**59.61**	**58**	**8.34**	**52**	**576.9**	**54**
040601	1	Chuquibamba	3,495	1065	0.4804	311	74.28	786	61.31	509	9.26	260	621.3	315
040602	2	Andaray	698	1736	0.4067	498	73.79	855	64.45	439	7.06	743	452.3	539
040608	8	Yanaquihua	5,538	812	0.4666	345	78.31	262	60.91	518	8.27	437	570.1	381

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040800		**La Unión**	**15,164**	**179**	**0.2903**	**135**	**81.16**	**2**	**32.98**	**145**	**6.31**	**118**	**233.9**	**167**
040804	4	Huaynacotas	2,356	1280	0.2397	1385	79.28	146	20.43	1560	5.62	1237	195.2	1410
040805	5	Pampamarca	1,341	1535	0.1744	1725	80.60	42	15.76	1678	4.53	1622	116.1	1749
040806	6	Puyca	2,868	1176	0.1469	1807	81.53	14	9.20	1780	3.64	1787	111.0	1768

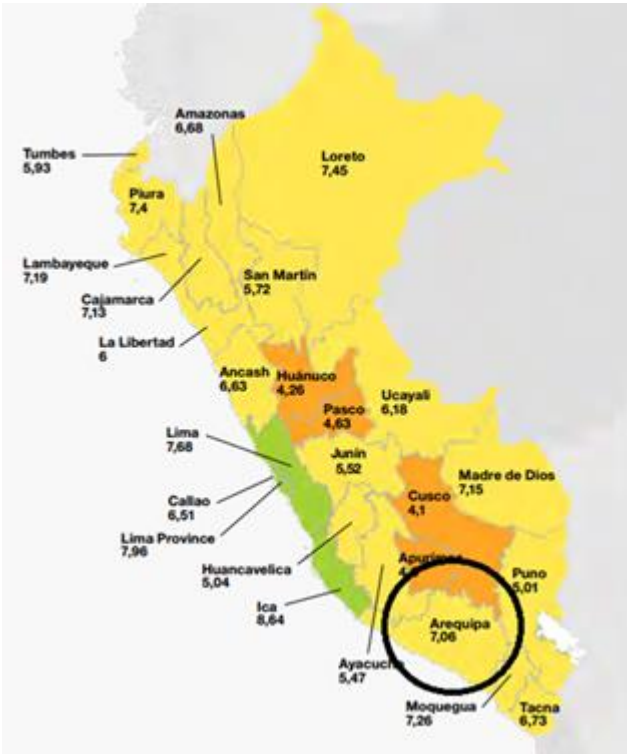
Source: Report on Human Development Peru 2013. Climate change and territory: Challenges and Responses for a Sustainable Future
http://www.pe.undp.org/content/peru/es/home/library/poverty/Informesobredesarrollohumano2013/IDHPeru2013.html

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.

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.



Map: vulnerability map for administrative areas and cities in Peru. **Source:** Development Bank of Latin America-CAF: Vulnerability and Adaptation to Climate Change Index in Latin America and the Caribbean.

Table Nº 5

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	6,68	6,00	5,31	5,32	Chachapoyas	4,19	5,91	2,93	5,32
Ancash	6,63	7,88	3,45	5,32	Huaráz	4,76	7,03	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	6,85	6,47	5,32	Arequipa	3,63	5,37	2,31	5,32
Ayacucho	5,47	5,74	4,47	5,32	Ayacucho	2,75	3,45	3,65	5,32
Cajamarca	7,13	8,23	2,45	5,32	Cajamarca	5,16	7,58	3,23	5,32
Callao	6,51	9,26	2,57	5,32	Callao	4,96	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
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

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. Scale:

Below a map of the project's location is presented, to the scale of the Arequipa Region. In the map, the project's five target provinces are identified (Arequipa, Caylloma, Condesuyos, Castilla and La Union), and the distribution of the project's beneficiary population.

PROJECT LOCATION MAP

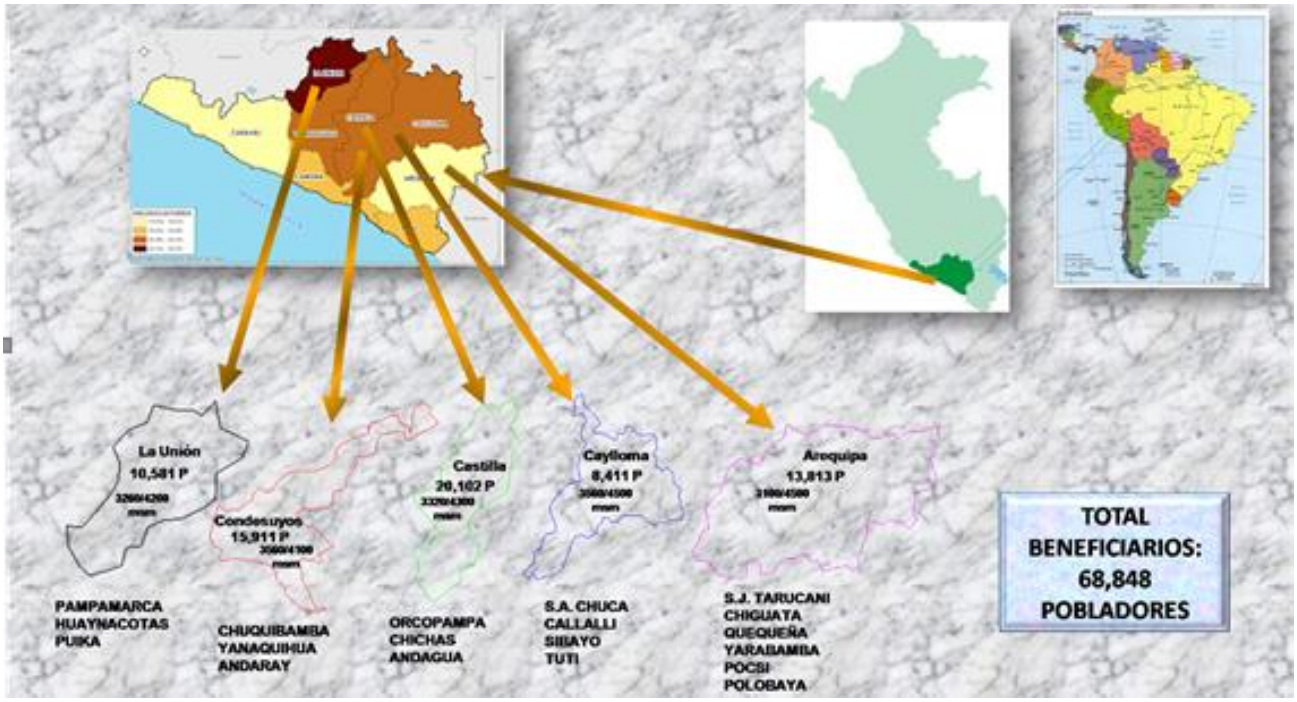


Image Insert: This map identifies the Project's various locations in the Arequipa Region, as well as population information and the number of beneficiaries. Source: Prepared by COPASA, 2015.

Environmental context, Climate change impacts

The Regional Strategy for Adaptation to Climate Change in the Region of Arequipa[16] identifies the following impacts of climate change in the target area of the project:

1. **Changes in agricultural production affecting alpaca fiber production**: Water shortage will favor the reduction of irrigated areas and the advance of desertification, which will bring as a consequence the increasing scarcity of grazing areas**,** both natural and cultivated. The scarcity of natural pastures, especially for the andean cattle will become dramatic in the higher elevations, and result in malnutrition, disease and reduced capital represented by the region's most important livestock, camelids, in an extremely impoverished region.

Changes in temperature will favor increased frost, unseasonably warm and dry weather periods, and the rise of pests and diseases to higher altitudes that can affect both human health and that of the alpacas. Water availability and the increased presence of extreme climatic events can seriously affect food security in the region.

[16] Regional Government of Arequipa, Regional Environmental Authority. Regional Strategy for Adaptation to Climate Change, August 2009 Preview, Chapter IV.

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 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.

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. In addition to the resource's limitation, there are management practices that require improvement.

3. **Displacement and Migration:** The reduced availability of water, along with the damages to alpacas' fiber 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 (three (3) of them belong to the targeted project area).

4. **Human Health**: Temperature changes along with its consequences (frost, unseasonably warm and dry weather periods, and the rise of pests and diseases) are impacting heavily on the health of the population; in the last 9 years, cases of ARIs (acute respiratory infections) in children under 5 years have increased by more than 190,000 cases.

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

As seen in the previous picture, the construction of the houses is rustic. The traditional construction technique is not suitable for the current temperature variations, particularly for extreme descents that are becoming common.[17]

[17] In the majority of cases, the dwellings do not have the minimum infrastructure for avoiding cold seeping into their interior, such as weather stripping around doors, windows, and the rafters of the roof, which tends to be lacking. To this problem, meager access to

The prevalence of diseases like acute respiratory infections (ARIs) and acute diarrheal diseases (ADDs), among Andean highland populations, increases the rates of malnutrition, morbidity and mortality, especially among the most vulnerable: children, gestating women and older adults (see Tables Nos. 6, 7, 8 and 9).

Acute respiratory infections (ARIS) become more prevalent during the cold spells, due to exposure to extreme low temperatures. Additionally, the technology used in traditional kitchens and the use of alpaca manure as fuel (use due to the near absence of available wood) produces the accumulation of smoke in the homes, which increases exposure to risk conditions related to ARIS during cold spells.

Also, limits in the availability of water leads to the use of water for human consumption from inadequate sources due to lack of treatment. This circumstance is one of the predominant causes of acute diarrheal illness, in particular among the child population.

The following table shows the frequency of acute respiratory infections (ARIs) in the project's target provinces (2011 information). For the range of the most affected ages, younger than five years old, the incidences show a general effect on the order of five hundred children for every thousand children.

Table Nº 6

ARIS and pneumonias by province

ARIS AND PNEUMONIAS BY PROVINCE[18]							
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
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 – 2011							

Source: http://www.bvsde.paho.org/documentosdigitales/bvsde/texcom/ASIS-regiones/Arequipa/Arequipa 2011.pdf

The following graph shows the high incidence of ARIs (acute respiratory infections) among those younger than five years of age, in the project's target provinces. The most affected province was La Union.

energy can be added, which is called thermal comfort. The large majority of homes have wood-burning stoves, which are inefficient in their use of fuel.

[18] Source: Regional Office of Public Health, Arequipa; Chart: Provided by COPASA-Arequipa

Table Nº 7

CUADRO N° 4
CASOS DE IRAS EN MENORES Y MAYORES DE 5 AÑOS SEGÚN PROVINCIAS 2015
GERENCIA DE SALUD AREQUIPA

PROVINCIA	CASOS DE LA S.E. 49				ACUMULADO A LA S.E. 49				Tasa Total Acumulada x 10,000
	IRA Menores 5 Años		IRA Mayores 5 Años		IRA Menores 5 Años		IRA Mayores 5 Años		
	N°	Tasa X1000	N°	Tasa X1000	N°	Tasa X1000	N°	Tasa X1000	
REGION	3133	30.20	5540	4.68	181897	1753.41	347997	388.88	4116.62
Arequipa	2423	32.56	4300	4.81	139763	1878.21	268630	300.19	4213.35
Camana	128	24.64	158	2.94	7329	1410.78	11510	214.11	3195.65
Caraveli	131	35.55	183	4.92	6814	1849.12	10402	279.48	4208.88
Islay	77	19.83	156	3.20	4845	1247.75	8936	183.31	2618.47
Caylloma	198	20.49	324	3.83	11617	1201.97	20617	243.83	3421.14
Condesuyos	48	29.80	81	4.96	2683	1665.43	7230	442.69	5524.72
Castilla	85	23.25	222	6.34	5668	1550.33	12100	345.58	4594.78
La Union	43	26.36	116	8.94	3178	1948.50	8572	660.86	8046.84

Fuente: EPID - V.O.P.

Source: Bulletin of the Regional Health Office, Arequipa 2015

Below is a table that presents the incidence of acute diarrheal illnesses (EDAs, for its acronym in Spanish) in the project's target area for the year 2011. In addition, in this case, the most affected range of ages was that of those younger than five years, with a cumulative incidence of 422 children affected out of each one thousand, and with four of the five target provinces showing significant effects.

Table Nº 8

CASES DE ADDS PER DIAGNOSTIC TYPE BY PROVINCE [19]												
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

Source: http://www.bvsde.paho.org/documentosdigitales/bvsde/texcom/ASIS- regiones/Arequipa/Arequipa2011.pdf

In the interests of a comparison, the following table shows the tendencies and the situation of acute diarrheal diseases (ADDs) for the year 2014. In recent years, 81,947 cases of acute diarrheal illnesses have been reported, arising basically from the consumption of untreated water.

Table Nº 9

[19] Source: Arequipa Regional Department of Health; Chart: Provided by COPASA-Arequipa

Trends and situation of diarrheal diseases (ADDs)

ADDS IN MINORS OF 5 YEARS FOR THE MONTHS OF 2014 [20]													
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
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.													

Source: Arequipa Regional Department of Health; **Chart:** Provided by COPASA-Arequipa

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 groups: children, pregnant women and the older adults.

Environmental Context, Impacts of Climate Change: Local Economy

Below is a qualitative list of the impacts of climate change that are affecting the local economy, in particular on the household economy of the alpaca breeders:

1. Household Economy:

Concerning division of labor in the household, women have an important, active, and physically demanding role in the care of the flocks. Additionally, women are responsible for kitchen activities, normally in conditions detrimental to their health, due to the design of traditional stoves and the fuel used, which gives rise to their direct exposure to a smoke-filled atmosphere and indirectly to the other family members.

Sewing and weaving, as a complementary activity to the primary activity of alpaca raising, is done almost exclusively by women, in few cases as an exclusive activity and in others as a complementary. Alpaca fiber crafts are sold as a product of this weaving in markets with unfavorable demand for the women weavers.

In the region, women are excluded from the inheritance of land ownership, and those who are owners are exclusively widows.

Women overwhelmingly maintain the household and care for the infants and small children; water-carrying is a task shared with the men.

Climate change has been reflected in changes in wind patterns, making them more intense. This change is reflected in damage and destruction of homes, alpaca shelters (lean-tos) and affects the health of people and animals.

Because of water shortage and low efficiency practices in this resource's management, soil productivity (particularly in the production of pastures) is decreased, which leads to a decrease in the quality and quantity of alpaca fiber.

[20] Source: Arequipa Regional Department of Health; Chart: Provided by COPASA-Arequipa

Frosts that occur in the southern hemisphere's autumn and winter periods, affect human and animal health provoking diseases and causing high mortality rates among the alpaca herds. The alpaca breeders pay the associated costs.

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, alpacas mortality (mostly young animals). Also in these cases, the alpaca breeders pay the associated costs.

Hailstorms 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. Once more, the alpaca breeders face the associated costs.

NOTE: When these phenomena hinder access to these communities, the local government's budgets are affected by the associated costs.

The image below provides a recent example of media reports on this set of problems.

Jueves 11 de Junio de 2015 REGIÓN | 13

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 adelanto y preocupa", dijo.

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

Las crías de los camélidos se mueren por el frío.

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.

10 | REGIÓN Domingo 28 de Junio de 2015

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 centigrados, 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 (Minagrí) 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: These images provide examples of significant herd mortality. They correspond to local newspaper REGION news (June 11 and 28 de 2015). The June 11th title states: "Cold snap worries camelid breeders, vaccinations requested- 4,000 alpaca yearlings dead in Caylloma Province". Another June 11th title notes: "Seven thousand alpaca breeders affected by low temperatures- camelids die due to cold in Cold Caylloma". Then the text reports on the death of 25,000 head of alpacas in the recent season.

Photographs: 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)

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

Table N° 10

GENERAL SUMMARY OF DAMAGES DUE TO COLD AND DROUGHT ACCORDING TO THE NATIONAL INSTITUTE OF CIVIL DEFENSE (Statistics for 2013)[16] [17]		
Population		
Persons Affected	217,997	Persons
Dwellings Affected	129,127	Homes
Agriculture		
Crops Affected	1,663	Ha
Natural Pastures Affected	216,756	Ha
Animals Affected (impacts on health)		
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: Elaborated by Copasa based on data from the National Institute Of Civil Defense (INDECI). https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1140/Libro.pdf

The following table shows the average annual losses of camelid breeders by Household. The study was conducted by FAO in an area larger than the project's target area, which shows a different average for alpacas than that identified in the Arequipa Region.

Table Nº 11[21]

ANNUAL EFFECTIVE LOSSES (x)[22]				
SPECIES	**AVERAGE NUMBER OF ANIMALS**	**DEAD ANIMALS**	**PER UNIT PRICE US. HEAD**	**TOTAL LOSSES US $**
Alpaca	92.36	14.97	37.00	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 **annual events** in periods of extreme cold / Andean Highland - **family.** Food and Agriculture Organization of the United Nations, FAO, Emergency Rehabilitation and Coordination Unit				

Source: FAO, Regional Agriculture Bureau, Arequipa

Gender Conditions

In accord with the 2012 National Livestock Census, women form 34.5% of the individual livestock producers in the Department of Arequipa. Among the producers, 3.16% of the men are illiterate, while 14.68% of the women are. Women make up 49.12% of household members. Among the producers, 10.6% of the women and 5% of the men had no formal schooling, while 8.8% of the women and 8.6% of the men had completed higher education. 73% of the women participate in agricultural and livestock work, while 27.6% of the men do. Among the women, 11.2% have received some kind of technical training or business orientation, while 18% of the men have.

In the Department of Arequipa, 63.9% of the women, (15 years or older) participate in the labor force, while 80.9% of the men (15 years or older) do so. In the Department, 68.6% of the women (25 years or older) have received at least a high school education, while 81.3% of the men (25 years or older) have done so.

Although this information is not exclusive to alpaca raising, it does demonstrate indicators of gender inequality in access to education and training and access to employment, while the concentration of women in agricultural and livestock raising is much greater in comparison to that of men.

Environmental Context, The cultural value of the alpacas raising

[21] 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. Document coordinator: Yon Fernández de Larrinoa Arcal, Sub-Regional Coordinator for Emergencies in the Andean Region (FAO). In the study, the losses are reported annually.

[22] Regional Agriculture Bureau, Arequipa

The living traditions of weaving in Peru go back to pre-columbian cultures like that of Paracas, the Wari and the Incan Empires. In Peru, the most important fiber textiles from animal sources are those from vicuñas 23 and from alpacas. This fiber, in addition to its export value, is the basis of emblematic artisanal creations of Peruvian culture, such as the beautiful weavings (tapices) that are produced in Ayacucho's Santa Ana neighborhood, the soft Andean ponchos that are woven in many places in Cusco and Puno, arpillería pieces (hand-sewn, quilted pieces that narrate pictorially the life of migrant populations) produced in the Pamplona neighborhood in Lima and fine baby alpacas sweaters, woven in Arequipa and Huancavelica. Some textiles are enhanced by Andean embroidery, testimony of a refined artisanal culture in Peru.24

From this perspective, building a panorama of sustainability for alpaca raising has a highly meaningful cultural value, because it keeps alive the links to national cultural roots and links with production centers that still make up a unique cultural network, which allows for the production of raw materials which sustains the aforementioned ancestral cultural traditions, valuable as much for the refinement of its production, as for the value of identity to Peruvian national culture.

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 the Action Plan for Adaptation and Mitigation in the face of climate change, defined by the Peruvian Ministry of the Environment which, as the party responsible for coordinating the implementation of the NSCC (National Strategy for Climate Change), has defined the following lines of action pertinent to the project (In these lines COPASA will provide its experience to the project):

- Promote policies, measures and projects to develop the ability to adapt to the effects of climate change and the reduction of vulnerability.

- Dissemination of knowledge and national information on climate change in Peru as it relates to vulnerability, adaptation and mitigation.

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

The Peruvian Government presented its INDC (Intended Nationally Determined Contributions) to the UNFCCC in September of 2015, including both the mitigation component as well as the adaptation component. In the adaptation component, the commitment includes 1. The National

[23] Today garments made with this fiber has a high commercial value, as it is considered one of the finest in the world.

[24] http://www.mincetur.gob.pe/PECEX/lecturas_complementarias/otras_lecturas/Artesania_peruana.pdf

Adaptation Plan; 2. In the intermediate objectives for agriculture, the reduction of climate change's negative impact in agricultural activity; 3. Attention to overlapping disaster risk areas, resilient public infrastructure, a focus of attention on poverty and vulnerable populations within an adaptation perspective, a focus on gender and the promotion of private investment in adaptation to climate change. From this perspective, the project is aligned with the prioritization of: 1. reduction of climate change's negative impact on agricultural activity; 2. attention to disaster risk: 3. focus of attention on vulnerable populations from an adaptation perspective; and 4. gender focus.

In July 2016, the President of Peru ratified the Paris Agreement (COP21 Dec 2015). Under this ratification, Peru undertakes to review and refine in figures and projects the aforementioned INDC 2015 commitment, and to review and update its current INDC by 2018. In the 2016 publication of the Ministry of the Environment of Peru "The National Contribution of Peru - iNDC: agenda for a climately responsible development", cites "The main processes and achievements that Peru will promote and achieve for the fulfillment of the National Contribution, are linked to the means of implementation of the ENCC "(National Strategy for Climate Change). Among the means of implementation, the publication mentions "Designing the institutional framework and guidelines for approving programs and projects for access to the resources of the Green Climate Fund (GCF), the Global Environment Facility (GEF) and The Adaptation Fund;" The Ayninacuy project is aligned with these projections.

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).

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 programs. This limits the adoption of disaster prevention and adaptation programs and projects, which is why increased motivation and awareness through training and/or field days are indispensable.

Through Executive Decree No. 012-2016-MINAM, in July 2016, the Plan of Action on Gender and Climate Change of Peru was approved. The objective of this action plan is defined as follows: "The Peruvian State in its three levels of government incorporates the gender approach in management to address the adverse effects and opportunities of climate change and contribute to reducing GHG emissions." The Ayninacuy project is a pioneer in the development of concrete contributions to the implementation of two of its specific objectives: SO 2.2: to promote the access of women and men to spaces for dialogue, training and climate change-related issues (in training and decision-making processes proposed by the project for its implementation, the project promotes the equal participation of women). SO 3.1: Incorporate the gender approach into management policies and instruments to address the adverse effects and opportunities of climate change (by promoting the participation of women in civil defense platforms).

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 peasant communities[25] in the provinces of Arequipa, Caylloma, Castilla, La Union, and Condesuyos. The project seeks to reduce the exposure of these communities, dependent on camelid fiber production, to climate-related threats, by strengthening their livelihoods through the development 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 outcomes:

AF Results Framework - Outcome 2: Strengthening of the institutional capacity to reduce the risks associated with climate-induced socioeconomic and environmental losses.

At the community level and that of local authorities, capacities for damage assessment and needs will be developed (in concert with local authorities and community leaders). Technical assistance will be provided for the development of prevention plans (in conjunction with local authorities).

AF Results Framework - Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level.

Awareness raising activities will be undertaken at the local level covering the need for and the value of alternative proposals for strengthening alpaca offspring for fiber production. Activities and teaching materials will be developed to promote ownership of the skills required to use and maintain the alternatives (for the protection of camelids, to ensure adequate feed for them, to manage water so that the sustainability of natural resources used is guaranteed as well as its usefulness).

AF Results Framework - Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress.

In order to restore and expand natural areas (*bofedales*-high altitude wetlands) that are used for grazing alpacas, resistant native species (red clover and white clover) will be introduced and existing rustic channels that provide for the distribution of water to these areas will be improved. These activities will increase the resilience of wetlands and help to curb land degradation and desertification processes associated with it.

AF Results Framework - Outcome 6: Strengthened livelihoods and sources of income for vulnerable populations in targeted areas.

In order to strengthen alpaca yearlings to improve their fiber production, the following activities will be carried out:

[25] See Section C.6 of the Environmental and Social Assessment; Annex B of this document. Details of the difference between native communities and peasant communities are discussed there.

Photo: Example of an improved shelter for alpacas. Source: COPASA Archives

- Construction of shelters to protect the alpacas from the effects of cold temperatures
- Build fences and introducing pasture rotation to avoid overgrazing.
- Introduction of the use of high altitude foraging grains (Forage Barley, UNA 80 variety, *Hâtif de Grignon* or winter barley) to complement and improve alpaca nutrition to increase their resistance to cold weather.

Photo: Harvest of high altitude forage cereals. Source**:** COPASA Archives, 2015

- Reservoirs will be built into to have water available during dry seasons.

Photo: Type of earthen dyke to be constructed for the storage of snowmelt and from the short rainy season. Source: COPASA Archives (2012). The image corresponds to dykes operating in the region

- Promote the use of irrigation technology to optimize water use in order to increase its availability in grazing areas;

Photo: Irrigation technology in use in the Pallpata Rural Community- Espinar

Source: COPASA Archives

- Introduce the use of species for pastures which are resistant to the cold (ryegrass, dactylis glomerata) to guarantee sufficient pasture areas.
- Implement early warning systems in the rural communities. Basic meteorological stations with thermometers for highs and lows, rain meters, humidity meters (hygrometers) to measure temperature variations, rainfall amounts and humidity in the area.

Photo: Implementation and training for the Early Warning System-EWS. **Source:** COPASA Archives

- Implement prevention campaigns on animal health to protect alpacas in the face of cold spells arising from climate change.

Photo: Animal Health Campaigns (alpaca deworming). Source: COPASA Archives

Project / Programme Components and Financing:

Project Components:

1. Implementation of measures designed to strengthen the means of livelihood and income sources for vulnerable communities in the selected areas, and the implementation of complementary measures.

2. Strengthening and development of community and institutional capacities for reducing risks associated with economic losses caused by adverse weather events.

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)	Total Amount (US$)
1. Implementation of measures designed to strengthen the livelihoods and income sources of the vulnerable communities in the selected areas, and implementation of complementary measures.	1.1. Specific livelihood strategies strengthened in relation to climate change impacts: 270 shelters built for animal protection; 36 Animal Health Campaigns; 72 protective fences installed, 900 hs of high altitude cereals; 72 hs of improved highland wetlands with clover; 72 hs of improved pastures.	1.1 Improvements in the health conditions and means of feeding livestock, through strengthening life strategies in relation to climate change impacts.	1,390,100	2,140,300
	1.2.: 72 pressurized irrigation modules installed; 36 highland wetlands (vulnerable natural assets) strengthened; 10,000 m of improved/built rural canals; 36 micro-dams built; 36 rustic reservoirs built.	(Secondary) 1.2: Greater capacity for resilience in the ecosystem in response to pressures produced by climate change and variability. 1.2: Improvements in availability of water and in irrigation conditions will allow for greater volumes of plant growth and greater extensions of areas apt for animal nourishment.	385,600	
	1.3.1. Five (5) Water purification systems in the most vulnerable communities, 1.3.2. Campaigns for the improvement of living conditions in 72 rural residences.	(Secondary) 1.3: Reduction in the rate of cases of ARIS and ADDS in participating/beneficiary communities and households. 1.3: Improvement in the conditions of housing quality to withstand extreme climate conditions.	364,600	

2. Strengthening and development of community and institutional capacities for reducing risks associated with economic losses due to the weather.	2.1. 22 Agreements with local and community authorities for the implementation of Evaluation and Monitoring Plans; 36 commitments of beneficiaries' selection; 2 training modules in teamwork and leadership;	2.1: Greater awareness and ownership on the part of men and women regarding local management processes and self-management for adaptation to and reduction of climate risk.	1,400	330,661
	2.2. Awareness-raising activities about adaptation and risk reduction: 9 drills; Implementation of de 36 EWS modules; 5 Disaster prevention plans in educational institutions; Formation of civil defense platforms (18 District level and 36 communitary);	2.2: Improvement in the awareness and capacities in climate risk management and adaptive techniques.	33,200	
	2.3. Targeted population groups (28.78% of participating vulnerable communities) in awareness-raising activities and training in climatic risk management and adaptive techniques: 18 agreements, programs, projects that will give continuity to the activities and project achievements and for the publication of lessons learned; Preparation of technical guides (13 topics, 43,000 copies) on: 1. adaptation to climate change; 2. use of the early warning system; 3.	2.3: Improvement in the awareness and capacities in climate risk management and adaptive techniques.	295,461	

	adaptation and risk prevention for educational institutions; 4. Livestock production, fodder production water production and management and household housing improvement. 2.3. Capacity building complementary activities: 1. 72 Adaptive techniques workshops; various risk management strategies at the the institutional, community and district level.			

Project/Program Execution cost	253,200
Total Project/Program Cost	2,723,561
Project/Program Cycle Management Fee charged by the Implementing Entity (if applicable)	217,885
Amount of Financing Requested	2,941,446

Projected Calendar:

Milestones	Expected Dates
Start of Project/Program Implementation	April 2017
Mid-term Review (if planned)	
Project/Program Closing	October 2019
Terminal Evaluation	January 2019

PART II: PROJECT / PROGRAMME JUSTIFICATION

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

The project has been designed with the intention of implementing an integrated management model that, in the face of a cyclic scenario of climate change risks that is having an impact on the activity of breeding camelids for fiber production, provides vulnerable highland Andean communities in the Arequipa Region an alternate response model in contrast to the common recurrence to disperse efforts, and allows for a consistent and complete set of alternatives that increase climate resilience playback, allows disparate efforts and provide a consistent and complete set of alternatives to increase the climate resilience of these communities and enable them to make their livelihoods sustainable.

The Project's design has been approached with gender considerations in mind, from the consultation activities to the development of the indicators. A gender specialist carried out a cross field gender assessment of the project design and, based on both the Milestones results of the evaluation as well as the gender analysis recommendations, some activities and indicators have been incorporated in the project design with the intention of guaranteeing that the project's implementation be gender responsive and that the monitoring and evaluation of the project include the gender perspective component and indicators (gender responsive indicators and monitoring arrangements).

From the viewpoint of an integrated management model, the project has been divided into two components, which are described below:

COMPONENT 1: Implementation of measures directed at strengthening institutional and community capacities in order to reduce risks of losses occasioned by climate change.

COMPONENT 2: Implementation of measures designed to strengthen community and institutional capacities for the reduction of risks associated with losses due to climate change.

COMPONENT 1

Implementation of measures designed to strengthen means of livelihood and income sources of vulnerable communities in the selected areas and implementation of complementary measures.

For the project's target areas, the Andean highlands areas of the Arequipa Region, expected scenarios of glacial retreat and changes in rainfall patterns do anticipate that threats of water scarcity are going to intensify in the future over the medium and long term, with the risk of intensified stresses due to the reduction of favorable periods of rainfall (which may be reduced from between 6 and 9 years up to 4 and 6 years) and the narrowing of the rate of return of the critical periods of rainfalls (which can vary from 6 to 9 years to 4 to 7 years). These threats extend to the consequences in a chain of resulting impacts: reduction of water available for human consumption, for sustaining the highland wetlands (*bofedales*), and, as a consequence, the reduction of their areas and the increase in the risk that some disappear, reduction in the productivity of the soil in natural and cultivated areas (such as those areas used for pasturing alpacas), a risk in the increase of overgrazing (due to the absence of adequate and available terrain), malnutrition and imbalance in the health of camelids and threat of loss of livestock, reduction in the productivity of alpaca fiber, and of its quality, as a consequence of this imbalance, threats of serious losses in the livelihood derived from the alpaca fiber production in the highland areas, with a risk (that can increase over time) to the sustainability of this livelihood, impacts on human health, in particular on the most at-risk population (younger than 5 years) as a consequence of the use of sources unfit for human consumption.

For these same project target areas, the scenarios forecasting an increase in extreme temperature conditions (reduction of low ranges, and increase in the high ones) generate the threat of cyclical cold waves with diverse, linked impacts: losses in the productive capacity of the soils available for sustaining the way of life derived from alpaca raising (the cold spells tend to damage, in very short periods of time, the natural and cultivated plant cover available for grazing), losses of livestock, in particular, the alpacas newborns and yearlings (due to the low resistance to the cold resulting from nutritional stress and a sharp drop in the habitat's temperature), risk of high social and economic impact as a consequence of losses in the herds which support the way of life, risk of deterioration in the exchange infrastructure (roadways) due to weather inclemency, risk of impacts on health (respiratory illnesses in particular), especially among the population younger than five (5) years of age.

The exposure to this set of risks has been generating cumulative impacts that put at risk the sustainability of alpaca breeding for their fiber production, as a way of life in the vulnerable highland Andean communities in the project's target area. Moreover, in combination with the economic stress generated by the effects of these impacts, this same population is exposed cyclically (each year) to impacts on health that these cold spells cause.

This project component is oriented to the implementation of actions for managing each one of the different risks mentioned above, with the goal of building a sustainable horizon for alpaca breeding and fiber production, in such as way that practices for the rational management of risks associated with water scarcity, reduction in grazing areas, and deterioration in human and animal well-being in the face of these cold spells can be generated.

Concrete expected products 1.1: specific livelihood strategies strengthened in relation with climate change impacts.

Expected concrete outputs 1.1.1. Livestock and fiber production is improved with 270 alpacas shelters (70 alpacas each one) and health campaigns to improve the sanitary conditions of the alpacas and 72 protective fencing that are constructed.

Considering that breeding camelids for fiber production is the principal economic activity in these communities, the measures are focused on strengthening those variables which expose this economic activity the most in the face of climate variability and its impacts. As such, technically upgraded shelters will be built so that the camelids can withstand the cold spells, animal health campaigns will be held to improve the health of the animals (affected by the cold), well as to improve their resistance to the cold.

Protected alpacas: 18,900 heads (6.34% of the animals in the area of intervention).

Region Targeted: all the 36 selected communities (five provinces).

Products 1.1.2: 72 Protective fencing, with livestock mesh, installed. Protective fencing will be installed to develop pasture rotation (a system that optimizes the recovery of vegetal cover that provides forage for the alpacas).

Direct beneficiaries: 14 in each of the five selected provinces. Indirect beneficiaries: 72 in each of the five selected provinces.

Region Targeted: all the 36 selected communities (five provinces).

Expected concrete outputs 1.1.3., 1.1.4. and 1.1.5.: With these products, losses of the animal's foraging sources due to frost damage, one of the cold's most important impacts on economic activity, will be reduced.

Expected concrete outputs 1.1.3. Fodder production is improved with 900 Ha of high altitude feed grains.

Direct beneficiaries: 180 in each of the five selected provinces. Indirect beneficiaries: 900 in each of the five selected provinces.

Region Targeted: all the 36 selected communities (five provinces).

Expected concrete outputs 1.1.4. 72 Ha of cultivated pastures for high altitude forage.

Direct beneficiaries: 14 in each of the five selected provinces. Indirect beneficiaries: 72 in each of the five selected provinces.

Region Targeted: all the 36 selected communities (five provinces).

Expected concrete outputs 1.1.5. 72 Ha of Clover sown in recovered wetlands and and 36 high altitude wetlands recovered in this way. The ecological reintroduction of clover follows the recovery of plant cover in the key highland wetlands (*bofedales*) that are used for grazing (this latter activity is complemented with improved water infiltration into the soil).

Direct beneficiaries: 14 in each of the five selected provinces. Indirect beneficiaries: 72 in each of the five selected provinces.

Region Targeted: all the 36 selected communities (five provinces).

How outputs 1.1 will contribute to strengthening resilience to the impacts of climate change.

One of the impacts of climate change the most affects the alpaca raising livelihood is the annual cycle of losses of heads as a consequence of the extreme cold spells. At these critical moments, the animals' ability to resist extreme conditions is sorely tested. In particular, the gestating dams, and the young *crias* (alpacas yearlings) are the first and most common victims (miscarriages and losses due to cold). Resistance to those conditions depends on the prior circumstances of their diet and of basic animal health care. Also, due to the same phenomenon, large areas of pasturing are rendered unusable due to the extreme climate conditions, which increases the risk situation of the animals. Additionally, the absence of physical protection for the most vulnerable gestating dams and the young *crias* increases the risk of losses. These cyclical annual losses of livestock threaten the sustainability of this way of life.

Strengthening this livelihood requires breaking the causal net described above, in each one of its stages. In order to confront the cold spells in a more resilient requires: 1. Strengthening animal health ensuring animal diet (prior to the cold spell and available during the season); 2. Strengthening the health of the livestock (health campaigns prior to the cold season); 3. Relying on the physical shelter for the most vulnerable animals (gestating dams and *crias*).

Output 1.1.1 permits the construction of 270 shelters for the most fragile animals in the face of the cold; outputs 1.1.3, 1.1.4 and 1.1.5 permit ensuring the animal diet (prior to the cold season and during, because resistant grasses will be used and because the grains allow for storing reserves). Output 1.1.2 (protective fencing) permits improving and optimizing animal diet, thanks to rotation of grazing areas.

How outputs 1.1, 1.2 and 1.3.2 will be achieved

Under CAF supervision, once the direct beneficiaries are selected, in accord with previously established agreements in each district, with the collaboration of the local authorities and the participation of the community members, agreements will be established in order to distribute responsibilities and to resolve logistical aspects of the execution of activities. COPASA, with the active participation of the *Yachachiq* (local expert prepared and coordinated by COPASA) implements and directs the activities for the development of skills, and later directs, coordinates and supervises the development of each activity. COPASA possesses the necessary technical capacity.

Expected concrete outputs 1.2. Water production and management is improved with:

- 72 pressurized irrigation modules (**output 1.2.1**);
  Direct beneficiaries: 14 in each of the five selected provinces. Indirect beneficiaries: 72 in each of the five selected provinces.
  Region Targeted: all the 36 selected communities (five provinces).
- 36 improved highland wetlands (**output 1.2.2**);
  Direct beneficiaries: 6 in each of the five selected provinces. Indirect beneficiaries: 36 in each of the five selected provinces.
  Region Targeted: all the 36 selected communities (five provinces).
- the Construction and improvement of 10,000 m rustic canals **(output 1.2.3)**;

Direct beneficiaries: 200 in each of the five selected provinces. Indirect beneficiaries: 1000 in each of the five selected provinces.
Region Targeted: all the 36 selected communities (five provinces).

- The construction of 36 micro-dams **(output 1.2.4)**;
  Direct beneficiaries: 72 in each of the five selected provinces. Indirect beneficiaries: 360 in each of the five selected provinces.
  Region Targeted: all the 36 selected communities (five provinces).
- The construction 36 reservoirs **(output 1.2.5)**.
  Direct beneficiaries: 72 in each of the five selected provinces. Indirect beneficiaries: 360 in each of the five selected provinces.

  Region Targeted: all the 36 selected communities (five provinces).

The aforementioned water management measures will contribute to the sustainability of the supply of water to be used both for feeding the alpacas as well as for growing fodder and for the protection and expansion of wetlands that guarantee the availability of the resource.

How the outputs 1.2 will contribute to strengthening resilience to the impacts of climate change.

The causal network described in order to explain the function of outputs 1.1, the limitations in the availability of water and the possibility of supply and distribution are located among the first causal nodes. Outputs 1.2 are foreseen in order to guarantee the availability of water resources (outputs 1.2.4 and 1.2.5), to permit its distribution in order to sustain the crops (outputs 1.2.1 and 1.2.3 to improve the vegetal production of the soil in the wetlands (*bofedales*) used for grazing (output 1.2.3).

How output 1.2 will be achieved

Under CAF supervision, once the direct beneficiaries are selected, in accord with previously established agreements in each district, with the collaboration of the local authorities and the participation of the community members, agreements will be established in order to distribute responsibilities and to resolve logistical aspects of the execution of activities. COPASA, with the active participation of the *Yachachiq* (local expert prepared and coordinated by COPASA) implements and directs the activities for the development of skills, and later directs, coordinates and supervises the development of each activity. COPASA possesses the necessary technical capacity.

Expected concrete outputs 1.3.1. Five (5) Community water purification systems are installed to prevent diseases.

Water management needs to be complemented by an additional measure that allows the water to be used for human consumption and have the proper potability profile in order to avoid negative secondary impacts on health (diarrhea). As such, five (5) purification systems will be installed in five critical districts.

Direct beneficiaries: 14 in each of the five selected provinces. Indirect beneficiaries: 72 in each of the five selected provinces.
Region Targeted: all the 36 selected communities (five provinces).

Expected concrete outputs 1.3.2. Living conditions of 72 rural housing are improved with cold resistant specifications and composting latrines

The project includes the upgrade of a group of housing units, with the goal of making them resistant to conditions resulting from climate variability and change. This action forms part of a comprehensive adaptation management model proposed as a model for communities and authorities (local district governments) for other future experiences. Through this activity, two (2) healthy housing units will be implemented in each of the 36 communities involved in the project so that each of the communities has a model for future experiences. This is a pilot activity that aims to educate and motivate the rural families in the community with a solution of moderate cost and affordable technology to improve their quality of life and to lend more support to this livelihood.

These housing units will include a heating system consisting of solar walls (Trombe walls), electrification by an autonomous photovoltaic system, an improved stove and a composting latrine.

FotoPhoto: Implementation of heaters and Trombe walls, low-cost, accessible technologies.
Source: COPASA Archives

Direct beneficiaries: 14 in each of the five selected provinces. Indirect beneficiaries: 72 in each of the five selected provinces.

Region Targeted: all the 36 selected communities (five provinces).

How the outputs 1.3 will contribute to strengthening resilience to the impacts of climate change.

The sustainability of the alpaca raising livelihood has in the quality life of the alpaca herders another stressful factor arising from climate change. The limitations of water resources lead to the use in some sectors water from untreated sources for human consumption (which affects in particular the health of the child population). Also, with the increase in the variation of extreme temperatures, traditional housing do not offer las viviendas tradicionales no ofrecen protección sufficient thermal protection (in particular children and the elderly are the most affected by respiratory illnesses), while the traditional stoves and other factors make the conditions of the home more detrimental. The health and the well-being of the family members of alpaca herders offers dignity, contributes to the availability of physical forces, capacity to respond and motivation to participate in the collective construction of the sustainability of the livelihood and socially validates the actions for protecting animals (protecting animals neglecting persons is a criticism that turns out to be demoralizing for the producers).

Indirectly the project hopes for this to contribute to the availability of fiber and to encourage those dedicated to its production to invest more time and effort, thus reducing the levels of temporary migration in search of distinct work in other areas, such as mining.

How output 1.3.1 will be achieved

Under CAF supervision, and with Copasa acting as Project Executor, prior to an agreement with the local authorities, the water purification systems for human consumption will be installed by a contractor. Each system will be presented to the local authority and the community to be served will be instructed about its use.

How output 1.3.2 will be achieved

See description in the section of output 1.1

COMPONENT 2

Strengthening and development of community and institutional capacities for the reduction of risks associated with losses due to climate change.

The second component is oriented at promoting activities for the development of the necessary skills for effecting a culturally assimilable change in productive capacities and in the protection of human and animal well-being.

An initial group of measures is aimed at developing community awareness regarding the reduction of risks associated with economic losses caused by the weather, and at developing basic administrative skills to manage that risk. These activities will be led by competent technical personnel provided by the project.

Expected concrete outputs 2.1. Activities to raise awareness and to develop capacities and ownership regarding local processes for management and self-management of adaptation and climate risk reduction.

Concrete outputs 2.1.1: 22 Agreements with local and community authorities for the design and implementation of monitoring and evaluation plans.

Beneficiaries: 18 districts (18 district covenants) in four (four provincial covenants) of the five selected provinces.

Region Targeted: four of the five selected provinces.

Concrete outputs 2.1.2: 36 Commitments for the selection of beneficiaries with the participation of various actors.

Beneficiaries: all the 36 selected communities in the five selected provinces.

Region Targeted: the five selected provinces.

Concrete outputs 2.1.3: Implementation of two training modules in teamwork and leadership (in the framework of one day training sessions).

Beneficiaries: all the 36 selected communities in the five selected provinces.

Region Targeted: the five selected provinces.

How outputs 2.1 will be achieved

Under CAF supervision, with the collaboration of local authorities and community leaders, COPASA will coordinate the activities of convocation, will lead and coordinate their execution.

Expected concrete outputs 2.2. Activities to raise awareness and develop capacities and ownership regarding local, community and institutional processes of adaptation and climate risk reduction.

Concrete outputs 2.2.1: nine disaster drills, four at the provincial level, five at the district level.

Beneficiaries: one district in each of the five selected provinces (district level); four of the five selected provinces (province level) 50 people.

Region Targeted: all the five selected provinces .

Concrete outputs 2.2.2: Implementation of 36 teaching modules of early warning systems (EWS) in rural communities.

Beneficiaries: all the 36 selected communities.

Region Targeted: all the five selected provinces.

Concrete outputs 2.2.3: Elaboration of five prevention disaster response plans, in educational institutions.

Beneficiaries: one educational institution in each selected province.

Region Targeted: all the five selected provinces.

- **Concrete outputs 2.2.4**: Formation and strengthening of 18 district and 36 community civil defense platforms (civil defense platforms is the current name as of June 2016 for previously denominated civil defense committees).

  Beneficiaries: all the 36 selected communities (community level). All the 18 selected districts (district level).

  Region Targeted: all the five selected provinces.

- Educational Innovation Competitions will be held covering environmental and climate change themes, in coordination with local education districts and schools.

  Beneficiaries: One competition in each province. 50 direct beneficiaries in each of the five selected provinces.

  Region Targeted: all the five selected provinces.

How the outputs 2.1 y 2.2 will contribute to strengthening resilience to the impacts of climate change.

At present, facing a complex set of climate, economic and social problems both the communities as well as the local authorities (in the project area) show a low capacity of self-management and

management. Improving the level of awareness and the technical capacity is this aspect is an elemental contribution to resilience building (output 2.1).

Additionally, the institutional and formal development in prevention of climate change risk in the project area is incipient. Through output 2.2, the project seeks to lend a significant dynamizing impulse to this aspect of building local resilience.

How outputs 2.2 will be achieved

Under CAF supervision, with the collaboration of local authorities and community leaders, COPASA will coordinate activities of convocation, will agree upon with the local authorities and corresponding actors an agenda for the development of each activity and will accompany and lead with a technically competent official the attainment of each product.

Expected concrete outputs 2.3. Activities to raise awareness improve and transmit capacities for climate risk management and adaptive techniques.

Concrete outputs 2.3.1: Preparation of 18 agreements, programs, projects that provide continuity to the project's activities and achievements, that incorporate lessons learned from the project, its results and the recommendations from the project's monitoring and evaluation reports.

Beneficiaries: One agreement in each of the 18 selected districts.

Region Targeted: all the five selected provinces.

Concrete outputs 2.3.2: Two Annual publications of lessons learned in the COPASA websites and of the organizations that include a similar diffusion on their corresponding websites.

Beneficiaries: Open and wide benefits.

Concrete outputs 2.3.3: Elaboration of technical guides (13 topics, 43,000 copies) about: 1. Climate change adaptation and environmental risk management. 2. Management and operation of the early warning system. 3. Adaptation and risk prevention in educational institutions. 4. Planting of forage cereals and cultivated pastures, installation of modern irrigation pilot projects, highland wetlands management, animal health, construction of shelters, and improvement of family housing.

Direct beneficiaries, technical guides: 1000 in each of the selected province. Indirect beneficiaries: 2000 in each of the selected provinces.

Direct beneficiaries, technical guides: 1000 in each of the selected province. Indirect beneficiaries: 2000 in each of the selected provinces.

Direct beneficiaries, adaptation and risk management guides: 200 in each of the selected province. Indirect beneficiaries: 400 in each of the selected provinces.

Direct beneficiaries, early warning systems guides: 200 in each of the selected province. Indirect beneficiaries: 400 in each of the selected provinces.

Direct beneficiaries, adaptation to climate change: 400 in each of the selected province. Indirect beneficiaries: 800 in each of the selected provinces.

Region Targeted, guides: all the 36 selected communities (five provinces).

Concrete outputs 2.3.4: 72 training sessions (Field days) covering: 1. installation, management and operation of teaching modules for community early warning systems EWS, and implementation and strengthening of community and district civil defense platforms (former civil defense committees). 2. Adaptation to climate change, risk management and environmental protection (educational institutions). 3. Formation of basic semestral evaluation and needs analysis teams at the district level. 4. disaster prevention (establishment of semestral evaluation teams, climate change risk management, elaboration of strategies for long term climate change risk management and their dissemination), for municipal officials and community representatives. 5. Diagnostics of dangers and vulnerabilities, interactive risk maps, prevention plans, community response, for heads of household. 6. Risk management and environmental protection, for educational institutions 7. Transfer of techniques for highland, rural housing improvement: Trombe solar walls, rural electrification system, composting latrines and improved stoves. 8. Training workshops on adaptation technologies (modern irrigation techniques, handling and upkeep of forage grains, associated grasses, clover in high altitude wetlands, animal care and health, shelter construction).

Direct beneficiaries, technical workshops: 144 workshops, 3.750 trainees in the 36 selected communities

Region Targeted, workshops: all the 36 selected communities (five provinces).

Other workshops: see Complete Project Results framework.

Region Targeted: all the 36 selected communities (five provinces).

Field days will be held under the 'learning by doing' modality for the development of skills in modern irrigation techniques, handling and upkeep of forage grains, associated grasses, clover in high altitude wetlands, animal care and health, shelter construction, improvement of rural Andean highland dwellings with solar wall heating systems, the installation of stand alone photovoltaic panels, composting latrines and improved stoves-

- Municipal officials, community representatives, prioritized educational institutions, heads of households will be trained in the diagnosis of dangers, vulnerabilities, interactive maps, prevention plans, community focus on topics related to adaptation to climate change, risk management, and environmental protection. Workshops will be held for the formation of five basic teams for damage assessment and needs analysis at the district level, including the staging of disaster drills.
- Some of the skills development activities will involve jointly community leaders and authorities: workshops for the establishment of teams for damage assessment, climate change risks management and the elaboration of a long term strategy for climate change risk management and its dissemination.

  In order to facilitate advisory processes (external to the project's own resources) for local governments involved in the project, with the goal of developing capacities for the incorporation of risk management and climate change adaptation topics in its management documents, the project will establish, during the period of its activities, a permanent coordination with the following institutions: MINAM (Ministry of the Environment), DGCCDRH (General Office for Climate Change, Desertification and Water Resources,

bureau of the Vice-minister for Strategic Development of Natural Resources of MINAM), CEPLAN (National Strategic Planning) and the MEF (Ministry of Economy and Finance).

In parallel with the project's preparation, MINAM and CEPLAN were preparing in a coordinated manner the elaboration of methodological guidelines for the inclusion of climate change conditions in the concerted local development plans. The Ayninacuy Project foresees incorporating those methodological guidelines in the development support training sessions and/or updating of local governments' planification management documents, once the methodological guidelines are made public and assimilated by the project's team.

How the outputs 2.3 will contribute to strengthening resilience to the impacts of climate change.

At present, the alpaca raising livelihood in the Arequipa region possesses a technical culture overcome by the stress factor arising from climate change. The project's technical training program seeks to generalize a basis of practical formation that allows the same alpaca herders objective of the project take ownership of the best practices, be they active actors in the implementation of these best practices and end up enabled to reproduce them. This development of updated capacities is the fundamental medium for building resilience of those who depend on this way of life.

How outputs 2.3 will be achieved

Under CAF supervision, with the collaboration of local authorities and community leaders, COPASA will coordinate activities of convocation, will agree upon with the local authorities and corresponding actors an agenda for the development of each activity and will accompany and lead with a technically competent official the attainment of each product.

In coordination with the local authorities, COPASA will lead and coordinate the development and culmination of the outputs 2.3.1.

In the development of instruction materials, COPASA will observe the procedure described in section G[26] (and in particular the materials corresponding to outputs 2.3.3 and 2.3.4). The COPASA project team will be responsible for the development of outputs 2.3.2.

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

The number of beneficiaries will be defined based on a census available with the local authorities SIFHO[27] (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

[26] 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 knowledge 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.

[27] The SISFOH (System of Household Targeting) is a fundamental tool for responding to the needs of social information. To this end, it has an information system about socioeconomic characteristics of households, called General Registry of Households (PGH, for its acronym in Spanish). In this context, the focus is the means by which State subsidies are assigned to the most needful and vulnerable families. The most recent information obtained from the SISFOH is from 2014. The census results can be found at: http://www.sisfoh.gob.pe

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 in a playful 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, working with the *Yachachiqs* forms a central part of the plan, who are expert local farmers, to communicate the techniques and cultural support.

The project proposes a holistic management approach, through which: 1. a massive training both in modern adaptative techniques common to the breeding alpacas livelihood, and in local management practices risk of climate change will be made. 2. Demonstration modules will be implemented both in the modern adaptative techniques and in the improving of the quality of housing, in order to protect the health of household members; 3: training for community members to participate in the activities of planning and allocation of local budget will be implemented; 4. The practical activities, including adaptative techniques of raising alpacas and improving the quality of housing will be held around the Aynu, solidarity ancient practice that reduces the financial costs and multiply the workforce available in a discontinuous and rotative manner, to benefit the members of the same community; 5. agreements with local authorities will be established, among other purposes, to ensure continuity of project activities.

The particularities mentioned of the holistic management approach seek to establish a base of capabilities and successful experiences that: 1. Encourage and allow both members of the communities and local authorities to develop the type of activities proposed by the project to expand the radius of the proposal through collective or authorities initiatives that make profit of the already developed capabilities, experiences developed in the project and partnership management. 2. Contribute to develop a culture of initiative in management and self-management. 3. Let recognize the benefits and conveniences of integral management and of the joint participation of different types of actors in order to help transform the approaches prevailing in planning and management.

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.

In consideration of common characteristics of the geographical environment (the *puna* ecosystem) and the ancient practice of raising camelids for their fiber and other purposes, the project's possible replication is expected in other regions of Peru, as well as other countries that share the highland ecosystems and the ancestral practice of raising camelids and use of their fiber. These countries are Bolivia, Chile and Argentina. Just as the conditions for social and economic development are similar, the high probability of project replication is anticipated and/or transfer of experience and specific knowledge developed during the course of the project.

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. periodic visits by COPASA, after the end of the project (to be negotiated).

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.

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 almost sole possible economic 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 follows up and the follow up and replication agreements with the local authorities will include a section dealing with this subject.

Environmental Benefits:

The water management activities of the project will allow the recovery and expansion of the wetlands in the project 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 in erosion processes will be avoided while the carbon stock in those soils will increase. To make 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.[28] 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 are also essential habitat components for camelids 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. With the wetlands recovery, the project will improve and will help to make sustainable the complex environmental services these systems offer.

The use of irrigation systems, with the incorporation of handling enclosures, in abiding with ecological features of the natural surroundings and the population's cultural characteristics,

[28] Andean Highland Wetlands: Regional Strategy: RAMSAR or The Convention on Wetlands of International Importance

increases the productive capacity of the forage cover, as it preserves it from the processes of erosion and desertification.

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.

Social and Economic Benefits:

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, by avoiding a worsening in the rural poverty in the highlands of the Peruvian Andes due to the negative effects of climate change. 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. The technologies that we propose to implement in the project will enable greater resilience to climate change, as much for their positive effect on income as for the cost savings gained from reducing negative impacts on health and livestock.

Beneficiaries

We have selected five (5) of the most remote provinces and 18 districts in the highlands (at elevation ± 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:

Based on the analysis of vulnerability in each of the provinces, taking into account remoteness, poverty levels, and climate impacts, the most vulnerable districts have been selected. In Arequipa, 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 with 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 12).

Gender Issues as an additional project benefit

The gender responsive approach of the Project

In order to develop this approach for the the project, initially, in parallel with the development of the environmental and social assessment of the project, a gender assessment was carried out for the project (under the direction of the unit of Inclusion and Gender Equity of CAF).

Additionally, in the consultation activities a specific survey was developed in order to capture the relationship of women with the project (beginnings of 2015) and a design validation activity for the project was developed in a meeting predominantly attended by women (July 2016).

Because of the preliminary gender assessment and of the consultation activities with a gender orientation, the project had the following modifications:

- For the project's development, and in particular in the interaction with the community members, the project team will orient its action with the following gender-responsive criteria:
  - The information, dissemination and convocation must make explicit reference to the equitable participation of men and women and their comparable right to participate in the benefits of the project.
  - In the conversations and decision-making explicit reference will be made to the equal opportunity for intervention and equitable decision of women and men. Explicitly, the perspectives of men and women will be valued and validated in an equitable manner.
  - In the logistics of different events, a comparable access, accommodation and attention between men and women will be sought and fostered (in the region differentiated seating and accommodation is traditional).
  - In an explicit manner, before the authorities and community leaders, it will be insisted upon that the development and monitoring of the project is aimed at the participation and benefit of both genders.
  - The project director will be informed in a timely manner on opportunities for improvement and additional development in mainstreaming of gender issues.
  - In the monitoring activities gaps or problems in gender issues pertaining to the project will be reported to project director, without regard to whether the issues to be reported form or not a part of the established monitoring parameters.
  - The Project Director will do continuous follow-up on the results of convocation strategies, in the aspects pertinent to women's participation and will update them in function of the results.
- It has been decided to include in the agreements of the selection of project activities beneficiaries at least a prioritization parameter for the women heads of household.
- A goal was selected for a minimal participation of women in the training processes (both in risk management as well as in productive or technical aspects). The % remained to be confirmed after establishing a baseline of potential participants. In view of the fact that the composition of women observed during the various consultation activities for the project was in the range of 20 and 30% (one meeting was observed with a predominance of women), tentatively 25% was proposed.

  Additionally, as principal sources of convocation for the project, foreseen as principal, the project relies on local and community leaders. The openness and sensitivity of both to the project's initiatives was shown in the consultation experiences, including the promotion of women's participation, as well as the image of trust that COPASA (project implementor) has built in the region.

  Starting with observed women's participation and support found in the aforementioned authorities, it was considered reasonable to establish the tentative value of 25% women's participation in the project's training sessions.

Also, even though the project starts from a basis of women's participation already constructed, the project proposes influencing the regional culture of gender by means of a greater empowerment of women, through a more active participation by women in the skills building, in discussions and in decision-making.

- It was decided that in the agreements to be established for the selection of beneficiaries of the project activities, the project team will propose as one of the prioritization parameters the condition of being a female head of household.
- It was decided that the formation of each one of the civil defense platforms will include at least one woman.
- Given the preponderant place that women have in household activities and child care, it was decided to define a minimal top for women's participation in training processes for improvements in the residence above the defined maximum for the other training activities. If indeed reaching that participation (40%) is a challenge for the project, it was considered that, given the greater interest on the part of women in domestic issues, a greater participation by woman becomes a greater guarantee of sustainability of the project's results in the same aspects.
- It was decided to include in the elaboration of the guides written as support for the development of skills, a guide on personal and family development and strengthening, in response to interests expressed by women during the convocation.

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

Photo. Women's Participation in the dissemination and validation of the Project's design workshop in the Chivay district, June 2016

Other socioeconomic benefits, the quality of alpaca fiber

In building a panorama of sustainability for alpaca breeding, the enhancement of fiber quality occupies and important place, insofar as its quality, besides adding value to the product (which

benefits the entire productive chain), contributes another variable favoring sustainability because it positions its better in the face of demand, both nationally as well as internationally, both for the production of fiber as well as goods made from it.

This project can have an positive impact on the quality of alpaca fiber to be produced, insofar as it will have an effect on three parameters of the alpaca raising: the quality of animal nutrition, the health of the alpacas and sheltering of animals in the face of exposure to inclement weather, such as intense rainfall which can impair the growth of high quality fiber. The project will not focus on other parameters that influence fiber quality.

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

During the project concept phase, the project was categorized as **Category B** (according to AF Environmental and Social Policy) as a result of CAF´s screening performed to identify potential environmental and social impacts and risks of the project. Also, a preliminary risk and environmental and social impacts assessment was undertaken. Later, during the Full Proposal's preparation stage, in May 2016, according to CAF's Environmental and Social Management Policy and procedures, an Environmental and Social assessment was undertaken with a visit to the project's area. This evaluation, carried out by a professional from CAF´s Environmental Office, produced an IAS report (Social and Environmental Report), in accord with CAF's procedures for Environmental and Social Assessment.

In order to better specify the project's compliance with the environmental and social principles of the Adaptation Fund, during the month of December 2016, a second Environmental and Social Assessment exercise was carried out for the Ayninacuy project, with a new field tour. Its results were included in the second version of the report of the Environmental and Social Assessment of the project. This second environmental and social assessment report was approved by CAF and COPASA. This second Environmental and Social Assessment report corroborated the proposed B categorization (according to AF Environmental and Social Policy) for the project in the project concept phase. The second report included a summary of the first report, specially in regard of CAF's environmental and social policy compliance.

In order to respond to the findings and requirements expressed in the second Environmental and Social Assessment report of the project, a second version of the Environmental and Social Management Plan was prepared for the project, in order to define the measures required to satisfy the requirements of AF environmental and social policy, in consistency with the environmental and social policy of CAF and, in particular, structured according to the series of environmental and social principles of AF environmental and social policy.

Both the second Environmental and Social Assessment report of the Ayninacuy project and the second version of the Environmental and Social Management Plan are included as annexes to this document (Annexes B.1 and B.2, respectively).

Para precisar mejor el cumplimiento del proyecto en relación con los principio ambientales y sociales del AF, durante el mes de diciembre 2016, se realizó un segundo ejercicio de evaluación Ambiental y Social del proyecto Ayninacuy, con un nuevo recorrido de campo y con el reporte de sus resultados en la segunda versión de la Evaluación Ambiental y Social del proyecto. Este

segundo reporte de evaluación Ambiental y Social fue aprobado por CAF y por COPASA. Este segundo reporte de evaluación Ambiental y Social corroboró la categorización **B** (according to AF Environmental and Social Policy) propuesta para el proyecto en la fase de concepto de proyecto.

Para responder a los hallazgos y requerimientos expresados en el segundo reporte de Evaluación Ambiental y Social del proyecto, se elaboró una segunda versión del Plan de Manejo Ambiental y Social del proyecto que, atendiera los requerimientos de la política ambiental y social de AF, que fuera consistente con la política ambiental y social de CAF y, en particular que se estructurara atendiendo a la serie de los principios ambientales y sociales de la política ambiental y social del AF.

Tanto el segundo informe de Evaluación Ambiental y Social del proyecto Ayninacuy, como la segunda versión del Plan de Manejo Ambiental y Social se incluyen como anexos del presente documento (Anexos B.1. y B.2 respectivamente).

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 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.

In the five provinces of the Arequipa Region in which the project's target population lives, there are some 42,300 inhabitants, whose livelihood is almost exclusively based on raising alpacas, while the alpaca population exceeds 300,000 animals. On the other hand, Peru is the world's principal producer of alpaca fiber, with 83% of the world alpaca population (between 3 and 4 million head). Alpaca herding is distributed throughout 17 departments in the country, while Arequipa is one of the three departments concentrating the larger part of alpaca production.

If in fact it is true that climate change and climate variability, from many years, have had an impact on this important livelihood as much for the Peruvian economy as well as for its culture, identity and traditions, the project's objective is to strengthen the livelihood by building alternatives to make it sustainable. Additionally, the project seeks to develop a low-cost integrated management model that is replicable.

The integrated management model is proposed as a parallel and coordinated management of activities in a set of critical variables, oriented at strengthening the alpaca raising livelihood, with the intention of coordinating efforts among the different variables in order to optimize results and avoid low effectiveness that creates both the disarticulation among actions as well as unidirectional action.

The variables or critical dimensions of the at-risk livelihood (alpaca raising) that the project encompasses are: ensuring animal nourishment, improving water resource management practices, institutional and community climate risk management, awareness development (communities already show advances in this aspect), technical training in already proven best practices and the

improvement of family housing (protection offered by the traditional house has been quite overwhelmed by climate change).

The project has not taken on other variables or critical dimensions of this set of problems, due to the costs considerations. This is the case of topics related to the productive chain, such as: genetic improvement, the strengthening of activities that diversify household finances and the local economy such as weaving and crafts production, or the diversification of offerings of alpaca-based products (meats, preserves). The project is proposed as an integrated management proposal in which its objectives make up part of a broader perspective that requires being completed in conjunction with other complementary projects.

The first response that project proposes regarding the most cost-effective alternative for advancing toward strengthening and sustainability of the alpaca raising livelihood in the areas selected is the aforementioned integrated management model, which permits avoiding the loss of efforts made in different variables or their waste due to disarticulation. As an example, one can take the case of the improvement of animal feed availability: good water management practices allow for extending the time over which this resource is available, and this, in turn, makes it possible to sustain or improve the results of crops for animal feed. However, if the variables of these crops have not been dealt with adequately, (improvement in practices, overcoming limitations in the concepts regarding appropriate seeds, in improved species, facilitating access to them), the benefits afforded by the adequate management of water resources can be lost or wasted due to the absence of a parallel development in those other variables or due to the lack of coordination with that parallel development. In the same example, in comparison with the unarticulated aforementioned variables, under the same costs, integrated management will permit more effective results, due to synergy.

The absence of an integrated vision and of coordination in the planning and execution, the unidimensional solutions or actions, arise from budgetary limitations, from the habitual practices and from management capacity both of the producers as well as the producers' organizations, of the governments at distinct levels and of other institutions, and also from division of roles at the institutional level. The project seeks to give visibility to the results of its proposed integrated management in order to facilitate and encourage its repetition.

The second response is the comparison of the alternatives for water storage.

Irrigation systems and the alternatives in storage capacity.

From the perspective of strengthening the alpaca raising livelihood, that is to say, make it sustainable activity, one of the most critical dimensions in the assurance and improvement of the animal diet is the provision of water, both for the sustenance and development of pastures or wetlands (*bofedales*), as well as for forage crops. Irrigation systems are indispensable for this provision of water. In the irrigation systems there are two fundamental as well as critical aspects: storage and distribution.

In the circumstance of the Ayninacuy Project, the alternative selected for storage capacity determines other project developments, given that only the beneficiaries of the storage availability can benefit from the cultivation of forage crops and from the wetlands recovery and development activities. Thus, the coverage and spatial distribution of these, the activities aimed at assuring

animal diet, are determined by the location of the water storage capacities. This variable (the alternative of the type of storage capacity) is determinant in the definition of the development of the project.

With regard to storage, the alternate solutions for irrigation systems included storage of various capacity levels: massive, intermediate and small scale. Due to the budgetary level that massive and intermediate storage systems entail, these two types of solutions exceed the financial capacity of the local governments, which lead to the initiatives having to be filed with the regional or central government. At present, the management periods and the competition for budgetary allocations do not suggest that a regional solution can have much reception in the mid term, for which reason, if in fact achieving one or various projects can be foreseen, a regional coverage can only be conceived in the very long term, at least as long as the normative framework is not reformed in order to lend priority to this kind of initiatives. The effect in the mid and long term for attending to the needs of producers entails prolonging in the term the situations lacking solutions for the assurance of animal diet, which leads to prolonging the cyclical costs of livestock losses that have become habitual. As such, in the mid and long term, the massive and intermediate storage alternatives, with costs far higher than the small scale alternative, turn out to be, within the current institutional and regulatory scenario and during long terms, of low effectiveness, due to the time limits that each project requires to become fully formed. The option for this type of alternatives (as an exclusive solution), during the time that the alternatives of massive and intermediate storage take to consolidate solutions of wide coverage, maintain the threat risks over alpaca raising and contributes to prolonging costs arising from cyclical livestock losses.

From the technical perspective, a massive storage capacity solution, in the Andean highlands, upon coming to rely on load capacity, would entail technical engineering solutions for distribution, possibly to intermediate storage and then to users. The resources for sustaining the technical capacity for and the investment in maintenance and administration again would easily exceed the financial capacity of the local governments, which points to the assignment of responsibility to a regional agency, a circumstance that tends to favor the distancing between the administration and the daily problematics of the users. Also, due to the demands of technical management, and also political, of the project, this kind of alternative outstrips the capacity of local leaders and in some cases of local governments, for which reason a foreseeable impact of this kind of solution is favoring the marginalization of the initiative of these actors. Even counting on the availability of a massive storage capacity, the construction of its effectiveness demands additional efforts in the construction of the physical installation: administrative culture of physical assets and of relationships with the users. In these aspects, in different parts of the world the projects administered by state entities present important challenges for building and maintaining their effectiveness.

Additionally, the costs of an intermediate storage alternative are in line with the budget expected for this current project, or could be two to three times greater. This entails invalidating this kind of initiative, in fact it permits clarifying that the choice of this kind of alternative would entail specializing the perspective of the project in order to aim at an exclusive solution for irrigation systems and would change the goal of building a set of benchmark experiences that foster the initiative of the producers and of the local governments in the entire region of Arequipa.

The massive and intermediate storage alternatives require very long development periods. Additionally, if indeed it is certain that a high effectiveness can be reached by means of a combination of actions (culture, management, administration, participation, users training, etc.) opting for these solutions in order to have wide coverage entails maintaining for prolonged or very prolonged periods situations limiting water resources for assuring animal diet and as a consequence, means sustaining in the mid and long term the costs arising from annual, cyclical losses.

The previous consideration do not lead to a disqualification of the massive and intermediate storage alternatives. They are presented in order to justify the investment, in the shortest term, in small scale storage with the goal of offering an tangibly effective alternative in shorter terms. Very possibly in the long and very long term, the optimal solutions can lead to the combination of the different alternatives, in an scenario that would impose challenges of institutional and regulatory transformation.

The third response that the project proposes regarding the most cost-effective alternative to move toward the strengthening and sustainability of the alpaca raising livelihood in the areas selected is the focus on active participation and mutual action of the target population. The target population's active participation means that the beneficiaries take an active part in the process of a product (be it the construction of a shelter, the planting of cereal, etc.), contributing their own labor and eventually minor resources. Mutual action implies that a community group (neighbors, family members) participates in the process of generating a product for one of the beneficiaries, contributing collective labor.

Mutual action has important and current antecedents in the culture of the inhabitants in the project's area of interest (this was confirmed during the consulting activities).[29].

Participative action in the generation of a product (such as the recovery of a highland wetland, the improvement or construction of rustic canals) contrasts in various manners with the generation of the same product by means of the contracting of consulting companies or contractors. In this last case, works or services are delivered to its beneficiaries as a finished product or service, with the common result being the exclusion or distancing of beneficiaries from the corresponding process to the generation of the product.

It is common to find that with the generation of a product by means of contracting consulting companies or contractors, the absence or distance of the beneficiaries from the process does not facilitate that they build a meaningful relationship (personal, affective, social, cultural) with the contributed product or service and as a consequence does not favor a value ownership of the

[29] With origins that hearken back to the Tawantinsuyo, *Ayni* was a system of generalized family reciprocity among the members of the *ayllus* (endogamic communities), directed at the construction of public structures and to agricultural work. In *Ayni* the help that a group of individuals or members of a numerous family offered to carry out tasks had a counterpart of reciprocity, the initiating 'donor' group would later become the 'beneficiaries'. This millennial system of reciprocal work continues strongly rooted not only in Peru's rural Andean communities, but also, in the mestizo populations of Ecuador and Bolivia.
The *Minka*, or collective work, has another connotation. With that, the collective carried out works that benefitted the *ayllu* as a whole: local irrigation canals, bulwarked fields, crops terracing, bridges, temples, cities, local storage of products, corrals, fences, etc. This system enveloped and obliged all the members of the community to work to the benefit of the community or *ayllu*. In contrast to the *ayni*, the *minka* did not imply a moral debt nor did it oblige the payment of any kind. The *minkas* were fundamental for maintaining links of solidarity and allowed for the *ayllu's* survival.

contribution. On the other hand, that distance is the frequent cause that the products or services, although they are "adequate" for the paradigm of consultant or contractor, may not respond to the reality, to the interpretation of the problems and to the values of the beneficiaries. So, for example, the consulting process allowed for the verification of examples of shelters delivered to the producers in which important technical errors were evident and a use for storage instead of animal protection was found.

In the participative action proposed by the project, the producers, whose livelihood is at risk, are involved in all the activities: they are trained in best practices in a learn-by-doing modality, they receive training from a leader recognized by the same community, with expert knowledge in productive activities (trained and assisted by a technician with experience) and they participate in the risk management activities. What is more, they participate in group activities for a beneficiary (who can be the participant) or for a group of beneficiaries. Involvement in the participative action allows for the building of ties and meanings (personal, affective, social, cultural) with the practices and with the result of that participative action. Additionally, the contribution of work, and occasionally of materials accessible to producer are capitalized in the project as a cost reduction. In this manner, a social bond is woven around the project, traditions of mutual participation are reactivated (*Ayni* and *Minka*, see footnote on previous page) and meaningful values are forged in the participants, in relation to the delivered products and services and also in relation to the mutual action. The contribution of work and/or materials, while reducing very important project costs, allows for ownership of the good or service, and increases the guarantee of the product's sustainability (a reservoir, for example, or the rustic canals connected to it) and of the social dynamics that allow for its replication under similar frameworks.

Mutual participative action entails the project covering its training needs, and fulfilling its follow-up, evaluation and reporting, due generating its own costs. However, the reduction of total costs per activity, the guarantee of ownership and the potential for replication this creates increases in a significant way the good's effectiveness (construction of shelters, raising livestock fencing, planted area, etc.) or of a generated service (training, the vegetal matter production of a highland wetland, etc.). In the project's outlines, in order to achieve the same results (in terms of the same product or service) the cost-effectiveness of mutual participative action is shown to be qualitatively and quantitatively superior to the cost-effectiveness obtained by the contracting of consultants or contractors; additionally, mutual participative action offers very attractive social gains.

There is another option of intermediate participative action between the mutual participative action described above and the contracting of consultants or contractors of the 'turnkey' kind: the contracting of consultants and contractors that use local labor. If indeed the cost-effectiveness of this option in terms of labor costs is more attractive than the option of contractors who introduce outside workers into the target area (rural labor is less expensive than urban), the cost-effectiveness advantages of mutual participative action remain superior, for the same aforementioned reasons.

In Annex A, a cost comparison exercise is presented for the three aforementioned options: 1. With *Ayni* type labor (Ayninacuy Project), 2. With rural labor. 3. With urban construction labor. If the figures utilized in the exercise do have slight differences with the project's final budget, for the same set of activities, a very important difference in costs can be observed regarding Option 1. "With *Ayni* type labor": Option 2 costs are higher by 181% with respect to Option 1, while the costs of Option

3 are higher by 271% with respect to Option 1. The table shown below presents the summary of the comparison.

Table 13

Labor cost comparison for three alternatives to achieve the same products that require labor inputs.

	ALTERNATIVE 1 With *Ayni* type labor (Ayninacuy**)**	ALTERNATIVE 2 With rural labor	ALTERNATIVE 3 With urban construction labor
Total Cost of project implementation	**2,921,554**	**5,309,954**	**7,937,194**
% Comparative vs Alternative 1 (*Ayni* Alternative) for total cost of project implementation	**100%**	**201%**	**336%**
Comparative evaluation of labor costs	LOWEST COST	MIDDLE COST	HIGHEST COST
Comparative evaluation of effectiveness in other social variables that contribute to resilience.	HIGHEST EFFECTIVENESS	MIDDLE EFFECTIVENESS	LOWEST EFFECTIVENESS

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

Alignment of the project with the institutional and policy framework at regional (sub-national) level:

The Regional Strategy for Adaptation to Climate Change in the Arequipa region 2008-2018 states:[30]

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

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

The Strategy includes among its axes, number 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.

In the development of this axis, the strategy proposes the following objectives:

- **6.3.3. Protection of biodiversity and water resources** The Arequipa Region needs to implement in a prioritized manner a Special Program for the protection of water resources, including the development of harvesting strategies and sustainable water management,

- **6.3.6. Validate adaptation measures** The development and validation of adequate adaptation measures for the livestock sector, with the involvement of the same rural breeders is equally another strategic option.

The project activities related to cultivation and rationalized use of water (water conservation and improvement of high altitude wetlands in use) will develop these two objectives, 6.3.3 and 6.3.6.

The Concerted Development Plan 2013-2021 of the Arequipa Region.

The Plan's General Objective, "Natural Resources and protected, recovered and sustainably utilized environments", is developed in the following specific objectives:

1. Conservation and sustainable use of natural resources and biological diversity.

2. Integrated and efficient water and regional basins management.

3. Adequate environmental quality absent ecosystem encroachment and recovery of degraded environments.

4. Consolidate Environmental Governance, a high level of awareness and environmental culture, and active citizen participation.

5. Eco-efficient and competitive development of the private and public sectors, promoting economic and environmental potentialities and opportunities.

With the goal of developing the former objectives, in the Plan the following strategies have been designed:

- Drive the integrated management of basins prioritizing the conservation of the headwaters' of the basins, and the sustainable use of water resources and soil for social well-being.

- Drive the implementation of water seeding and harvesting projects in the highland areas of the region for the improvement of productive activities and as measures for climate change adaptation and environmental risks.

- Drive measures for the improvement and conservation of natural pastures, wetlands, and high altitude wetlands, achieving their sustainable use and avoiding overgrazing or the intromission of activities (mining, construction, etc) which lead to their destruction.

- Strengthen the weather monitoring system through hydrological and meteorological stations and by implementing an early warning system to prevent environmental risks.

The project's central activities are framed within the former objectives and strategies:

- In their goals and focus, the activities related to the strengthening of alpaca breeding as an economic activity (Component 1) develop the specific objective 5. (Eco-efficient and competitive development of the private and public sectors, promoting economic and environmental potentialities and opportunities).

- Activities related to the harvesting and rational use of water (water conservation and improvement of high altitude wetlands in use) develop specific objectives 2 (Integrated and efficient use of water and regional watersheds) and 3 (Adequate environmental quality absent ecosystem encroachment and recovery of degraded environments), as well as the second strategy (Drive the implementation of water seeding and harvesting projects in the highland areas of the region for the improvement of productive activities and as measures for climate change adaptation and environmental risks), and the third strategy (Drive measures for the improvement and conservation of natural pastures, wetlands, and high altitude wetlands, achieving their sustainable use…).

- Activities related to rationalized use of pasturing areas also develop the specific objective 3 and the third strategy mentioned above.

- The manner in which the skills development activities are anticipated (with the active participation of the communities) develops objective 4 (Consolidate Environmental Governance, a high level of awareness and environmental culture, and active citizen participation).

- Activities related to the implementation of early warning modules develop the fourth strategy enumerated above: Strengthen the weather monitoring system through hydrological and meteorological stations and by implementing the early warning system to prevent environmental risks.

Relationship with National Policy

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

1.- **NATIONAL STRATEGY FOR FACING CLIMATE CHANGE (ENCC), approved by Executive Order Nº 011-2015-MINAM**

In its vision for 2021, Peru is adapting to the adverse effects of climate change, and takes advantage of the opportunities imposed by climate change, establishing the basis for a low-carbon, sustainable development.

In the first of its strategic objectives, "The population, economic agents and the State increase awareness and adaptive capacity for actions in the face of climate change's adverse effects and opportunities." The project aligns itself with three of the indicators defined for this strategic objective: 1. An increase in the proportion of persons whom know what actions to take for managing risks in the context of climate change and for adaptation in the face of climate change. 2. An increase in private investment and in the quality of public spending for adaptation to climate change. 3. A

reduction in the loss of human life, and economic losses due to disasters arising from climate variations.

2.- The "BICENTENNIAL PLAN, PERU 2021"

With regard to soil, Axis Six of the Plan 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.

On the other hand, 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.

In conjunction, the project develops the aforementioned article of axis 6: deal with, preferentially, soil degradation resulting from climatic variations. Likewise, the project responds to the prioritization that the Bicentennial Plan accords ensuring the adequate availability of water, and climate change.

3.- National Environmental Action Plan - Peru 2011-2021 **PLANAA**

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 Multi-sector Plan against frost and cold fronts, which aims at articulating multi-sector 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.

In conjunction, the project is consistent with the Multi-sector Plan, and as such corresponds to an intervention strategy focused on prevention and risk reduction in face of cold spells. Below are the projections established by this Multi-sector Plan:

Table N° 14

Strategic Action	GOAL FOR 2017	GOAL FOR 2021
Estimate and reduce vulnerability in the face of climate change.	Vulnerables 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. [31] Co-Responsible entities: ANA, SENAMHI, INDECI, National Commision 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. [32]	
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. [33]	

Source: Multi-sector Plan in the face of Frosts and Cold Spells 2015 [34]

The project will be executed by the COPASA (acronym corresponding to Special Project of the Regional Government of Arequipa), **institution** 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.

Projects executed by COPASA possess the category of Special Project, which facilitates the execution of projects in a fast, versatile and autonomous manner.

Intended nationally determined contribution (INDC) from the Republic of Peru

The Peruvian iNDC[35] (September 2015) defines the following sector priorities in adaptation:

i. Water (Water resources)
ii. Agriculture
iii. Fishery

[31] 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.

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

[33] 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.

[34] http://www.pcm.gob.pe/wp-content/uploads/2015/07/PLAN-MULTISECTORIAL-ANTE-HELADAS-y-FRIAJE-2015-10.06.2015.pdf

[35] United Nations Framework Convention on Climate Change (UNFCCC).

iv. Forestry
v. Health

The mentioned iNDC defines, as vulnerable populations to be addressed on a priority basis, the following: rural populations related to subsistence Household farming and/or weak market linkages, many of them grouped in peasant and indigenous communities; small farmers; artisanal fishermen; native communities; small forest producers; and, from a health perspective, infants, women and seniors.

For each one of the priority sectors enumerated above, the INDC has defined scopes, objectives and goals. For the project these are pertinent in the sectors of health and water. Below are the scope and intermediate objectives defined for these two sectors:

- Water Sector
    - Scope: Includes supply (resources) and demand (use): direct human consumption, agriculture and livestock, energy, mining and industry. It includes physical and eco-systemic infrastructure.
    - Intermedate objectives: Encourage and promote actions and projects that increase the availability of water in the context of CC.
- Health Sector
    - Scope: Considers increasing the adaptive capacity of health services in order to face CC, and the resilience of vulnerable populations to its effects.
    - Intermediate objectives: Reduce vulnerability and increase the population resilience to the health effects of climate change.

In addition to the prioritized sectors, the iNDC has defined five cross-cutting areas. The goals of two of them are related to the project objectives and activities:

- Poverty and Vulnerable Populations Approach goals: Increase the number of programs and instruments against poverty that incorporate adaptation to climate change.
- Gender and Intercultural Approach
    - Formulation and approval of the Action Plan on Gender and Climate Change
    - Encourage the participation of indigenous organizations in actions on climate change

Peru Gender Policy Framework

Peru, in response to international commitments, underwritten with the goal of eradicating gender gaps and all forms of sexual discrimination, has the challenge of incorporating in public policy a gender focus. The Ministry of the Women and Vulnerable Populations counts on National Plans such as the “National Plan for Gender Equality” (PLANIG) 2012 – 2017 and the “National Plan against Violence to Women 2009 – 2015”. The PLANIG is the policy instrument whose objective is interweave gender focus in the Peruvian State’s public policies, in its three governmental levels, guaranteeing the equality and the protection of human rights for women and men, no discrimination and the full development of individual and potential and capacities. In this manner, it is expected to guarantee all people the exercise of their rights to equality, dignity, free development, well-being

and autonomy, as well as eradicating all forms of discrimination, in order to reach real and effective equality.

All of this, in the framework of compliance with Law N° 28983,35 "Equality of Opportunities between Women and Men Act" and the Legislative Decree Nº 1098, "Organization and Roles of the Ministry of the Women and of Population Vulnerables Act", in its **Article 3º** states:

3.1 From the principles of the Act

The present Law is based on the fundamental principles of equality, respect for liberty, dignity, security, human life, as well as the recognition of the pluricultural and plurilingual nature of the Peruvian nation.

3.2 The State drives the equality of opportunities between men and women**,** considering the following principles**:**

a) The recognition of gender equity, banishing practices, concepts and languages that would justify the superiority of one of the sexes, as well as any kind of sexual or social discrimination and exclusion.

b) The prevalence of human rights, in their full sense, highlighting the rights of women throughout their lives.

c) Respect for Peru's pluricultural, multilingual and multiethnic reality, promoting social inclusion, interculturality, dialogue and exchange in equitable conditions, democracy and mutual enrichment.

d) Recognition of and respect for children, adolescents, young adults, the elderly, persons with disabilities or minority groups most affected by discrimination.

In line with the "National Plan for Gender Equality" (PLANIG) 2012 – 2017, the Ayninacuy Project proposes the following contributions:

Table 15

Ayninacuy Project proposes the following contributions to National Plan for Gender Equality

Strategic Objective	Results	Project contribution
Promote and enhance gender mainstreaming at the three levels of government	National and regional public entities have responsible for implementing gender equality policies.	Regional government, by means of Special Project COPASA, supports gender equality policies implementation through AYNINAKUY Project.
	Public entities identify gender gaps and allocate budget for their reduction.	AYNINAKUY will elaborate a list of gender gaps and will request specific budget to the central government to contribute to their reduction.
	Participatory budget and the National Public Investment System (SNIP) include a gender perspective in project prioritization and analysis in assessment, when needed.	AYNINAKUY will support local governments in their participatory budget preparation, to prioritize projects with a gender perspective.

Strengthen a culture of respect and of appreciation of gender differences	Eradication of stereotypes and discriminatory practices based on gender differences.	AYNINAKUY will promote a culture of equality and enhance women's leadership within their communities.
	Public entities adopt inclusive language for their communications and official documents.	AYNINAKUY will use inclusive language in all its official communications and training materials.
	Education institutions promote sharing domestic responsibilities.	AYNINAKUY will work with municipal schools to raise awareness about the importance of sharing domestic responsibilities.
Reduce education gaps between women and men	Families living in situation of poverty and extreme poverty in rural areas improve child care.	AYNINAKUY will improve dwelling conditions by introducing water and sanitation and heating services, thus improving health and living conditions of beneficiaries, including children.
Guarantee economic rights of women with the same conditions of equality and equity than men.	Labour skills development programs, employment creation and productive projects, supported by the State, guarantee a gender quote by promoting Andean and Amazonian rural women participation, including those with disabilities.	AYNINAKUY will promote equal and fair labor conditions for both women and men working in project activities.
Increase women and men participation in decision-making processes and in citizen and political participation.	Public entities implement affirmative action measures to guarantee women representation in decision-making positions.	AYNINAKUY will support local campaigns that address these issues.
Value women's contribution to natural resources sustainable management	Risks management and natural disasters prevention, as well as natural resources care, with a gender perspective.	AYNINAKUY's risks management activities will include a defined minimun participation of women.
	Rural women receive information, training and technology transfer for natural resource management: water, land and forest	AYNINAKUY will include training activities for both women and men.
	Rural women use clean technologies in domestic combustion processes	AYNINAKUY will promote improved cooking facilities within households, which reduce greenhouse effects and

		contribute to health improvement.

Additionally, among the goals defined for the Project, for the trainings, a minimum of participating women was defined (30% for all the activities, 40% for housing improvement, goals to be confirmed after the baseline is established). The project established also, in line with this normative framework and based on the consulting activities, to develop a guide on development and family and personal strengthening oriented with a priority toward women. As regards the formation or strengthening of platforms (committees) of civil defense (18 district and 36 communal), the project established the goal of inclusion of at least one woman in the formation of each platform.

What is more, for the beneficiaries of the project's products, once initiated the project, an agreement will be established, with the participation of the communities and authorities, for the selection of beneficiaries. One of the project's goals is the prioritization of women heads of household in the criteria of the selection of beneficiaries.

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.[36]

The environmental impacts of the project activities are expected to be low.

Based on a preliminary screening, the project was classified as category B (according to the environmental policy of the AF). The second environmental and social assessment report of the project confirmed the same categorization. In accordance with the Environmental and Social Policy of the Adaptation Fund, the project does not require to carry out an Environmental Impact Study.

According to the categorization B, an Environmental and Social Assessment of the project was carried out to verify compliance with the environmental and social policies of CAF and of the Adaptation Fund. A second Environmental and Social Assessment of the project was carried out to confirm the fulfillment of the requirements of the Adaptation Fund's environmental and social principles. According to the results of the Environmental and Social Assessment of the project.

[36] LEGAL REGULATIONS THAT GUIDE THE EIS (Environmental Impact Study; Spanish acronym-EIA):
- Law Nº 28611, General Law on the Environment.
- Law Nº 28245, Framework Law of the National Environmental Management System.
- Law Nº 27446, National System for the Assessment of Environmental Impact Law.
- Legislative Decree Nº 1013, Legislative Decree that approves the Law of the Creation, Organization and Functions of the Ministry of the Environment.
- Law Nº 26839, Law for the Conservation and Sustainable Use of Biological Diversity.
- Law Nº 26834, Protected Natural Areas Law.
- Executive Order Nº 038-2001-AG, Regulations for the Protected Natural Areas Law.
- Law Nº 27314, General Law of Solid Wastes.
- Executive Order Nº 029-94-EM, Regulations for Environmental Protection in Electrical Activities.
- Law Nº 28749, General Law of Rural Electrification.
- Executive Order Nº 025-2007- EM, Regulations for the General Law of Rural Electrification.
- Executive Order Nº 031-2007-EM, Regulations for the Organization and Functions of the Ministry of Energy and Mines.
- Decree Law Nº 25844, Law of Electrical Concessions.
- Law Nº 27783. Decentralization Framework Law.
- Ministerial Resolution Nº 535-2004-MEM-DM, Regulations for Citizen Participation for the execution of Energy Activities within the Administrative Procedures for the Assessment of Environmental Studies.

An Environmental Management Plan Social was prepared to ensure that the development of a life-long project meets the requirements of the Assessment, in order to ensure compliance with the provisions of the Adaptation Fund's environmental and social principles. The evaluation and the plan are included as Annexes to this document (Annexes B.1 and B.2 respectively)

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 verification visits shall be executed.

COPASA 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.

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 OCT 2005) 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 were expected to be minimal or nil, CAF conducted an environmental and social assessment to verify this assumption. As a result of the assessment, a Plan of Environmental and Social Management and a Monitoring, Reporting and Assessment of Environmental and Social Management Plan have been developed 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 midterm reports will also include an evaluation of the project with respect to environmental and social risks.

Norms that the Project must fulfill

Below are included norms with which the project must demonstrate compliance or that serves as a reference point for carrying out an activity.

- **Water Quality for Human Consumption Regulations.** Given that the project includes the implementation of 5 water treatment units for human consumption, the project will require from the contractor, prior to final reception of the installations or equipment, that the provider demonstrate through samplings and analysis that the treatment complies with the standards established in Water Quality for Human Consumption Regulations, contained in Executive Order N° 031-2010-SA. Prior to the beginning of operations for the water treatment units, the project will verify that the pertinent registry and authorization requirements are satisfied per the aforementioned regulations.

- **National Strategy for the Preservation of Wetlands in Peru.** In particular, with respect to the Strategy's section 5.3.6. Design, development and recovery of technologies for the management of wetlands, and section 5.4., Management and Sustainable Development Activities, promotion of traditional use techniques for the management of wetlands, the project will report to the Ministry of the Environment on the progress and results, in order to ensure the dissemination of the experience, and the sharing of lessons learned.

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. Consequently, there is no duplication of project with other funding sources.

Initiatives that complement the project activities

In the Arequipa Region an initiative that complements the Project was identified: the *Multisector Plan to Face Cold Spells and Frosts 2014* (http://www.pcm.gob.pe/wp-content/uploads/2014/05/PLAN-MULTISECTORIAL-ANTE-HELADAS-y-FRIAJE-2014.pdf).

In the section 6.3. of the Multi-sector Plan, actions by the Ministry of Agriculture and Irrigation – MINAGRI, the following is expected**:** For the execution of activities foreseen by MINAGRI in order to comply with the Multi-sector Plan area in the face of Cold Spells and Frosts 2014, a general amount of USD 2.42 MM (8,352,684 PEN) has been budgeted, for the acquisition of:

- Veterinary Kits (9,136 units),
- Hay Kits (74,670 units).

Said budgets can be found within the framework of the Multi-sector Budgetary Plan 068 Reduction of Vulnerability and Emergency Care for Disasters, The area of intervention with the product encompasses districts in Apurímac, **Arequipa,** Ayacucho, Cusco, Huancavelica, Junín, Pasco, Puno and Tacna, places where it will be held.

These emergency assistance actions can **potentially** benefit the members of the participating communities in the project. In the face of the fact that the activities and budgets are already predefined and due to the nature of the activities, the veterinary kits can be a complement to project actions.

Other results of the research on initiatives that might duplicate project activities and goals

As explained above, no project or initiative was found that could match with the project activities in the objective area. Neither, no project or initiative was found that could match the project profile in a different area, within Peru.

Other funds projects, thematically related to the objectives and / or activities of the Ayninacuy project were identified. The activities of some of them have geographical proximity, but the area of interest of none of them match the area of interest of Ayninacuy project. As a documentation of the research, following, a summary is presented:

Tables 16: Other thematically related projects, from other funds

FUNDING ORGANIZATION: World Bank – WB - http://www.worldbank.org/projects/

At the beginning of July 2016, WB web did not registered active projects in the project zone related thematically with it (water supply, general water and sanitation, animal production, agricultural extension).

Below one (1) project is summarized with a thematic proximity, implemented outside of the project area.

Sector/Issue	Project	Implementing Agency	Agency	Loan US$MM
Irrigation	Sierra Irrigation Project	World Bank	Subsector Irrigation Program (PSI), Ministry of Agriculture	20

Commentaries: The project concluded in 2015.

Objectives: Increase in agricultural production, increasing the water efficiency (rehabilitation of agricultural irrigation infrastructure, …, Promote the development of the Organization of Self-sustaining Water Users.

Some districts in the target area of the Ayninacuy Project (Province of Caylloma) were initially considered possible beneficiaries, finally were not included, in accord with the project's reports at this site:

http://www.worldbank.org/projects/P104760/sierra-irrigation-subsector?lang=en.

Sector/Issue	Project	Implementing Agency	Agency	Loan US$MM
Irrigation	Various projects Modernizatio n of Irrigation.	World Bank	Subsector Irrigation Program (PSI), Ministry of Agriculture	-----

Commentaries: Objective/strategy: Installation of pressurized irrigation systems, financed with Organizations of Water User and Regional Governments.

In June 2016, PSI's webpage reported 2 projects executed in the Arequipa Region, in districts outside of the target districts in the Ayninacuy Project. Web: http://www.psi.gob.pe/programa/psi-sierra/

FUNDING ORGANIZATION Global Environment Facility – GEF - https://www.thegef.org/gef/

At the end of June 2016, GEF's website registered 49 national projects approved for Peru (15 of them on climate change), and 26 regional projects that include Peru. **None of these projects has any action projected for the Project's area of interest.** Below are listed the projects with the greatest thematic proximity to the Ayninacuy Project.

Biodiversity	Conservation and Sustainable Use of High-Andean Ecosystems through Compensation of Environmental Services for Rural Poverty Alleviation and Social Inclusion	GEF	MINAM Perú	535
The project seeks to protect and sustainably use High Andes ecosystems that provide environmental services, especially biodiversity and water, by transferring economic resources from downstream beneficiaries to upstream rural communities. Among the project's result is that of improving the sustainability of highland Andean landscapes and incorporating in the regulatory framework measures for conserving biodiversity and generating a sustainable use of it. In its activities, it includes the restoration of 4000 has of highland wetlands in the Lima and Ancash Regions (Far from the area of the objective area of the Ayninacuy project), outside of the project's areas of interest. At the end of June 2016, GEF's website registered the project's status as "CEO endorsed". Although the project deals with restoration of bofedales, its approach is very different from that of the Aynincuy project, having emphasis on watershed user associations and on the development of alternative payment for environmental services. The Ayninacuy project is focused on strengthening the breeding of alpacas. It is likely that the results of the Ayninacuy project will serve in the future to propose a project with this profile in the region of Arequipa.				
Multifocal Area	Sustainable Management of Agro-Biodiversity and Vulnerable Ecosystems Recuperation in Peruvian Andean Regions Through Globally Important Agricultural Heritage Systems GIAHS Approach	FAO	Minam Perú	9,3
Project Objectives: To conserve in-situ and to sustainably use globally-important agro-biodiversity through the preservation of traditional agricultural systems, the integrated management of forests, water, and land resources, and the maintenance of the ecosystem services in selected Andean regions. At the end of June 2016, GEF's website registered the project's status as approved in April 2016. The project's area of intervention are located in the Departments of Huancavelica, Junin, Apurimac, Huanuco, Ayacucho and Cajamarca, **outside of the area of interest of the Ayninacuy Project**.				

FUNDING ORGANIZATION: **Inter-American Development Bank**
http://mifftp.iadb.org/PSR/ATNME14722PE/KP/fec204bb-08c8-4584-b72c-733e4c7a59f8.pdf

Energy Efficiency	CT: Financing of Clean and Efficient Stoves in Andean Communities	IADB	WORLD VISION PERU	0,9
Objective: install 2500 eco-efficient stoves in the Departments of Ayacucho and Ancash. The project is expected to be finished in January 2017. Its approach is very different from the Ayninacuy project. Ayninacuy's project results include to build a tangible experience to be useful to motivate the peasant communities to participate actively in the consolidation of an experience similar to that of this project.				

Sources of learned lessons potentially applicable to Ayninacuy Project

Between the thematically similar identified projects, two of them were identified as potential sources of learned lessons applicable to Ayninacuy Project. Contact with the execution teams of those projects were tried during November 2016 in order to verify if applicable information was available.

In one case contacts were successful: the Sierra Irrigation Project (World Bank). These were the results of the consultation[37]:

The executing agency, The Southern Zone Management Office - Arequipa of the Ministry of Agriculture and Risk was consulted. The entity responded through Report 087-2016-MINAGRI / PSI SIERRA / SUP C1 / JDAV, dated November 14, 2016, in which the lessons learned from the project were reported, among which the following are rescued for the project:

- "Pressurized irrigation technologies are well received in Sierra areas. However, its operation, operation and maintenance is conditional on operating costs, so it is advisable to ensure optimum natural pressure loading and cost-effective, technically well-managed crops."
- "In the training process, integration is very important for most of the members of the beneficiary family, this ensures the sustainability of the irrigation systems installed, as well as the productive systems."

Other information related to lessons learned is not applicable to the circumstances of the Ayninacuy Project (they are focused on the subject of irrigation organizations, which is not relevant to Ayninacuy project).

The mentioned comments of lessons learned referenced for the project are available to the future Field Coordinator of the project, for possible consideration in the execution of the project activities related to the units of pressurized irrigation. The implications of this information valued as lessons learned are not enough to transform the project's intended design.

[37] With a similar intention, in November 2016, contact was sought with the execution team of an already completed project: Pilot Project, Access to Water and Sanitation for Dispersed Rural Communities (IADB). For the Ayninacuy project team was not possible to make contact with the former project team of the private organization CARE Peru. Consequently this experience was discarded as a possible reference from which practical information on lessons learned can be obtained. The previous version of this proposal had referred to this experience as a possible source of information on lessons learned applicable to the Ayninacuy project. The objective of this project was: Design and Implement Models for the Provision of Individual Solutions for the Supply of Water and Sanitation in Disperse Rural Areas.

NOTE: The activities of Sierra Irrigation Project were implemented out of the objective area of Ayninacuy Project.

About Copasa's experience

As a Regional Governmental Organization, COPASA has updated information related to Adaptation project under development in the region and is able to confirm that, currently, no other projects are being executed with overlapping scope or activities. On the other hand, after 18 years of experience COPASA has executed 11 projects since 1985. This experience has allowed COPASA to design the strategy of the project's capacity building activities considering its knowledge of the local culture, traditions and project needs.

Among the projects/programs executed by COPASA the "Adaptation to Climate Change Programme (2006 – 2007)" can be found. This project's perspective and design have been nourished by the experience gained in that programme; in particular, in the construction of a comprehensive management model that could resolve the disarray of previous experiences.

At present, the COPASA Special Project has been developing the "Program to strengthen local governments (2015 - 2018)", 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. This project proposal perspective is a consequence of the development of such project, and the participatory planning process criteria and processes of such Program have allowed the COPASA to respond to the needs and expectations of involved communities, after having implemented a consultation process. The local budgeting criteria of the programme have been also considered, as well as the programme criteria of rationality and efficiency.

The *Tambos*

There is a project being implemented by the central government, named *Tambo*, which is a center of support services for rural habitats. It consists of an installation built in a rural settlement in which State agents converge to provide infrastructure, equipment, and training services, in a direct way with said community and those in its area, in order to improve their quality of life.

The implementation of the *Tambos* responds to the need to bolster State presence and to make social inclusion possible among rural populations such as those targeted by the project, a population that presents the highest indices of poverty, chronic malnourishment among children, and social exclusion, a situation which has remained constant over many decades and that also, in some indicators, has worsened. Through the *Tambos* the central government seeks to carry out rapid interventions, by means of provision of services and infrastructure in rural areas, thus contributing to their social inclusion, and bolstering the presence of the State.

In two of the 15 Districts where Ayninacuy is going to be developed, four operating Tambos were reported (Chachas province of Castilla y Andaray, Province of Condesuyos) during the preparation of the full proposal document.

If indeed the Tambos initiative is complementary to the project's actions in the general perspective of offering options to improve the quality of life by means of the linking of services offered by the State, in the project's particular objective of strengthening the livelihood constituted by alpaca raising, the Tambos offer a complementary offer but not an essential support (Tambo Program is centered on Housing, Construction and Sanitation). At its beginning, the initiative shows a wide spectrum of capacity building and a policy of coordinating initiatives with local and regional governments within the priorities of the central government. Tambo remains more as a complementary reference than as potential partner for the project.

Note About Current and Relevant Gef Projects:

- Currently, there is a Regional GEF Project (Project name: Conservation of the Biodiversity of the Paramo in the Northern and Central Andes /Proyecto Paramo Andino), with a US$ USD 18,695,304 budget, and whose Geographical Scope includes: Colombia, Ecuador, Peru and Venezuela. The project objectives include:

    i. implement examples of good practice in Paramo management at nine critical Paramo sites,
    ii. support different governmental and non governmental levels to adopt key policies for Paramo conservation,
    iii. increase the technical capacity of Paramo inhabitants and field practitioners to manage Paramo,
    iv. increase awareness and information about Paramo among decision makers and the population in general, and
    v. replicate best lessons of the project to other areas and scales at the Andean level.

    Specially in the objective iii (increase the technical capacity of Paramo inhabitants and field practitioners to manage Paramo), the focus of this project is very close to the Aininacuy project activities related to wetlands (Bofedales) recovery. Nevertheless, for Peru, the project activities are focused on the Regions of Piura and Cajamarca, located far from Arequipa.

    As this GEF project scope also includes "replicate best lessons of the project to other arand scales at Andean level", the Aininacuy project will consult them, before, the start of activities in order to verify if there will be information relevant to Aininacuy Project activities to be assimilated.

- On the other hand there is another approved National GEF Project (Project name: Conservation and Sustainable Use of High-Andean Ecosystems through Compensation of Environmental Services for Rural Poverty Alleviation and Social Inclusion). With a US$ USD 18,695,304 budget, this GEF project is oriented to protect and sustainably use of High Andes ecosystems that provide environmental services, especially biodiversity and water, by transferring economic resources from downstream beneficiaries to upstream rural communities.

    The outcomes of this project includes "Conservation and/or sustainable use of at least 25,000 ha of high Andes ecosystems and landscapes." And within this outcome one of the

outputs says: “Conservation, rehabilitation, improvement and sustainable management of at least 4,000 hectares of bofedales”, which is very close to the bofedales recovery purposes of the Aininacuy Project. Also in this case, the Geographic scope of the project is far from the Arequipa Region (to be developed in the Lima, Ancash and Huancayo Regions). As a consequence, the actions of this GEF project are not to be considered as results to built upon, for Aininacuy Project.

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

The knowledge management strategy

The knowledge management strategy provided for in the project consists of 3 elements:

- A solution for knowledge management for the producers in the project area: A solution for knowledge management for the producers in the project area. Its objective is help transform the productive culture regarding alpacas through the transfer of best practices that strengthen the their livelihood.

- The collection and distribution of lessons learned throughout the execution of the project. Its objective is to gather knowledge generated the project activities and to place at the disposal of the immediate environment of the project and others of interest outside of it, through the internet.

- Risk management in the face of climate change in the area of the project. Its objective is explained as the objective of the project’s concrete outputs in 2.2.: Activities to raise awareness and develop capacities and ownership regarding local, community and institutional processes of adaptation and climate risk reduction.

- (Although the internal activities of technical training for the project is not considered here, the project will do follow-up on its development in order to gather the lessons learned that such activities can provide).

1. A knowledge management solution for the producers in the area of the project

While rising alpacas, under the currently predominant conditions, two hectares per head of alpaca are needed for their sustenance. Alpaca raising requires a low demographic concentration both in term of herders as well as alpacas. As a consequence, the solutions for attending to the adaptation challenges in wide population that affects this activity require capacity of wide coverage. On the other hand, in the area of interest for the project , the level of consolidation in the development of digital media is incipient and the population’s economic level limits massive access to the cell phone communication and to the internet. Additionally, in the region of interest to the project, given that Quechua-Spanish bilingualism is very common, the predominant language is Quechua.

From this perspective, a knowledge management strategy requires differentiating the target population in the dissemination of information and lessons learned. Thus, the alpaca herders and their organizations require an approach and other actors with access to electronic media of another focus (including authorities, state entities, NGOs and other organizations with interest in these problems). It is to be expected that both approaches be complementary.

The Ayninacuy Project aims at building an integrated management model that can serve as a point of reference for replication actions in the mid and long term. From this perspective, the strengthening activities for the alpaca raising livelihood that are carried out on physical assets (construction of shelters, livestock pens, planting and cultivation of pastures and forage, construction of reservoirs, etc.), at the same time that they are going to favor the direct beneficiaries of the activities in the mid term, they are proposed as learning modules that allow the producers in the area, and nearby areas:

- To have a successful experience of alternatives in order to strengthen their livelihood that are accessible and motivating due to their proximity, technical capacity, due to costs and capacity to initiate actions (for this training is distributed broadly, collective participation in the experience is permitted, expert capacity is prepared in these same communities, and dynamics supporting reciprocal community work are encouraged).
- To do verification, consultation and direct learning (part of the commitment of the direct beneficiaries is to share their knowledge and learning with the interested parties that visit the learning module that has benefitted them; on the other hand, the Yachachiqs will be trained and the capacity will remain available in the region without the necessity of a project intervention or external agency).
- To contribute to the active transformation of the livelihood of alpaca raising with best practices that allow for strengthening the way of life (due to the reduction in the cyclical losses and thanks to improvements in the productive margins).

In each one of the districts selected as of interest to the project, a learning module will be implemented for each one of the following activities:

- Planting and cultivation of high altitude resistant forage.
- Planting and cultivation of improved pastures.
- Installation of clover in the highland wetlands (*bofedales*).
- Recovery of a wetland (*bofedal*) through expanded irrigation via rustic canals.
- Pressurized installation module (2 modules per district).
- A reservoir with 100 m3 of water storage capacity.
- A rustic reservoir for water storage.
- A family room improved to resist climate variability: heating via solar walls; rural electrification (autonomous photovoltaic systems), composting latrines and improved stoves. (2 units per district).

Note: In many of these activities, COPASA will share lessons learned regarding successful best practices, that have been carried out in past years by the technical staff of the project.

2. The collection and distribution of the lessons learned throughout the execution of the project

For the development of this element, the project has made provisions for:

- Every workshop and fieldwork day shall produce a written memory, with the lessons learned reported by the participants and by the activity leaders at the end of each activity, and complemented during the corresponding practical activity.
- The Project's assessment and monitoring activities will incorporate criteria and indicators for assessing knowledge management activities. The project Annual Progress Report, APR, will report about the lessons learned (both those reported by the participants as well as those elaborated quarterly by the project team) and the results of the best practices implemented. The project team will put special emphasis on the follow-up of lessons learned regarding the approach to integrated management that the project proposes.
- 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 a printed version 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.
- Publication of lessons learned on COPASA's website and of the organizations that include a similar dissemination on their corresponding websites (one at midterm, one at the project end).
- Elaborate and distribute 43,000 technical guides on:
  - adaptation to climate change and environmental risk management.
  - management and operation of early warning system. adaptation and risk prevention in educational institutions. Seedings of forage cereals and cultivated grasses,
  - installation of modernized irrigation pilots,
  - wetlands management,
  - animal health,
  - shelters construction,
  - improvement of family housing.

With the elaboration and distribution of the guides, the goal is to deliver a tool that allows for consulting and divulging in the future the specific technical aspects of each topic and, in turn, having the documentary support for future replications of the project's activities all included. The guides will be distributed among those attending the trainings in the 32 districts.

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 knowledge 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, with the goal of allowing its content to be used in other similar or related projects or activities.

- Develop and promote local technical capacity. With support and prior preparation together with the project team, the Yachachiqs (the technical experts in rural communities) will impart the technical trainings, with the goal of facilitating communication and culturally adequate instruction. Additionally, they 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 Yachachiqs, will be constituted.

1. Risk management in the face of climate change in the area of the project.

The following elements of knowledge management were defined starting with the experience and knowledge of Copasa regarding regional development in risk management in the face of climate change.

- Training in risk management in the face of climate change: Workshops will be implemented on the following topics:
  - Installation, management and operation of teaching modules on community early warning systems EWS, and strengthening of district and community civil defense platforms. 2
  - Adaptation to climate change, risk management and environmental protection (educational institutions).
  - Formation of basic semester evaluation and needs analysis teams at district level.
  - Disaster prevention (establishment of semester assessment teams, climate change risk management, elaboration of long-term climate change risk management strategy and its dissemination), for municipal officials and community representatives.
  - Diagnostics of dangers and vulnerabilities, interactive risk maps, prevention plans, community attention, for heads of households.
  - Risk management and environmental protection, for educational institutions.
- Other risk management activities in the face of climate change. In the risk management axis of climate change the project defined the Outcome 2.2 (Greater awareness and ownership of local processes of adaptation to and reduction of climate risk), and the following set of activities was including:
  - 4 Disaster drills staged at provincial level and 5 disaster drills at district level.
  - Implementation of teaching modules for early warning EWS in 36 rural communities.
  - Five accompaniment processes for five educational institutions, to elaborate their prevention and disaster attention plans, as climate change adaptation measures.
  - 18 processes of accompaniment to formation and strengthening of district level Civil Defense Platforms (committees) and 36 processes of accompaniment to formation and strengthening of Community Civil Defense Platforms (committees).
  - Formation of four basic teams for evaluation of damages at provincial level.

Regarding the quality management of the project's knowledge products

In order to control the quality in the design, implementation and dissemination of technical guides that will be elaborated and distributed in order to give support, complementarity and sustainability to transmission and ownership of technical capacities, a written procedure will be elaborated once the project has begun, which will be validated in the initial workshop.

The procedure will establish the measures to be considered with the goal of:

- Identifying and defining clearly the activity's objectives and the target population.
- The appropriateness of the capacities to be developed, within the perspective of the objectives and the project's expected results project of the target population's needs or prior situation within the framework of those objectives and project results.
- The adaptation and efficacy of the teaching strategy with respect to the project's objectives and expected results and the conditions of the target population.
- Guarantee a response to the results of the consultations.
- Coherence in communication in order to achieve greater visibility and learning.
- Establish, measure and monitor a management metric/indicator for the quality of the project's knowledge products (for this metric no baseline will be established, it will be measured from upon execution).

Factors which make the project's replication possible:

With the intent of highlighting the project's potential for replication, some aspects are included below which reveal similarities in physical and social contexts. The development of repeatable initiatives exceed the scope of this project.

- The Andean highlands, the South American highlands, the Collao plateau and that of the Titicaca region, are all an extensive plain in South America located at an altitude of 3800 masl and which encompasses part of the northwest of Argentina, western Bolivia, part of northern Chile, and part of southern Peru. It has historic importance for giving rising to diverse civilizations, such as the Tiahuanaco culture, and for seeing the domestication of plants like the potato and of animals like the alpaca, vicuña and llama. Due to its environmental and ecological characteristics, it is a unique natural region on the continent and for its altitude it belongs to the so-called puna region. The term 'highland plateau' or 'puna' is generally accompanied by a qualifying term to identify the country in which it is found, that is, the Argentine puna, the Bolivian puna, the Chilean puna, and the Peruvian puna. This ecosystem extends through four countries: northwestern Argentina, western Bolivia, where its greatest extension can be found, part of northern Chile, and part of southern Peru.
- Regarding climate change. The results of the IPCC's Fourth Report reveal the central and southern region are registering an increase in the average annual air temperatures of 0.02 to 0.05 °C per decade during the 1901 to 2005 period, with the southeast of Brazil registering the highest increase of more than 0.1 °C per decade. In the mountains the climate warming is be reported with the altitude.
- Changes in precipitation in the 1901 to 2005 period are not homogeneous in the region, revealing a reduction along the Pacific Coast (20 to 40%). The annual trends, however, during the 1979 to 2005 period show an increase (reduction) in the central coast of Chile (in the sector stretching from Bolivia to northwestern Argentina), reflecting the high variability in precipitation and the influence of El Niño in the region, including mountainous

regions. At subregional scales, the expected climate change patterns are still difficult to detail due to the Andes unusual topography.

- The mountain glaciers respond with great sensitivity to climate change, both as regards temperature as well as precipitation. With few exceptions, practically all the Andean glaciers (total surface area of more than 28,000 km2, Casassa et al., 2007) and a few glaciers on the higher volcanoes in Mexico are experiencing an accelerated retreat in response to tropospheric warming, threatening the provision of water resources from the ice. (Bradley et al., 2006). As was explained previously, in the high elevations of Peru, Bolivia, Argentina and Chile, the raising of South American camelids is very common and widespread way of life.

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 consultation process was carried out in three stages. The first of these was developed for the presentation of the Project Concept, at the end of the first quarter 2105. The second stage was for the preparation of the Full Proposal, between the months of May and June 2016. The third stage was implemented between the 13th and 16th December 2016.

In the first phase of the consultation, COPASA presented, in a meeting held in each of the 5 selected provinces districts. Those were held during the months of March and April 2015 (Section C.1 of the Annex C, in this document, include the attendance transcription of the attendance lists, while original documents, with signatures, are available in COPASA's archives). During the meetings, in front of leaders of affected communities, representatives of public organizations, communal authorities, women's organizations, irrigation organizations, breeders' organizations and a representative from the medical post (if one were present), an integrated management approach as a continuity strategy solution to the following problems:

- During dry seasons, the natural pastures lose their ability to support grazing notably, resulting in overgrazing.
- The breeders of South American camelids, who do not have access to adequate wetlands and irrigation, suffer losses in their herds as well as diminished fiber production on the order of 5%, and loss of offspring from miscarriage due to environmental stress on the order of 10-15%.
- Due to the fact that in some small villages there is no water during the dry season, losses occur due to deaths caused by malnutrition on the order of 10-15% of the herds, which de-capitalizes the breeders, instigating greater migration to nearby cities in search of means to cover families' basic needs.
- Weak organization among the breeders undermines their ability to negotiate with local authorities a prioritization of their needs within the framework of the development agenda (participative budget).

- They do not have resources to access new technologies, which could allow them to diversify their production.
- Deficiencies in the handling of forage planting to improve the nourishment of their herds: high altitude seeds, harvest and post-harvest (storage and/or dry baling of hay).
- Insufficient knowledge of water management in technical manner, water harvesting through the construction of small rustic dykes and wetland and high altitude wetlands management.

Copasa´s approach is based on the interaction and consultation with the local communities, and the project implementation experience gathered during several years by COPASA regarding local culture and social environmental and economic issues. The set of problems and actions proposed to solve them (which had already been reviewed and discussed over the course of COPASA's interaction with different actors in the region) was agreed to accept it by consensus, including active participation in the activities. The integrated management proposal was received as the possible implementation of a set of necessary actions, although the participant's interest in discussing the methodology was not evident.

Meeting minutes are available from each of the meetings held between the months of March and April 2015. In the meetings held in each of the selected provinces of Arequipa, Caylloma, Castilla, Condesuyos and La Union, 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. Sectión C.1 of Annex C includes samples of the supporting documentation from the consultation process.

The project outputs presented in the Project Concept document, based on the dominant needs, requests and interests of the participants, summarize the agreements of the meetings. The project target population, whose livelihood is the alpacas raising and the sale of the alpaca fiber, includes members of the participant communities in the lowest levels of poverty (See section C.3 of the Environmental and Social Assessment of the Project, Annex B.1 of this document).

Annex C (to main document, starting form page 253) includes the attendance lists for these meeting, as well as, two samples of the hand-written meeting memoranda prepared by community members, the English translation of these memoranda and two samples of the rolls of those in attendance and two photographs of the meetings are included as well.

In addition to the consultation meetings, during the first phase diverse organizations and entities were contacted with the intent of also presenting the project's perspectives. In these activities the following important project stakeholders were identified:

- 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.

First phase of the consultation, consultation with women of the community (March, April 2015):

With the intent of recording the perception of the women of the project, various unstructured interviews were held, in Quechua, with women in the project's target communities, in different contexts from the meetings described above. The interviews were aimed at obtaining their opinions and points of view about the benefits of developing the project in their communities, in a context unaffected by pressure. In general, an enthusiastic approval was obtained, validating in this manner, from the feminine viewpoint, the necessity of implementing the proposed adaptation actions.

In addition to these interviews, in particular because women are the community members who spend the most time caring for livestock and crops, a series of surveys were done, oriented at establishing baseline information for the project.

Annex C includes two photographs of the surveys and the questionnaire employed between January and February of 2015, under the responsibility of COPASA's professional staff Arturo Rivera (engineer) and Rosmary Quiñones (social worker), who were also responsible for the aforementioned interviews.

NOTE: Although Quechua is a primary language in the rural areas of the Arequipa Region, the project is not working with specifically native communities, but rather peasant Andean communities, made up of families that live in and exert control over determined territories, linked by ancestral, social, economic and cultural ties, expressed through the communal ownership of land, communal work and mutual aid.

In the second phase of the consultation (May 2016), three types of activity were developed:

i. A consultation documented on film[38], without written minutes, with two groups of communities called together with the support of local authorities (district mayors) in order to verify the project's environmental and gender aspects and the participants' perception of the project. In this consultation the verbal presentation of the alpaca breeder's major problems regarding climate change was requested (the communities evidenced a clear, practical knowledge of what climate change represents for their productive activity).

   The meetings were held in the rural area, one in a meeting hall (the Janansaya community, Callalli district, in the Province of Caylloma, on the 16th of May) and the other in an open field (the Condorcuyo community, Sibayo district, in the Province of Caylloma, on the 17th of May, 2016). Prior to the meeting in the Sibayo district, the municipal offices were visited and the project's group held an informational meeting with the deputy mayor (an official that replaced the major, as he was not available).

   In the meetings, the project's referential experiences were conveyed, and the expectations and interests of the project participants were gathered, in relation to the pressures that their productive activity receives from climate change. An identity was found in the problem centers that the project had identified previously (improvement of animal nourishment and health, protection of the alpaca babies and vulnerable females, water management, housing quality). The following concerns were set forth: 1. In Janansaya, the need of animal management fencing, the continuity of the activities for favoring water management in the local municipalities, the vegetal species that best withstand stress from the cold, the appropriateness of testing seeding at different altitudes, the problems of certain soil types, the appropriateness of doing followup to attempts that local promoters are accompanying, the possibilities of achieving exchanges for the environmental services of high altitude areas in water harvesting. 2. In Condorcuyo, water scarcity and the deficiency of physical resources such as shelter for animal protection (proposal by the local mayor), the importance of generalized attitudes that requires transformation, such as pessimism, the need for micro-dams and of the implementation of fencing, attention to environmental protection the need to transform traditional crops, the appropriateness of adequate water management for grazing (storage and modern irrigation), interest on the part of the district for the installation of demonstrative project modules.

   With respect to gender aspects, all women participants were reported as linked to the productive activities of alpaca raising. The interests and worries they reported were:

   - In the Janansaya community, need for support in water management, cultivation of pasture and the implementation of animal handling fencing, the condition of some women as heads of household (it was announced in the meeting that this circumstance was known of n three cases in the area), the fall in the price of alpaca fiber and meat, the attraction that migration has for young people due to the lack of work opportunities in the area, with fewer opportunities for women, the problems of

[38] Video available at https://www.facebook.com/pecopasa/ (see AYNINACUY PROJECT- AREQUIPA REGION S. P. COPASA).

traditional kitchens, the use of traditional medicine to confront health problems in the families (pneumonia, diarrhea), unfamiliarity with Trombe solar walls.

- In the Condorcuyo community, the need to improve water management, to implement animal handling fences, to improve highland wetlands, to have access to shelter, to implement improved stoves, the alternative of weaving as a complementary option for the household economy, the limitations of impermeable clothing, the limitations in basic services (electricity, potable water) that affect the quality of life which in turn discourages the permanence of youth in the region (this circumstance affects also the women, given that upon separating from their family, the women that remain end up with a greater workload in the household, in addition to alpaca raising activities).

ii. The workshop for the development of the Results Framework for the project, implemented in the offices of COPASA, on the 18th and 19th of May, 2016, with the participation of three (3) experts from the Ministry of Agriculture and from the Ministry of the Environment of Peru, two (2) alpaca producers (persons with experience in the productive activities, in the leadership of producers' organizations and in positions of local authority – municipal council members), five (5) persons from the project's technical team and a facilitator. The workshop, in order to generate the products of the Results Framework presented in this document, relied on information gathered in these consultation meetings described above.

Annex C includes the attendance list from this workshop and a sample of the intermediate results of its process.

iii. The first validation workshop for the workshop's results of development of the Results Framework for the project was held in the Sibayo district, in a space provided by the Municipality, the 16th of June, 2016, with the participation of around fifty persons from nearby communities, in their majority women. This meeting presented the general results of the design of the project's Framework and submitted them to the opinions and reactions of the participants. Thanks to the majority participation of women in the activity, this activity also allowed for a consultation of gender issues.

The participants were in agreement with the project's general objective "strengthening alpaca raising" and finally accepted the project's activities outline, expressing their interest in participating in the training sessions and beneficiaries selection. With respect to the initiatives that the project proposes for the improvement of housing in the face of the demands that climate change imposes (Trombe solar walls, improved stoves that avoid smoke accumulation in the interior of the household, available healthy water, latrines for greater hygiene, solar panels for generating electricity), in particular, the women manifested their interest in having warm water in their homes for personal hygiene and clothes washing, and to have solar panel for warmth. The project team explained the technical reasons for the project's options (safety, experience) and responded to the evaluation that had been done of experiences with errors in Trombe walls and invited those with doubts about technical aspects to share and clarify them within the project's training spaces.

The women manifested that they dedicated more time to weaving (in comparison with men) and that they are interested in relying on a more stable market to sell their crafts. With respect to this, it was explained that although, due to the demands of this kind of consideration, the project does not include that aspect, COPASA would take into account the request, in case it have in the future the option of developing a project to embrace the proposal.

In the face of the activities that the project proposes for improving animal nourishment, questions and concerns also arose about the technical aspects and the problems encountered in the experience. The project team did a review of the successful experiences in which various of the proposed activities are based and invited those present to participate actively in the technical trainings in order to clarify and distinguish the questions and the field of actions for the proposals.

Among the participants were some women whose activity is cattle-raising and they requested specialized help. It was explained that project responds to the predominant economic activity in the area (alpaca raising) and it was explained to them that they could still participate in the project's trainings, and that the beneficiaries of the development activities or strengthening of assets can only be those households dedicated to alpaca raising.

In the face of the interests manifested by topics such as personal development, improvement of family life, leadership and negotiation, the project team agreed to include these topics in the trainings, given their complementarity with the strengthening of the livelihood that is the project's objective.

The project team emphasized the project's proposal to develop mutual actions that belong to the cultural heritage in the region, as a powerful instrument to multiply the project's benefits and results. This proposal and the other general agreements were included in the meeting report, and the meetings minutes placed in the district's archive.

Annex C includes the meeting report, with an attendance list and photographs of the event.

In the validation meeting, in view of the fact that the design of the project responded to a perspective of problems and of activities in order to face those which had already been the object of consensus in the meetings held in each one of the districts, the spaces for modification and dissension about the proposal presented were maintained around the problematics and response activities foreseen since the first phase of the consultation and around the design executed on that perspective. Given that the convocations are open, the attendance at the validation meeting had some persons that had not participated in the prior phase and that expounded on some problems of development, of market, of environmental control from the mining sector and of other productive activities not agreed upon in the first stage of the consultation. The process of the project was reported to this type of intervention in reply and it was explained to them that the project has an adaptation to climate change perspective, that requires delimiting its axes of actions and that as a project cannot attend to a broad spectrum of dimensions of a complex set of problems both in terms of climate change aspects as well as of development.

In this first validation meeting objections to the design of the project were not presented, and interest in the opportunities for participation and selection as direct beneficiaries was predominant.

Third Stage of the Consultation (December 2016):

In order to expand the validation activities of the proposed Results Framework for the project, and to carry out such activities with a representative sample of the five provinces of the target area of the project, four additional workshops were held during this stage on December 13 (33 participants), 14 (31 participants), 15 (37 participants) and 16 (20 participants), 2016. With this, it was possible to complete, with the consultation activities of the second and third stages, a meeting in a district of each of the five provinces, and the majority of the meetings were attended by mayors from more than one district.

The first validation workshop was held during the second stage of the consultation, in the district of Sibayo, of the province of Caylloma (with 52 participants), in June 16, 2016. With the 4 validation and consultation workshops done in December 2016, one validation and consultation workshop was completed for each one of 5 the provinces (one workshop in May 2016 and 4 workshops in December 2016). One workshop for each province was done in order to have representative populations of the five provinces (one meeting in each province). The validation and consultation workshops in the five provinces were carried out this in this manner:

of the project activities and the were

- Province of Caylloma, district of Sibayo, June 16, 2016. Second stage of the consultation. 52 participants.
- Province of Castilla, district of Andahua, December 13, 2016. Third stage of the consultation. 33 participants.
- Province of La Union, district of Puika, December 14, 2016. Third stage of the consultation. 31 participants.
- Province of Condesuyos, district of Yanaquihua, December 15, 2016. Third stage of the consultation. 37 participants.
- Province of Arequipa, district of San Juan de Tarucani, December 16, 2016. Third stage of the consultation. 20 participants.

During the workshops developed in the third stage of the consultation:

- A presentation was given on the roles of COPASA and CAF in the preparation of the Ayninacuy Project and the processing of the approval of its financing before the Adaptation Fund. It was made clear that the approval of the financing for the Project is a likely fact, for which reason the presentation of its intentions does not signal an announcement or promise of its implementation.
- The objective of the Project was explained: Strengthening of the Raising of Camelids. Starting with this explanations, it was clarified that the Project aims at participating in the solution to a complex situation arising from climate change that affects this way of life in

the Andean highland areas and that as a consequence other problems in the provinces remain outside the scope of the Project. This explanation was reiterated in the meetings when the participants asked if the Project could take on problems such as the construction of mid-sized dams or problems affecting those raising cattle.

- A concise presentation was done on the structure of the Results Framework for the Project and on the demands of planning, control, monitoring and rendering of accounts, applicable to the Project.
- The reasoning behind the chains of results built during the preliminary workshop was presented for its validation and commentaries and the development of a problem tree was followed, demonstrating how the reasoning for the results chain was structured:
  - The Project has many components; water management (improvement and construction of reservoirs and rustic ponds, repair of irrigation canals in the *bofedales*, pressurized irrigation modules), protection and animal nourishment (construction or improvement of shelters, cultivation of grasses and high elevation cereals, better use of *bofedales*, implementation of fencing for pasture rotation, animal health campaigns), protection of human health (housing improvement pilots -Trombe solar walls, photovoltaic panels for the supply of electricity, improved stoves, composting latrines, installation of water purification modules), institutional strengthening regarding climate change risk management, training for the members of the rural communities in the same components for the acquisition of best practices.
- With reference to the training sessions, it was explained that these were of an obligatory nature in order to access the individual benefits of the Project.
- The goal of gathering pertinent information on expectations, needs and interests of the participants was announced.
- The participation of the women present was requested in order to record their perception and opinions regarding the Project's proposals and the expectation, or particular gender interests, related to the Project's proposals. The participation of women was as follows: Sibayo district (June 16 2106), 42 women out of 52 participants; Andagua district (December 13 2106), 14 women out of 33 participants; Puica district (December 14 2106), 4 women out of 31 participants; Yanaquihua district (December 15 2106), 12 women out of 37 participants; San Juan de Tarucani district (December 16 2106), 4 women out of 20 participants.
- It was explained that the detailed participation methodology with which the Project would be implemented, would be elaborated in a joint manner with the authorities and the representatives of the organizations present in each one of the participating districts, in which the participants demonstrated their interest and agreement.
- In the four meeting a consensus was obtained for the acceptance of the Project's proposals and for the manifestation of interest in linking up with the activities of the Project. The following was highlighted in the consensus: acceptance of the Project's proposal to emphasize the participation women, to guarantee gender equality in speaking and voting, to prioritize the option regarding the benefits arising from housing improvement for women

heads of households and to name at least one woman in each one of the civil defense platforms.

- In the meeting held in Yanahuara, various participants requested prioritizing the activities related to water management and articulating based on this those activities related to animal nourishment. The representative of COPASA's technical team responded that this focus had been already incorporated in the Project, due to needs for coherence. It was also requested that the kind of training offered by the Project be continuous, the response was that the Project have been designed to prepare demonstrative pilots for each good practice to be transmitted, and that in that case the same trained producers will act in the future as multipliers of the training received. In that way the project will contribute with more continuous training.
- In general, in the four workshops of the third stage of consultation, the participations were concentrated on clarifying the possibilities of participation, with some requests for participation in the Project on the part of the community members dedicated to raising cattle. To these last requests, the option of participating in the training sessions was offered.
- With regard to the participation of authorities, the mayors of the municipal districts of Yanahuara, Pampamarca and Alca and a representative of the National Service for Protected Areas (SERNANP, for its acronym in Spanish) attended the workshop held in the district of Puica, Province of La Union, accompanied by their technical team. The representative of SERNANP noted the fact of having been convoked since the preliminary stage of the Project.
- All the mayors participating in the meetings offered their support to the Project and their commitment to it. In particular, the mayor from the district of Alca pointed out the fact that training would be offered to the authorities, and offered support in expanding the Project's goals through participative budgets. The mayor of the district of Andahua expressed that the proposal seemed very adequate for the area, and offered for the Project team two spaces for an office and shelter during the Project development.
- In all the meetings it was asked of the participants if the presentation that had been done in Spanish had been understood with clarity and if having a Spanish-Quechua translator were deemed necessary in order to clarify some information. The response was that the understanding had been satisfactory and that there was not any need for translation. Although this advantage in the communication is considered very important for the project success, the Environmental and Social Management Plan includes a measure to ensure that during the project activities translation will be available if required (see Section D.6 of such Plan).
- In general the response from the women participating in the meetings at this stage manifested their interest in participating in the Project and did not provide additional interests or concerns regarding gender in relation to the perspectives of the Project.
- The minutes of the meetings were elaborated by the secretaries of the mayors' offices. COPASA elaborated a video record. In Annex C.3 all the attendance lists are included, and a sample of one of these minutes, with a copy of the document, with their transcription and

translation in English (starting form page 266). All the minutes, videos and attendance records are available in the Project's archive.

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

Below is a comparison between the baseline (no project intervention) and the proposal of the project's adaptation activities with the goal of justifying the Full Cost of Adaptation.

TABLE 17.

Comparison baseline (no project intervention) vs project's adaptation activities, for the Full Cost of Adaptation Reasoning

	Baseline line, No project intervention.	**Adaptation Measures within the project's framework.**
	COMPONENT 1	
1.	Because of the cyclically repeated impacts of cold spells, raising camelids at high altitude periodically suffers large losses, which, according to estimates from the Ministry of Agriculture (MINAG, for its acronym in Spanish), can reach 30% of the animal population during a cycle.	The Project is oriented to responding to set of challenges that faces the sustainability of economic activity of alpaca raising for fiber production, in the Andean highlands of Arequipa (an activity that in the majority is exclusive).
2.	To date, the aforementioned MINAG (Ministry of Agriculture) has been responding to these impacts in a reactive manner, and under a distant and centralized administrative framework, with low effectiveness in prevention and meager projection in the management of long-term risk.	The project is aimed at implementing an integrated management model that avoids the replication of disperse efforts and offers a consistent set of options for strengthening the main and almost sole livelihood of vulnerable target communities (raising alpacas for selling their fiber). The project seeks to manage the set of variables whose dynamic jointly affects the sustainability of alpaca raising productive activity for their fiber in Andean highland communities in the Arequipa Region.
3.	In The above mentioned way, the Ministry has undertaken: distribution of seeds (2007), construction of shelters (2006 to 2010), distribution of medicine and hay (2008 to 2010); implementation of the National Intervention Plan for confronting the effects of frosts and cold spells (2012, decrees DS 092-2012-PCM y DU 015-2012-PCM); distribution of: teaching kits, coats and blankets, veterinary medicine kits, hay bales (2013, Multi-sector Plan for Response to Frosts and Cold Spells 2013, DS N° 064–2013-PCM); distribution of beds, mattresses and blankets, hay and veterinary kits, medical attention and others (2013, Multi-sector Plan in response to Frosts and Cold Spells, DS Nº 102-2013-PCM) 2014 Secretariat of Disaster Risk Management of the President's Council of Ministers (PCM, for its acronym in Spanish);	The Project proposes an integral solution in which the articulation, centralization and coordination of adaptation measures can offer a reduction of costs which recur cyclically, as well as greater effectiveness.

	construction of highland corrals, distribution of kits, coats, housing upgrades, teaching and veterinary kits, distribution of hay, others (2015, Secretariat of Disaster Risk Management, Resolution N° 001-2014- PCM/SGRD). All of these interventions have surpassed by far S/. 200,000,000.00 (PEN) (approximately USD 74,000,000. at the prevailing exchange rate in the years in which these expenditures occurred).	
4.	In the scenario described, the Andean alpaca raising communities affected by cold spells and other manifestations of climate change have low capacity to respond to the impacts of variability as a result of their financial and management limitations and the lag in the effectiveness of their ancestral practices in the face of the rigors of climate variability (low temperature, intensity of winds, rainfall patterns, decreased water supply from glaciers). As a result, the sustainability of their livelihood at present is threatened in the medium term, due to high cyclical losses.	While centralized state interventions have evolved into some preventive measures, the centralized action scheme has not arrived at a preventive solution for medium and long term that will avoid or significantly reduce the recurrence of progressive losses caused by climate change. The Project proposes a preventive solution for medium and long term.
5.	The animals' state of health is a critical variable in the face of the stress that cold thermic conditions induce. The preventive action in animal care turns out to be essential. Government support has included this aspect sporadically.	Another important aspect of protecting the health and lives of camelids in the face of the effects of climate change is the care of their health to ensure that the herds are in optimal conditions in order for them to best withstand the cold spells. This is why the project includes also camelid health campaigns. In the framework of the integrated management model that project proposes, the effectiveness of this action is reinforced thanks to parallel action regarding other critical variables in the animal's resistance to the cold: the availability of animal feed and their physical protection from the cold.
6.	In the face of a reduction in the productive capacity of natural resources used for grazing (highland wetlands or *bofedales*), there are no antecedents of neither state nor private interventions, for avoiding their continued reduction due to the limitation of water resource, nor for avoiding their exhaustion due to overgrazing.	Faced with the cyclical reduction in forage sources for alpacas, caused by cold spells, and the loss of pastures during periods of drought, in order to reduce in medium and long term the costs of these interventions and to generate the sustainable practice of self-sufficiency regarding the necessary forage, the project proposes: Introduce the cultivation of pasture and forage plant species that are resistant to cold, such as ryegrass and dactylis glomerata (pastures) and

		forage grain, UNA 80 variety, basic Hatif Grignon Barley (forage). Although this includes the delivery of resistant seeds, which the State has been done on various occasions, the project seeks to break the long-term ineffectiveness of this kind of action by coupling the distribution of seeds with a technical training process under the 'learn by doing' approach.Additionally, in order to overcome the limitations of cultural gaps in intervention actions, and in seed distribution, the project will use a practice with proven effectiveness that consists of relying on community members recognized for their knowledge and experience (the "*Yachachiqs*") in order to implant into the community's customs the use of the high altitude species or varieties of improved seeds (this resource will also be used for other skills training actions). Introduce pasture rotation and fencing, with the aim of avoiding overgrazing and pasture scarcity. In the face of a reduction of the productive capacity of the natural resources used for grazing (highland wetlands), the project proposes to engage the communities that use these natural pastures, such as high altitude wetlands (*bofedales*), in the care and expansion of these areas through the introduction of native species (red and white clover) and the maintenance of the distribution canals that provide them with water.
7.	Scarcity of water resources (a resource necessary both for basic necessities as well as to sustain the foraging productivity of terrain used grazing) is also an element of cyclical stress that has been increasing in these areas. Given that it is not a trigger element of cyclical climate crises, it has not received attention in emergency responses. Although it is an element that has begun to receive attention in regional strategic plans[39], it has not yet moved past the level of strategic considerations, without reaching the level of the definition of	In the face of a scarcity in water resources, the Project introduces a rationalized use of water, extending the construction of earthwork dykes for storage and implementing irrigation systems to sustain pastures during droughts.

[39] Regional Climate Change Strategy in the Arequipa Region 2009: In the measures and policies for confronting Climate Change, some guidelines are defined in section 6.3.3 Diversity and Water Sources Protection.

	practical projects on a broad scale. Without the project's intervention, the risks to the sustainability of productive activities like alpaca raising are increased in the medium term, due to projections regarding water scarcity in the future.	
8.	Limitations in the availability of water resources lead to use for human consumption from non-potable sources. This situation has been generating high indices of diarrheic illnesses that affect principally the population younger than 5 years old in the project's target areas. Even though health campaigns have been undertaken that include an awareness raising element of the impacts on health due the use of untreated water, there are no antecedents of systematic actions directed at eliminating the cause of untreated water. From the perspective of no project intervention, this situation will tend to persist. Although it is an aspect of quality of life, its impact on productive activity is found in a basic motivation to sustain household life in this area, in the face of the expectations of migration.	With respect to limitations in the availability of water resources that leads to use of non-potable sources for human consumption, the project proposes the implementation of five (5) community water treatment systems
9.	From the perspective of building sustainability of alpaca raising for fiber production, the basic housing conditions in the face of climate changes are an unavoidable factor for the social validation of the project's actions: taking care of shelters for alpacas without taking into account household living conditions bring to the fore risks of social rejection of the proposals. New conditions arising from temperature variations are an unforeseen factor in the traditional household dwelling, and the high indices of respiratory illnesses that affect the population younger than 5 years old demonstrate this. In emergency responses, the government has dealt with this problem in the dimension of its consequences, so, for example, the Executive Order Nº 102-2013-PCM, from the Secretariat of Disaster Risk Management of the Ministry of the Presidency of the Council of Ministers (PCM), established a series of actions to defend the lives and well-being of the	In reference to the limitations of household dwellings in resisting cold spells, the project proposes the implementation of improvements in two rural residences in each of the participating communities (for a total of 72 improved dwellings), with cold resistant specifications and composting latrines. These improved residences have the purpose of serving as a model for low-cost upgrades within reach of the communities. In order to bring the upgrades to communities' technical capacity, the project's training component will include the implementation and management of the upgrades.

	affected population: distribution of beds, mattresses, shelter kits for children younger than three, medicine for prioritized attention of acute respiratory illnesses. Although responses are plausible, they are not accompanied by others aimed at reducing exposure to cold risks in the household residence. On the other hand, although awareness and information about the solutions for confronting this problem have started to spread through professional circles related to the problem, in the institutional strategic projections, a broad spectrum response has not yet been incorporated.[40] Without project intervention, for target areas, exposure in the face of heightened risks due to new extreme variations in temperature, in the household life, tends to persist unchanged.	
	COMPONENT 2	
10.	The interventions undertaken by initiative of the central government have had significant financial costs, due to the weight of a remote, complex administrative structure, with a low capacity for sustaining prolonged contact with the target communities, and with scarce or non-existent followup and assessment of intervention results.	In addition to cost reductions (with respect to prior and habitual state intervention), the project includes a follow-up, assessment and reinforcement of training activities, in order to guarantee their effectiveness.
11.	The interventions undertaken to implement physical protection from the cold, for alpacas, have been done as external intervention, without the accompaniment of technical training that might prepare for ownership and the maintenance of the physical protection elements provided.	The activities oriented to the construction of shelters against the cold for alpacas will be accompanied by technical training in parallel, in order to establish among the members in the participating communities a capacity for response and the maintenance of said shelters. Although the rural community members who have maintained this activity for generations had traditional technical solutions for building shelters against the cold, climatic changes have pushed their effects beyond the scope of known protection strategies. The wind patterns in particular require a transformation in the design of shelters, to ensure their resistance to the new wind patterns, while the communities' ability to respond to this variable has not allowed for a transformation of traditional

[40] Regional Climate Change Strategy in the Arequipa Region 2009.

		knowledge. On occasion they have been aided with the distribution of technically upgraded shelters. This know-how, however, has not yet been assimilated by the communities. The distribution of a physical good is not sufficient because it does not guarantee the sustainability of its benefit. The project aims to build technically updated shelters with the proficient and instructive support of community members, previously trained, with the dual purpose of building these essential physical assets in a cooperative and participative action by the community and of encouraging both the assimilation of new technical approach into the community's culture. It is hoped that with the assimilation of new technical perspective, the community members remain able to reproduce the construction of these shelters and perform their maintenance on their own.
12.	The interventions undertaken in order to resolve abrupt limitations in forage has had two actions: delivery of hay to rural populations, and of resistant seeds. These actions have had significant financial costs. Hay deliveries, despite having become reaction framework and even a symbol of government aid, turn out to be ineffective insofar as they do not respond to the necessities and nutritional option of alpacas, and the rural populations tend to convert these contributions into commodities for the regional market. With respect to the delivery of seeds, they have been handed over without any sustained technical assistance that could make the transformation of productive forage practices possible.	In the face of the limitations in the availability of animal nourishment, having worsened due to the extreme climate conditions, the project seeks to demonstrate the preventative action planned for the handling of forage crop production: use of improved seeds, production of reserves for critical moments of intense climate stress. The project focus includes, in addition to the provision of seeds to the beneficiaries, training and accompaniment in the cultivation process.
13.	The seasonal cyclical actions of goods distribution in assistance campaigns tend to generate habits of passivity in the affected communities, as a result of which, in the long run, the social aid comes prejudicial to production.	The project component 2 is oriented to developing, in the participating communities, the technical capacities that will allow them to develop their own adaptation capacity, integrating them to traditional knowledge through a proposal of communication and transference of practical knowledge of proven efficacy in the region (support from the Yachachiqs). In this way the project seeks to reinforce the initiative of the alpaca raisers. The majority of the project's skills development activities are focused on increasing the resilience of the project's target communities: the transmission of technical knowledge (for the construction of shelters, for the cultivation of alternate species and for the preservation of pasturing

		areas, for pasture rotation, and for sustainable water management), which include the development of support materials for these activities, indispensable support for ensuring success in the results arising from the implementation of Component 1 activities. The project seeks to create within target communities resource appropriation skills in order to manage the impacts of cold spells. Thus, the project, instead of delivering shelters built by foreign technicians to manage the emergency, aims at empowering communities in the construction and maintenance of technically improved alpaca shelters. In this same vein, the project will provide training in the streamlined management and optimized use of grazing areas. The autonomy the project seeks to instill in the affected communities arises from an interest in ensuring that the management of cold spell impacts are appropriate for the community, which will contribute to the long term sustainability of the results. With this, the project offers the prospect of avoiding or reducing in future significant costs arising from reactive actions common to the centralized government's response model. The project proposes Followup on the effectiveness of skills formation and the need for their reinforcement will be agreed on with local authorities, through the same means of communication (*Yachachiqs*). What is more, the project seeks to develop in the target communities community management skills in the face of participation options and decision-making that may align with their interests. The project seeks to establish a precedent of comprehensive management run and coordinated at the local level, with the goal of contributing to the transformation of the ensconced social dynamic of ineffective and reactive attention in which the same communities, the state with its centralized management schemes, and other social agents have participated with a notable level of passivity. Each one of the two project components ends up being essential for achieving the stated objectives.

14.	The establishment of early warning systems also have been incorporated into regional strategic guidelines[41], but local solutions are not yet being built on a large scale. Without project intervention, for the target areas, the implementation of basic early warning systems could take many years.	The implementation of EWS (Early Warning Systems) is indispensable for reducing exposure to the risks of extreme cold and for setting in motion response actions. In of itself, the financing dedicated to this activity fulfills an adaptation to climate change function and also complements and ensures the investment directed at all the other actions designed to strengthen the camelid breeders' way of life and fiber production.
15.	In terms of climate change risk management skills development, the regional strategic forecasts are moderate. The Regional Climate Change Strategy in the Arequipa Region 2009 foresees in the measures and policies for confronting Climate Change some guidelines that only emphasize awareness raising. [42]	In order to build sustainability for the productive activity of alpaca raising for fiber it is essential to achieve an important cultural transformation that involves: the modification of some key productive practices of the participating communities (water management, cold resistant forage production, preservation and maintenance of grazing areas, rotational pasturing, physical of herds, recovery of highland wetlands, adaptation and improvement of household residences), the assimilation of basic risk management practices on the part of community members and some local authorities, the sensibilization of communities in the face of their participation in the development adaptive capacity. Without project intervention, the risk of repeating the same emergency response actions without the active and responsible participation of the affected communities in the construction of effective adaptation scenarios, as a result of which the productive activity of alpaca raising is maintained under a known risk. The component 2 skills development activities are aimed not only at communities, but also at local authorities or the immediate surrounding, with the goal of developing and strengthening awareness in the face of risks arising from climate change and preparedness for managing those risks.

[41] Regional Climate Change Strategy in the Arequipa Region 2009: Section 6.3.2. Institutionality for the Monitoring Systems for risks in the region. It proposes the guideline of building institutionality for integrating risk monitoring. 6.3.2. Institutionality for Monitoring System for risks in the region (glacier retreat, natural dangers, etc.)

[42] Regional Climate Change Strategy in the Arequipa Region 2009: Section 6.3.10 Citizen Participation: Recruitment, awareness and dissemination.

16.	The women have a very important and demanding role in the framework of how the alpaca raising way of life works.	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.
17.	The best practices that the project proposes have been tested successfully in other experiences. In the region there are other previous experiences that have generated positive lessons learned. No initiatives to articulate these obtained experiences nor to disseminate their lessons have been identified.	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 (The project is expected to be replicated subsequently in more regions of the Andean highlands in Peru). Additionally the project is proposed as replicable management model for best practices articulated in a consistent manner, within geographical and interested parties, with a base of stakeholders (producers, leaders and authorities) trained and motivated for its replication.

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

The Ayninacuy Project is designed to create, through the active participation of the members of the target communities, some products that allow for strengthening the livelihood of alpaca raising. The project's strategic direction is oriented to establish, by means of the implementation of those products, some best practices demonstration modules, and, in turn, to the creation of skills for reproducing and multiplying them. The mechanisms foreseen for building and guaranteeing that sustainability are the following:

Cultural sustainability:

An element intended to ensure the sustainability of project outcomes is the active involvement of stakeholders in the project's target communities engaged in productive activities. This aspect aims at encouraging autonomy and initiative in the management of climate change risks that affect their productive activities, and that are within their reach, with the goal of disrupting the passivity inherent in being cared for, a very significant cultural aspect in the framework of response capacity in the face of these risks.

Technical sustainability:

A basic element required to ensure the sustainability of the project's outcomes is the incorporation of transmitted knowledge in the training activities. The strategy of relying on knowledge leaders, who will have received prior technical training in order to channel information and learning through communication channels important to the communities will also be proposed both for the purposes of follow-up as well the implementation of practices, such as the permanence of construction skills.

Gender focus for sustainability:

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.

Institutional and financial sustainability:

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.

At the institutional level, to ensure the project's sustainability, project plans include the implementation of inter-institutional agreements between the following social actors: local governments, presidents of rural communities, boards of irrigation users, irrigation committees, producer associations (Alpaqueros), associations of parents, the regional Directorate of Agriculture, Local education Management Units, health centers, National Meteorological and Hydrological

System-SENAMHI and COPASA[43]. Such inter-institutional agreements will include specific clauses for:

- Following up the results of the project, using the indicators proposed by project that are applicable.
- Identifying training and updating needs as necessary to give continuity to the techniques, practices and knowledge provided by the project and implement a systematic process for monitoring, evaluation, and corrective training action, relying on the model proposed by the project outline, centered on the Yachachiqs.
- Regarding the project results and other needs necessary to ensure the sustainability of the productive activity of raising alpacas, identify periodically (every six months or at most annually, as agreed with communities at the end of the project) those coordination needs with community and local authorities and lead and/or participate in the implementation of their agreements, verifying the active participation of communities. These actions will be supported in a constant monitoring under the responsibility of the Regional Government through its various interventions in the project areas.44
- Incorporate the Adaptation to climate change component in the district strategic plans, to ensure that local authorities are those responsible for the economic and political sustainability of project results.
- In Peru, the National Budget Act, the destination given to the resources provided by the national government, local governments, is established in public hearings where the attention given to the projects is prioritized according to the analysis and requirement of the population which approves it. This is called participatory Budgeting. Part of the training the project will develop shall aim at encouraging the active participation in hearings and in the participatory budget.

To ensure the financial sustainability beyond the project activities, in addition to the follow up budget allocation to be negotiated with the local government entities, strategic alliances with development banks will be explored. The final monitoring and evaluation report will include updated recommendations on this subject.

The table included below shows the commitments and coordination actions anticipated for ensuring the sustainability of project results:

[43] Copasa is a public decentralized entity under the Regional Government of Arequipa, dependent on the Regional Government, which acts as a technical and financial counterpart to the cooperation agreements entrusted to it by the Regional Government of Arequipa. In its role as an autonomous body, COPASA has autonomy and relies on support from the authority of the Region's executive branch.

[44] The Arequipa Region has developed the Coordinated Regional Development Plan, 2013-2021 Arequipa, which provides the regulatory framework, regional policies, external and internal context, Regional Vision 2021, regional strategic priorities, and evaluation, tracking and monitoring schematic, which form part of this Regional Ordinance, and their pp. 94, 115, and 118 points to the Development Axis, the Regional Goals and Agenda of Regional Programs and Projects. The current development of this regulatory framework is consistent with the aspirations of maintaining the project's sustainability, since the intended objectives are gathered into the design of the Plan.

Table N° 13

	ACTIVITY	OUTPUTS	ACTORS
1	Presentation of the detailed proposal of the project's components	Working meeting with Municipal institution at the provincial and local level Working meeting with the Community Organization Memorandum: concerns and commitments for the signing of Inter-institutional Cooperation Agreements	Local Authorities: Provincial level District level Community level
2	Elaboration of cooperation agreements and shared responsibilities	An Agreement for each public institution in the project area An agreement for each province An agreement for each district Elaboration of an agreement for each community **In the end there will be:** 20 Agreements with public and private institutions 05 Agreements with provincial municipalities 17 Agreements with district municipalities 34 Agreements with irrigation organizations Agreements with producer organizations Agreements with representatives of rural communities	Institutional representatives Local, provincial and district authorities Community authorities Representatives of producer organizations
3	Improvement and development of skills	Participation of all the members of the prioritized communities in the skills building field days	All the community members that participate in the other project activities
4	Participation in the development of local planning tools,	Inclusion of pertinent actions and follow-up to project outcomes in the participative budgets and realization of Strategic Plans NOTE: Through participative budgets, it will be assured that the government lend support to these activities and that they remain as objectives to be pursued every year: these objectives will also be included in their strategic development plans	Local and community authorities

5	Coordination between local and communities authorities for the implementation of monitoring and assessment.	Coordinated implementation of monitoring and assessment actions	Local and community authorities NOTE: these actors, as the signatories of the agreements, will also be responsible for guaranteeing the subsequent monitoring and assessment after the culmination of the project

Key stakeholders identified for guaranteeing the resources coming from the State (through the Participative Budgets explained above) and for the prioritization of support for future projects for climate change adaptation are local, provincial, district authorities, mayors and municipal council members.

As key stakeholders for proposal ownership and the inclusion of its continuity in the Participative Budgets the following roles have been identified:

- Leaders of rural communities
- Boards, commissions, and irrigation committees
- Camelid breeders associations
- Mothers' clubs
- Political authorities (lieutenant governors)
- Parent Educational Associations (APAFA, for its acronym in Spanish)
- Nutritional committees (known as Vaso de Leche, 'glass of milk')
- Medical post
- Educational institutions
- Other Institutions: ARMA (Regional Environmental Bureau), SENAMHI (National Meteorological and Hydrological Service), Farm Bureau, INDECI (Institute of Civil Defense), provincial, district and community civil defense platforms)

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

As described in section B of Part II of this document (starting on page 47), during the preparation stage of the Full Proposal in December 2016, a second environmental and social impact assessment was carried out with a visit to the project area. This evaluation, produced a report that is included as Annex B.1 to this document. Following the second Environmental and Social Assessment report, a corresponding second project's Environmental and Social Management Plan was produced, and it was approved by COPASA, the project executor.

Part of the environmental and social assessment's objectives during the visit to the project area was to confirm the preliminary assessment of risks and environmental and social impacts. The E&S

assessment confirmed the preliminary categorization of the project: B. The results of the Assessment are synthetized in the following table that describes the summary of the results of verification of compliance with the Adaptation Fund's environmental and social principles. Annex B.2 of this document includes the new project's Environmental and Social Management Plan.

No.	***Potential impacts and risks associated to each AF Environmental and Social Principle, Summary***
i.	*Principle 1: Compliance with the Law.* *Low risks of compliance associated with:* • *Natural Areas protection. A report must be communicated to the authority to inform about the activities to be implemented within the protected area, just in case selected location of some activities match the Reserve space.* • *Physical and Cultural Heritage. A certificate of nonexistence or archaeological remains must be requested prior to implement some activities. The procedure can be completed once the location of the implicated activities will be done.* • *Protection of Protected Natural Areas and Natural resources: basic management measures must be followed.* • *Verification of the requirement and possible presentation of a Report, once the project will be about to start.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***
ii.	*Principle 2: Access and Equity* *Moderate risks associated with the effectiveness of the convocations, which may lead to dissatisfaction, of producing distrust in processes similar to the Project.* *Detailed preventive measures and strategy have been prepared to manage the risks.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required?* ***No. (NOTE:*** *for this principle, as well that for the rest of them, a mechanism of evaluation of the adequacy of the measures has been foreseen. In that way risk management measures could be updated or modified).* *Satisfactory compliance with AF requirements?* ***Yes***
iii.	*Principle 3: Marginalized and Vulnerable Groups.* *Being the objective population a marginalized and vulnerable group, it was considered that the light risk of the failure of some, or all activities to strengthen productive activity, affect with distrust and negative image the innovations and technical solutions proposed by the Project, which may lead to obstacle other initiatives aiming to this marginalized and vulnerable group.* *Project Assessment and Monitoring Plan was considered adequate risk management measure.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***
iv.	*Principle 4: Human Rights* *No risk identified.* *Management of associated impacts and risks: not required, then not applicable.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***

v.	*Principle 5: Gender Equality and Women's Empowerment* *A transversal gender analysis was done for the project. Its results permitted to updated and improve project design in the gender equity perspective in order to manage risks and opportunities.* *Additionally, a moderate risk of low women's participation (with a moderate potential impact due to reduced access of women to the benefits of the project) was identified.* *A detailed risk management strategy has been foreseen.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***
	Principle 6: Indigenous Peoples. *A light risk of imprecision or understanding of the information presented to the communities in the development of the Project (due to the bilingual condition of the peasant communities) was identified. A preventive procedure has been designed)* *Within the project area there are peasant communities (which are different from the native communities). Some peasant communities within the project area have been recognized as part of the indigenous or original peoples (Concept belonging to the Peruvian law).* *No risks were identified from the perspective of the revised international regulations* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***
vi.	*Principle 7: Core Labour Rights* *No risk identified.* *Management of associated impacts and risks: not required, then not applicable.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***
viii.	*Principle 8: Involuntary Resettlement.* *No risk identified.* *Management of associated impacts and risks: not required, then not applicable.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***
ix.	*Principle 9: Protection of Natural Habitats* *Light risks related to Protection of Protected Natural Areas and Natural resources: basic management measures must be followed.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***
x.	*Principle 10: Conservation of Biological Diversity* *No risks identified.* *A recommendation was proposed: asking to environmental authorities about the suitability of the recommended practices they propose.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required?* ***No*** *Satisfactory compliance with AF requirements?* ***Yes***

xi.	*Principle 11: Climate Change* *Low risk of peat deposits conversion (presence of peat deposits to be confirmed).* *Low risk of greenhouse gas emissions resulting from vehicle mobilization.* *Detailed risk management measures designed.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required? **No*** *Satisfactory compliance with AF requirements? **Yes***
xii.	*Principle 12: Pollution Prevention and Resource Efficiency.* *Light risks due to solids wastes. Basic risk management measures required and designed.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required? **No*** *Satisfactory compliance with AF requirements? **Yes***
xiii.	*Principle 13: Public Health.* *No risk identified.* *Management of associated impacts and risks: not required, then not applicable.* *Is additional assessment required? **No*** *Satisfactory compliance with AF requirements? **Yes***
xiv.	*Principle 14: Physical and Cultural Heritage* *Light risk of finding archaeological remains.* *A certificate of nonexistence or archaeological remains must be requested; a preventive procedure has been designed.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required? **No*** *Satisfactory compliance with AF requirements? **Yes***
xv.	*Principle 15: Lands and Soil Conservation.* *Light risks of soil conservation by small digging activities and solid wastes management. Basic risk management measures required and designed.* *Management of associated impacts and risks: satisfactory.* *Is additional assessment required? **No*** *Satisfactory compliance with AF requirements? **Yes***

Confirmation NOTE: As a consequence of the Environmental and Social Assessment, the categorization of environmental and social risk for the project is maintained in **B**, as had been foreseen in the Project Concept development stage. Additional Environmental and Social Assessment is not required for any of the AF principles.

NOTE: The E&S evaluation report is included in the present document as Annex B.2.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme implementation.

For the implementation of the Ayninacuy Project, scheduled to be undertaken during 30 months beginning in February 2017, CAF, now the Development Bank of Latin America (formerly *Corporación Andina de Fomento*), will act as the Regional Implementing Entity, while the role of executor entity will be assumed by Special Project COPASA.

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. Since 1985, it has developed many and varied work programmes and projects on risks management, adaptation to climate change, rural and social development, local governments strengthening and others.

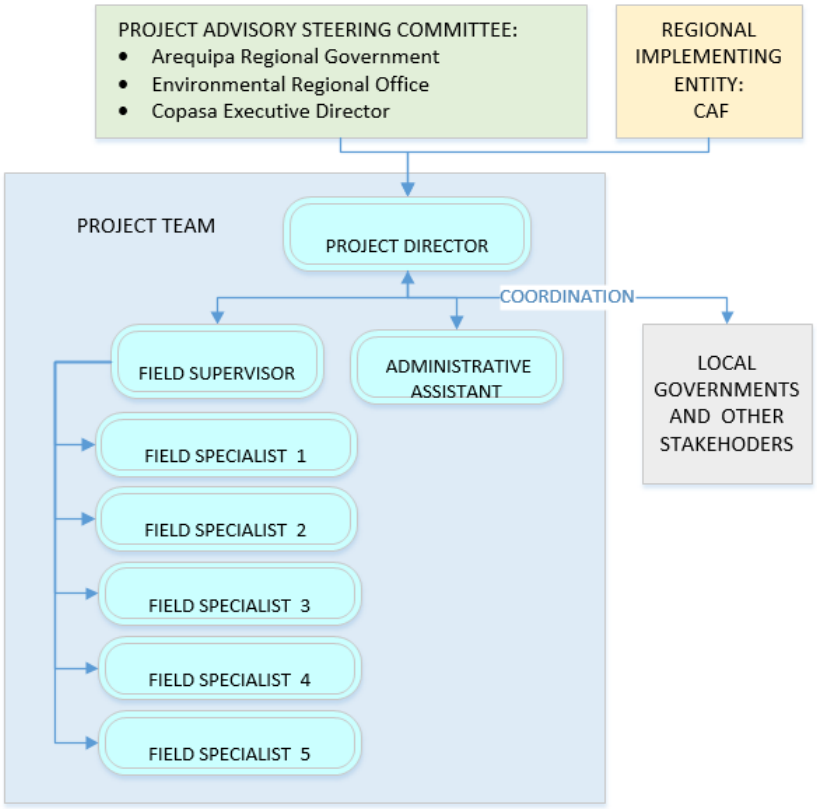
The project will be carried out in direct coordination with local governments of the 18 districts within the project's area of influence. Its implementation will engage stakeholders such as the Regional Government of Arequipa, local authorities, andean camelid breeders' associations, health centers in 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 COPASA Special Project in direct collaboration with the Regional Government and local governments, maintaining constant communication, and as far as possible, will be aligned with other initiatives.

The following organigram shows the relationships foreseen for the development of the Project. The Project's Advisory Steering Committee will be formed by a Representative of the Regional Government of Arequipa, by a Representative of the Regional Office of the Ministry of the Environment (ARMA) and by the Executive Director of COPASA.

The Project's Advisory Steering Committee will have the following characteristics:

- Its principal role will be consultative, and it will offer guidance and supervision for the adequate development of the project and compliance with its objectives.
- The committee will meet at least once a quarter in order to reply to the quarterly reports on the project's advances and monitoring.

- Its recommendations will delivered to COPASA's Executive Director who will have autonomy in accepting them, and will respond in a justified manner to the Advisory Steering Committee with relation to said recommendations.
- The Project's Advisory Steering Committee's functions will include recommendations on technical assistance for the project team, and the likely actions for contracting and supplying it.
- It will also have a support function for assuring the quality and control of risks to the project's development and of its reporting documentation to the Implementing Entity.
- The Project's Advisory Steering Committee can recommend and obtain technical support external to the project and COPASA.



Project Organigram

COPASA's Executive Director has the responsibility for supervising planning, execution and reporting of all the activities related to followup, monitoring and project reporting.

The Project Team will have the following characteristics and roles:

- Be responsible for the planning, execution, verification, documentation, monitoring, evaluation and reporting of the project's daily progress.

- Through the project Director, reporting with respect to the previous responsibilities vis-a-vis the Executive Director of COPASA.
- Hold a minimum of two project meetings per month and include in project progress reports the minutes of these project meetings.
- The Project Director will be a professional with accredited experience, it is a full-time position. The responsibilities include:
  - Managing coordination with local governments and other entities which are significant stakeholders for the project's development and objectives;
  - Reporting at least once a month to COPASA's Executive Director on the progress, modifications and status of all the coordinated relationships.
- The Field Supervisor, responsible for the technical component of the project, will be a professional with accredited experience and will also be a full-time position.
- The responsibilities assigned to the project's administrative assistant include:
  - Be responsible for the planning, execution, verification, documentation, monitoring, evaluation and reporting on the project's administrative and financial development,
  - Support the Project Director and the Executive Director of COPASA in activities concerning planning, verification, documentation, monitoring and evaluation of the project's administrative and financial development (this includes communication with the Implementing Entity, CAF and the reporting activities to it).

In its role as the Regional Implementing Entity, CAF will be responsible for compliance with operating and fiduciary standards that correspond to it as the accredited Implementing Entity. CAF will be responsible for ensuring compliance with and delivery of the objectives and commitments approved of the different project components and for the verification and evaluation of possibles modifications to original planning, as well as that of consultation before the Adaptation Fund with respect to possible modifications. CAF will be responsible for ensuring that the assignation and disbursement of project resources occur in a timely, efficient, effective manner.

CAF also will be technically and administratively responsible for the compliance with the Adaptation Fund's guidelines to the extent necessary for the achievement of the Results and Outputs foreseen for the Project in this document. In its function of general project supervision, CAF will be responsible for the delivery and opportune culmination of the project's inputs and products, for the coordination with other significant actors in the project (in particular with other governmental entities and other local or regional authorities). CAF will supervise activities of follow-up, monitoring and evaluation of the project's activities and results and, if considered necessary or convenient, it will implement its own follow-up, monitoring, and evaluation actions.

As an Implementing Entity, CAF is responsible for ensuring that the project achieve the defined results in this project document, with adequate quality standards and complying with the time and budgetary restrictions, assuring: transparency, compliance with the Adaptation Fund's policies (including the environmental and gender policies), the correspondence between the project's objectives and its actions and activities, the adequate allocation of project resources,

communication with the pertinent social actors, and the adequate distribution of project opportunities and results.

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

The analysis of the critical risks that project implementation can face was undertaken during the project's design stage, in particular during the development of the Project's Results Framework, with the participation of significant social actors. Below are presented the most significant risks and corresponding anticipated mitigation measures.

#	Type	Risk	Classification	Mitigating Measures
1.	Financial	The exchange rate for the PEN/USD is not holding above 3.43	Low	By means of support from CAF's Office of Macroeconomic Studies there will be access to estimates and economic projections. In the project's dissemination possible consequences of this risk will be presented (reduction in the reachable goals with respect to those anticipated). On a quarterly basis, tracking exchange rate projections will be done. In the case of a significant negative impact, in consensus with the participating producers, measures with the greatest positive effect will be prioritized and agreements of prioritization on eligibility will be respected; compensation will be promoted with respect to project projections through possible assignations in the districts' participative budgets.
	Climate	The restrictions foreseen for water resources are increased meaningfully by unforeseeable effects of climate change and of its variability.	Low	In accord with the climate scenarios considered, significant increases in this restriction are not anticipated, regarding the foreseen restriction. Annually an evaluation of this risk will be done (using secondary sources). In the case of risk, the project will alert the local and regional authorities and the communities, and will increase the most intensive implementation of best practices for water resources management.
	Téchnical - cultural	Resistance to change in vulnerable communities	Low	COPASA has a respected image among the communities. The best practices related to the livelihood proposed by the project have been tested successfully, and the target communities know them partially. Recognized local experts within the community will have the role of trainers in direct contact with the communities (in close technical accompaniment by COPASA), with the intent of eliminating the risk of cultural barriers. The project will raise awareness among young

				people by means of the educational institutions, insofar as they serve as effective communicative and motivational channels are motors for change in the households (experience already proven by COPASA). From the project start it will enter into direct contact with the local authorities and will seek to alliances to consolidate it. Building demonstrable interest among the authorities will be pursued. The monitoring of results will seek to identify also indications of effectiveness of the training and the adaptation of the best practices.
	Gender	The project's dissemination, communication and motivation strategies are not effective for achieving a broad and active participation on the part of women.	Low	Women were consulted in two phases of the project's development and in both they expressed interest in the project's activities and benefits. The channels for convocation addressed to women have turned out to be effective. In the training sessions, together with the technical topics, family topics will be addressed, personal development and others, prioritized by the women in the consultation. In the project evaluations it will be determined whether or not a redesign of the strategies come to be necessary.

The monitoring and evaluation component is a fundamental axis of project control and a tool for risk identification. In the elaboration of the annual plan the existence of consistent monitoring, evaluation, and risk management activities will be verified. The periodic monitoring reports associated with project performance will include observations and recommendations about identified and unattended risk scenarios in an adequate manner.

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

Annex B of this document presents measures for Environmental and Social Management -E&S for the Project, in agreement with the Adaptation Fund's E&S Policies.

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

Below are presented the planned monitoring and evaluation activities - Project M&E. At the end of the section the budget for M&E is presented.

Monitoring activities will be implemented both by the Project Team as well as CAF in its role as Implementing Entity, in compliance with CAF's official procedures and in consistency with the practices from International Financial Institutions. The established indicators in the Project Results Matrix (Project Results Framework) will be the basis for the project's monitoring and evaluation system. The monitoring will do the tracking of progress toward the established goals and toward the delivery of the projected products. The evaluation will attend to the achievement of results and the project's impacts in the perspective of its projected objectives. The monitoring results will be

used for decision-making with respect to the necessary adjustments to the project's direction with the intent of optimizing the use of resources assigned to the project for reaching its goals.

Project Start and initial workshop:

Before the first two months from the project start have passed, an initial workshop will be held, with the participation of the whole Project Team, the Executive Director of COPASA, the Project's Advisory Steering Committee, CAF representation as the Implementing Entity and, to the extent possible reasonably manageable, of local and regional authorities with interest in the project.

The workshop's agenda and activities will assure the compliance with the following objectives:

- An understanding and agreement of all the participating actors regarding the project objectives and the roles, functions, and responsibilities of each part for the achievement of those objectives.
- An agreement about the structure of responsibilities, reporting and communications, about consultation mechanisms in case of doubts and unexpected events, about the procedures for resolving conflicts. An agenda of different types of periodic meeting required for the project's development.
- Revise and agree on the M&E requirements and procedures.
- Revise and agree on the requirements and procedures for reporting and annual auditing.
- Revise and agree on the indicators, goals, and means of verification and the assumptions initially expected for the project.

The initial workshop will have as products:

- The project's activities plan for the first year (counted from the start of the project), with relation to its budget and the progress indicators. This plan will include the necessary agreements and arrangements for the implementation of that first stage of the project.
- The monitoring and evaluation activities plan (including schedule) and its budget (if an additional one is required). The plan will include the indicators, targets, sex-disaggregated data, targets and indicators, means of verification and the assumptions and risks reviewed in the workshop.
- A plan for periodic status and financial execution reports, and of annual financial audits in accord with CAF's fiduciary standards.
- The initial workshop report (to be elaborated 1 month after the workshop's end). This report will permit the formalization of the agreements and plans agreed upon in the workshop.

Baseline:

The Project Director will be responsible for consolidating the complete information to establish the baseline for the indicators defined in the Project Results Framework, before completing the project's fifth month. The strategy for establishing the baseline and its report will be approved by CAF.

Periodic Progress Reports:

The Project Director will be responsible for monitoring the execution at the project's activities level, and in these activities will have the support of the Administrative Assistant. The Project Director will report to CAF quarterly about progress in the execution of activities, of budgetary execution, and will hold on a quarterly basis face-to-face meetings with CAF or remotely via technology (or with greater frequency if CAF consider it necessary;), for the review of these reports, of project progress and of the decisions required for the project's good progress. CAF will be issue quarterly monitoring reports, will exercise continuous supervision and at its consideration will carry out periodic visits to the project's activities and verifications in the field of the state of project progress, with the support of the Project Team, in accord with the expected annual plans.

With the support of the Project Director, CAF, in its condition as Implementing Entity, will be responsible for issuing on a yearly basis an annual progress report (Annual Progress Report, APR) with a scope that includes, but is not limited to this content:

- The progress with respect to the project's objectives and outcomes, in function of the expected indicators and goals with the baseline, for each issue (cumulative report).
- The products delivered for each outcome foreseen in the project (annual execution report).
- Lessons learned and best practices developed or implemented.
- Risk management implemented and evaluation of the project's administration and execution.

NOTE: Under Project Director responsibility, the monitoring and evaluation activities plan (including schedule) and its budget (if an additional one is required) will be updated on an annual basis; Every version of this Plan will be approved by CAF. The plan will include the indicators, targets, sex-disaggregated data, targets and indicators, means of verification, and the comments to the initial assumptions and risks.

Mid-term Evaluation

For this project a mid-term evaluation is not required, insofar as the planned schedule is fewer than three years.

Final Evaluation

This evaluation will be done once the project activities are finished, under an external consultant, with the following minimum content:

- The achievement of project results;
- The evaluation of risks to sustainability;
- The processes that influence the achievement of results, including financial management;
- The way in which the project has contributed to the achievement of the Fund's objectives,
- An evaluation of tracking and assessments systems. The final evaluations will take into account the minimum requirements that are presented below as well as the guidelines (that figure in a different document).

In addition to the final evaluation which was just described, CAF, with the support the Project Team, will prepare during the last three months of project activities the project's final report (Project terminal report), which will report on the achieved outcomes (objectives, results, products), from the lessons learned, from the impediments and problems experienced, from the expected unachieved results. The report will also include recommendations concerning the measures required to ensure the sustainability and replicability of the project's results.

Below is presented the budgeted Monitoring and Evaluation Plan (budgeted M&E plan):

Type of M&E activity	Responsible Parties	Parties Budget US$	Time frame
Initiation Workshop and Report (it includes the initial Monitoring and Evaluation Plan)*	Equipo de Proyecto CAF (IE)	8.000	Workshop: 2 months after project start up Report: 1 month after workshop
Measurement of Means of verification for project performance & results.	Project Manager	----**	Annually
Quarterly Reports	Project Manager CAF	----** ***	Quarterly
Annual Progress Report, APR	Project Manager	----	Annually
External Final Evaluation	Project Manager CAF External Consultant	13.000	End of project
Programme Terminal Report	Project Manager CAF	----	3 months before the end of the project
Audits		24.000	Annually
Visit to field sites		(CAF staff travel costs: Implementing Entity fees)	Based on Annual Plans
Water lab tests		2.000	Annually
Total		**47.000**	

* The plan includes the indicators, targets, sex-disaggregated data, targets and indicators that will be monitored, the means of verification and the assumptions and risks.

** The Project team will execute Monitoring and Evaluation activities with no additional personnel. The associated costs are included in the Project Team costs (Copasa staff).

*** Quarterly Reports include activities for monitoring and evaluating indicators, targets, sex-disaggregated data, targets and indicators. The Project team will also execute the corresponding Monitoring and Evaluation activities with no additional personnel. The associated costs are included in the Project Team costs (Copasa staff).

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

AYNINAKUY PROJECT RESULTS FRAMEWORK

RESULTS	INDICATOR	BASELINE	GOAL			MEANS OF VERIFICATION OUTCOME LEVEL		RISKS AND ASSUMPTIONS
			QTY.	U.M.	DESCRIPTION	Method	Timing	
Project Objectives: 1. Strengthen the livelihoods of the rural communities in 5 Andean highland provinces in the Arequipa Region by means of local processes of adaptation and reduction of climate risks;	1.1. % of households and communities whose livelihood is most resilient	0%*	53.42	%	% of households and communities (in target population) whose livelihood is most resilient due to the implementation of actions to strengthen livelihood.	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Biannual, to the end of the program me.	Assumption 1: the exchange rate for PEN/USD remains above 3.43. Assumption 2: the effects of climate change and of variability does not have a significant increase with respect to the expected projections
			15.18	%	% of households and communities (in target population) whose livelihood is most resilient due to the implementation of adaptive housing improvements.			
Project objectives: 2. Strengthen the rural communities' capacities in 5 Andean highland provinces in the Arequipa Region in order to reduce climate risks	**2.**1 % of the target population made aware of the adverse effects of climate change and of adequate responses	0%*	21.42	%	% of households and communities (in target population) whose livelihood is most resilient due to development of adaptive production skills.	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Biannual, to the end of the program me.	
			7.16 (17,212 Personas)	%	% of regional households and communities whose livelihood is most resilient due to development of risk management skills. NOTE: this % corresponds to 100% of the target population.			
			20.92	%	% of the target population whose livelihood is most resilient due to development of adaptive production skills.			
			25.66	%	% of the target population whose livelihood is most resilient due to development of risk management skills.			
Component 1. Implementation of measures aimed at reinforcing the means of subsistence and sources of income in the vulnerable communities in the areas selected and the implementation of complementary measures.								
ANIMAL NOURISHMENT AND PROTECTION AXIS								
<u>OUTCOME 1.1</u>: Improvements in the conditions and means of providing animal nourishment and health, through	1.1.1 % of loss reduction (annual cycle).	See Note 3**	30	%	% of loss reduction (estimated by the producer beneficiary in annual cycle) with respect to the baseline.	Verification by Interviewing producers	Annual, to the end of the program.	Assumption 1: The technical training sessions are successful and permit the producers to take ownership of the transmitted best practices.

strengthening the life strategies in relation to the impacts of climate change.	1.1.**2** Has. of pastures reserved for rotational use	See Note 3**	72	Ha	Has. of pastures reserved for rotational use.	Verification by Interviewing producers	Annual, to the end of the program.	Assumption 2: The transmitted best practices are adequate for its objectives are assimilable by its beneficiaries.
	1.1.**3** M.T. of forage cereals produced per ha.	See Note 3**	72,000	T.M.	72,000 M.T. of forage cereals produced per ha. (80 m.t./Ha)	Verification by Interviewing producers	Annual, to the end of the program.	
	1.1.**4** N° of households benefitted with forage cereals production	0%*	1800	Beneficiary households	1800 households benefitted with forage cereals production	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Annual, to the end of the program.	
	1.1.**5** M.T. of improved grasses produced/ha.	0%*	1,152	M.T.	1,152 M.T. and of improved grasses produced (4 M.T./Ha per semester)	Verification by Interviewing producers	Annual, to the end of the program.	
	1.1.**6** N° of beneficiary households	0%*	360	Beneficiary households	360 beneficiary households	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Annual, to the end of the program.	
	1.1.**7** N° Months that flock can be fed with these reserves.	See Note 3**	4	Months	Months (4 months is the period of forage scarcity foreseen in the area).	Verification by Interviewing producers	Annual, to the end of the program.	
	1.1.**8** N° Months the flock will be able to be fed with these reserves.	See Note 3**	4	Months	months of reserves of pastures in highland wetlands (in order to be employed as feed only in periods of scarcity)	Verification by Interviewing producers	Annual, to the end of the program.	
Products 1.1: specific strategies for livelihood strengthen in relation to the impacts of climate change.	Number and type of adaptation assets (physical and related to knowledge) created in support of the specific individual and communal strategies for livelihood.							
Products 1.1.1: shelters built for animal protection (in particular alpaca mothers and offspring)	1.1.1.1 N° of shelters built. Capacity each shelter. (Indicator included in number and type of adaptation assets created in support of subsistence strategies).	0 shelters*	270	Shelter	270 shelters built, with a capacity for 70 vulnerable animals in each shelter			

	1.1.1.**2** N° head of livestock that will be protected	0 animal heads*	18,900	Heads	18,900 heads of camelids that the producer has evaluated as very vulnerable are protected in them			
	1.1.1.3 % protection animals most vulnerable	See Note 3**	6.34 %	Animals	This data will be obtained once the baseline is done, (According to the Livestock Census, 2012, population of alpacas in the area of intervention: 322,500).			
Products 1.1.2: Protective fencing, with livestock netting, installed.	1.1.2.1 N° of fences installed (Indicator included in number and type of adaptation assets created in support of subsistence strategies).	0 Fences*	72	Fences	72 fences installed.			
	1.1.**2.2** Linear meters (LM) of installed fencing.	0 lm*	28,800 lm	Linear meters	Linear meters of installed fencing to be defined after identifying the baseline			
	1.1.**2.3** Area protected by installed fencing	0 Ha*	72	Ha	72 ha protected by installed fencing.			
Products 1.1.3: Seeding and cultivation of high altitude forage cereals.	1.1.**3.**1 Ha planted of high altitude forage cereals. Ha planted of high altitude forage cereals preserved available for grazing (from the 13th week of the seeding). (Indicator included in number and type of adaptation assets created in support of subsistence strategies).	0 Ha*	900	Ha	Ha planted of high altitude forage cereals. Ha planted of high altitude forage cereals preserved available for grazing (from the 13th week of the seeding).			
Products 1.1.4: Seeding and cultivation of improved pastures.	1.1.**4.**1 Ha of pastures of improved seeds. Ha of pastures of improved seeds preserved available for grazing (from the 13th week of the seeding) (Indicator included in number and type of adaptation assets created in support of subsistence strategies).	0 Ha*	72	Ha	Ha seeded of improved grasses. Ha seeded of improved grasses preserved available for grazing (from the 13th week of the seeding).			
Productos 1.1.5: Installation of clover in highland wetlands to improve forage	1.1.**5.**1 Installation of clover in highland wetlands to improve forage.	0Ha*	72	Ha	Ha of improved wetlands with clover.			
	1.1.**5.2** N° of improved wetlands with clover.	0 Wetlands*	36	Wetlands	Improved wetlands with clover.			
Products 1.1.6: Animal health campaigns in selected rural communities	1.1.**6.**1 N° of campaigns executed.	0 campaigns*	36	Campaigns	36 of campaigns executed.			
	1.1.**6.2** N° of dosed animals	0 animals*	10,000	Animals	10.000 dosed animals			

WATER MANAGEMENT AXIS								
SECONDARY OUTCOME 1.2: Greater capacity for resilience in ecosystem in response to pressures caused by climate change and variabilidad.	**Sec 1.2.1** N° of wetlands improved and recovered through irrigation expanded with rustic canals that best support the conditions resulting from variability and climate change	0 Wetlands*	36	Wetlands	Wetlands that thanks to improvement in their irrigation have recovered or improved successfully their environmental services.	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Biannual, to the end of the program me.	Assumption 1: the anticipated effects of climate change and of variability do not increase in a significant manner the expected restrictions on water resources. Assumption 2: There are increase in risks originating from exacerbated volcanic or hydro-meterological dangers. Assumption 3: Technical training are successful and allow the producers to take ownership of the transmitted best practices. Assumption 4: The best practices transmitted are adequate for their objectives and are assimilable by their beneficiaries.
OUTCOME 1.2: Improvements in the availability of water and irrigation conditions allow for providing greater volumes of vegetal production and of greater areas consolidated for animal feed.	1.**2.1** % of Ha increased with success production for animal feed	0 Ha*	72	Ha	Ha increased with success production for animal feed.	Verification by Interviewing producers	Annual, to the end of the program.	
	1.**2.1** Metric tons of improved grasses/Ha produced in increased areas.	0 TM*	1,152	T.M.	1,152 metric tons of stored feed (forage and grasses from improved seeds)/72 Ha of hectares in increased areas.	Verification by Interviewing producers	Annual, to the end of the program.	
	1.**2.1** LM of rustic canals built/improved that have been consolidated	0 lm*	10,000	lm (linear meters)	LM of rustic canals built/improved that have been consolidated in intervened wetlands	On the field verification	Annual, to the end of the program.	
	1.**2.1** N° of beneficiary households	0 Households*	600	Households	600 beneficiary households from wetlands with improved irrigation	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Annual, to the end of the program.	
	1.**2.1** N° of dry months or with water scarcity for which water stored in rustic reservoirs is available	0 Months*	5	Months	Months defined as dry or with water scarcity for which water stored in rustic reservoirs is available.	Verification by Interviewing producers	Annual, to the end of the program.	
	1.**2.1** N° of beneficiary households from rustic reservoirs.	0 Households*	540	Households	Households beneficiaries from rustic reservoirs.	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Annual, to the end of the program.	
Products 1.2.1: Modules of pressurized irrigation installed in selected communities.	1.**2.1.1** N° of installed modules. Ha of improved grasses. (Indicator included in number and type of adaptation assets created in support of subsistence strategies).	0 modules*	72	Modules	72 installed modules			

Product 1.2.2: Improved vulnerable natural assets in response to climate change impacts, including variability.	1.**2.2.1** N° of wetlands with improved irrigation via rustic canals that can best withstand the conditions resulting from variability and climate change.	0 wetlands*	36	Wetland/community	36 wetlands with improved irrigation via rustic canals (in order to increase their vegetal matter production) that can best withstand the conditions resulting from variability and climate change.			
Products 1.2.3: Construction and improvement of canals in order to optimize the management of water resources in wetlands.	1.**2.3.1** N° meters of improved canals	0 lm*	10,000	LM	10.000 meters of canals built and/or improved.			
Products 1.2.4: Construction of reservoirs for storage of rainfall and of runs or natural sources.	1.**2.4.1** N° of reservoirs built; Of 100m3 capacity each one. (Indicator included in number and type of adaptation assets created in support of subsistence strategies).	0 units*	36	Unit	36 Reservoirs built			
Products 1.2.5: Construction of rustic reservoirs (ponds) for rainfall storage and runs or natural sources.	1.**2.5.1** N° of reservoirs (ponds) built. (Indicator included in number and type of adaptation assets created in support of subsistence strategies).	0 units*	36	Unit	36 Rustic ponds built			
	1.**2.5.2** M3 of capacity in each reservoir.	0 m3*		m3	Indicator to be defined once baseline is identified.			
ATTENTION TO HUMAN HEALTH AXIS								
SECONDARY OUTCOME 1.3 Reduction in cases indexes of ARIS and ADDS in communities and beneficiary households	**Sec. 1.3.1** N° cases ARIS reported/year.	Data to be identified after Beneficiary community will be defined. See Note 3**	50%	N° cases	50% of the number of cases reported for the year before the implementation of the project improvement	Verification of Health statistics at district level.	Annual, to the end of the program.	Assumption 1: Technical improvements are implemented in an adequate manner. Assumption 2: Beneficiaries incorporate the improvements into their lifestyle. Assumption 3: The benefits of the improvements, in quality of life, are disseminated to the community through: i. Social networks prior to project and ii. Through the group activities of the last phases of the project.
	Sec. 1.3.2 % reduction in cases of ARIS/year.	Data to be identified after Beneficiary community will be defined. See Note 3**	Based on data to be identified	%	% of reduction in cases corresponding to the reduction of 50% in number of cases.			
	Sec. 1.3.3 N° cases ADDS reported/year.	Data to be identified after Beneficiary community will be defined. See Note 3**	50%	N° cases	50% of the number of cases reported for the year before the implementation of the project improvement			
	Sec. 1.3.**4** % reduction in cases of ADDS/year.	Data to be identified after Beneficiary community will be defined. See Note 3**	Based on data to be identified	%	% of reduction in cases corresponding to the reduction of 50% in number of cases.			

OUTCOME 1.3: Improvement in the conditions of housing quality to withstand extreme climate conditions	**1.3.1** N° of direct beneficiaries per type of improvement installed in household.	0 persons*	360	Persons	360 of direct beneficiaries per type of improvement installed	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Annual, to the end of the program.	
	1.3.2 Women heads of households prioritized in the criteria of beneficiary selection.	0 women heads of households*	1	Parameter of prioritization for women heads household.	In the agreements for beneficiary selection at least one parameter of prioritization for women head household is included.			
	1.3.3 Subjective valuation of the previously established scale (1-5)	0/5*	4/5		Subjective valuation of the previously established scale (1-5)	Verification by Interviewing producers	Annual, to the end of the program.	
	1.3.4 Parameters water quality for human consumption. 1. Total coliforms; 2. Heat resistant coliform; 3. Color; 4. Turbidity; 5. pH. NOTE: They are parameters of obligatory control (Peruvian Regulation Water Quality Human Consumption EO N° 031-2010-SA).	1. Total coliforms = 460,75 NMP/100 mL 2. Heat resistant coliform = 35,5 NMP/100 mL 3. Color=12,25 color units 4. Turbidity= 15,05 5. pH = 8,43 NTU (see NOTE 4***)		Indicators below the maximum limits allowable for parameters according to Annex I of the Regulation of Water Quality for Human Consumption EO N° 031-2010-SA.	The water for human consumption supplied by treatment systems installed must satisfy the maximum limits permissible for parameters according to Values defined in Annex I of the Regulation of Water Quality for Human Consumption EO N° 031-2010-SA. 10 rotating samples per area and annual included test upon delivery).	Measurement, lab test	Annual (rotative)	
	1.3.5 N° of beneficiaries	0 persons*	2,000	Persons	2,000 beneficiaries	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Annual, to the end of the program.	
	1.3.6 N° of beneficiary households	0 households*	400	Households	400 beneficiary households			
Productos 1.3.1: Water purification systems installed in the most vulnerable communities, in order to reduce the incidence of diarrheal diseases	**1.3.1.1** N° of safe water purification systems installed	0 systems*	5	Systems	05 of safe water/purifier systems installed.			
	1.3.1.2 N° of m3 processed monthly	0 m3	900	m3	900 m3 processed monthly in each module (each/month is 6/8 m3/day)			
Products 1.3.2: Improvement campaigns for "healthy rural homes": heating via solar walls; rural electrification (autonomous photovoltaic	**1.3.2.1** N° of improved homes	0 homes*	72	Home	72 improved homes.			
	1.3.2.2 N° of composting latrines built	0 latrines*	72	Latrines	72 Composting Latrines Built.			

systems), composting latrines and improved stoves	**1.3.2.3** N° of Improved Stoves built	0 Stoves*	72	Stoves	72 of Improved Stoves built.			
	1.3.2.4 N° of photovoltaic panels installed	0 panels*	72	Panels	72 photovoltaic panels installed			
	1.3.2.5 N° of solar walls	0 walls*	72	Walls	72 of solar walls built.			
COMPONENT 2: Implementation of measures aimed at strengthening institutional capacities and those of the community in order to reduce risks of losses occasioned due to climate change.								
AXIS GOVERNANCE								
OUTCOME 2.1: Greater awareness and ownership concerning the local processes of management and self-management for adaptation to and reduction of climate risk.	**2.1.1** % of the target population aware of local processes of management and self-management for adaptation to and reduction of climate risk.	No uniform and reliable information base was identified.		%	% of the target population aware of local processes of management and self-management for establishing agreements, covenant, commitments and participative budgets for adaptation to and reduction of climate risk..	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Biannual, to the end of the program.	Assumption 1: Local governments and beneficiaries participate in the project and support it in the execution, follow-up and/or replication of its different components. Assumption 2: dissemination, communication, project motivation strategies are sufficient in order to achieve a broad and active participation of women. Assumption 3: Leaders and representatives of community organizations gain empathy with the project objectives and support and stimulate broad community participation in the project activities. Assumption 4: Members elected to form the civil defense platforms accept and assume responsibility and participate in activities.
	2.1.2 % of target population aware of local processes of management and self-management for adaptation to and reduction of climate risk is made up of women.	No uniform and reliable information base was identified.	25	%				
Products 2.1.1: Agreements and coordination with local and community authorities for the design and implementation of monitoring and evaluation plans (included follow-up once project activities finished and final evaluation).	**2.1.1.1** of agreements (Covenants). N° of agreed monitoring and evaluation plans. N° of monitoring and evaluation reports. (see monitoring plan)	0 Covenants*	22	Covenants	04 provincial covenants 18 district covenants:			
Products 2.1.2: Commitments for beneficiary selection with the participation of various social actors: local authorities, community authorities, representatives of community organizations	**2.1.2.1** N° of commitments signed.	0 Commitments*	36	Commitments	36 commitments signed.			
Products 2.1.3: Implementation of training modules in teamwork and leadership, in field days	**2.1.3.1** N° Projects elaborated.	0 projects*	02	Projects	2 modules implemented in 36 communities.			
Activities 2.1.1: Dissemination of the detailed proposal of the project components to 1. Municipal institutions in the provincial and local level; 2. Community organizations	**A2.1.1.1** N° of dissemination and motivation visits	0 Provincial Visits*	4	Provincial Visits	04 visits to provincial municipal institutions			
	A2.1.1.2 N° of dissemination and motivation visits	0 District Visits*	18	District Visits	18 visits to district municipal institutions			
	A2.1.1.3 N° of dissemination and motivation visits	0 Community leadership Visits*	36	Community leadership visits	36 visits to community organizations.			

Activities 2.1.2: Participation of community leaders in the development of local planning tools, for the inclusion of support actions, follow-up, project continuity and replication in participative budgets and execution of Strategic Development Plans.	**A2.1.2.1** N° of participation processes initiated and culminated.	0 plans*	36	Plans	36 processes of participation initiated and culminated.			
Activities 2.1.3: Ritual spiritual blessing activities - and project start	**A2.1.3.1** N° of activities executed by type.	0 rituals*	05	Rituals	5 activities developed in the provinces selected by the project			
Climate Change Risk Management Axis								
<u>OUTCOME 2.2</u>: Greater awareness and ownership of local processes of adaptation to and reduction of climate risk.	**2.2.**1 % of target population aware of the adverse effects of climate change and adequate responses	No uniform and reliable information base was identified.	7.16	%	% of regional target population aware of the adverse effects of climate change and adequate responses	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Biannual, to the end of the programme.	Assumption 1: Local governments have interest in the initiatives of project's risk management, participate in it and promote community participation. Assumption 2: Target community organizations and entities have interest in the initiatives of project's risk management, participate in it and promote the participation of its members.
<u>Productos 2.2</u>: Awareness activities about adaptation and risk reduction with group participation of the target population: **see specific products below.**	**2.2.** N° and type of actions or risk reduction strategies at the local level							
<u>Products 2.2.1</u>: Disaster drills staging, at provincial level.	**2.2.1.1** N° of drills (indicator included in N° and type of actions or risk reduction strategies introduced at local level)	0 drills at provincial level* 5 drills district level*	4 5	Drills. Drills	4 drills staged at provincial level 5 drills staged at district level			
<u>Products 2.2.2</u>: Implementation of teaching modules for early warning EWS in rural communities	**2.2.2.**1 of implementation events and module dissemination. (indicator included in N° and type of actions or risk reduction strategies introduced at local level)	0 visits*	36	Awareness and motivational visits.	36 awareness and motivational visits			
	2.2.2.1 N° of participants in the dissemination action	0 participants*	180	Participants.	180 of participants in the dissemination action			
<u>Products 2.2.3</u>: Accompaniment to educational institutions, in elaboration of its prevention and disaster attention plans, as climate change adaptation measures.	**2.2.3.1** N° of accompaniment processes to project execution.	0 processes*	5	Processes in Educational Institutions.	5 of accompaniment processes to project execution "prevention and disaster attention plans, in Educational Institutions".			
	2.2.3.2 N° of elaborated plans. (indicator included in N° and type or actions or risk reduction strategies introduced at local level)	0 plans*	5	Plans	5 plans elaborated			
<u>Products 2.2.4</u>: Advisories for the formation and strengthening of district and community level civil defense platforms (reconnoitering, startup).	**2.2.4.1** N° of processes initiated and culminated.	0 Processes in District Municipalities*	18	Processes in District Municipalities	processes of accompaniment to formation and strengthening of district level Civil Defense Platforms			

	2.2.4.2 of Platforms (committees) formed at district level. (indicator included in N° and type of actions and risk reduction strategies introduced at local level)	0 Platforms in District Municipalities*	18	Platforms in District Municipalities	18 platforms of district civil defense formed or strengthened			
	2.2.4.3 N° of women included in the formation of each platform at district level.	Without precedents. The project will promote the formation of the first platforms.	1	Women	At least one (1) woman makes up part of each **formed** district level civil defense platform.			
	2.2.4.4 N° of processes initiated and culminated.	0 Processes*	36	Processes of Rural Communities	36 processes of accompaniment to formation and strengthening of Community Civil Defense Platforms			
	2.2.4.5 N° of Platforms (committees) formed at community level. (indicator included in N° and type of actions and risk reduction strategies introduced at local level)	0 Platforms*	36	Platforms in Rural Communities	36 community civil defense platforms formed or strengthened			
	2.2.4.6 N° of women included in the formation of each community level platform.	Without precedents. The project will promote the formation of the first platforms.	1	Women	At least one (1) woman makes up part of each community civil defense platform **formed**.			
Knowledge Management Axis								
OUTCOME 2.3: improvement in awareness and climate risk management and adaptive techniques skills.	2.3.1 of members of vulnerables communities that participate in awareness on adaptation and risk reduction, per activity type.	0 %*	28.78 %	Participants.	28.78 % of members of vulnerable communities that participate, per activity type.	Verification of project records (see NOTE on Sources and verification mechanisms, at the bottom of the table).	Biannual, to the end of the programme.	Assumption 1: vulnerable communities have interest in training proposal, resistance to change is low or not meaningful and the best practices are assimilated by participants. Assumption 2: Local governments have interest in the project's risk management initiatives, participate in them and promote community participation. Assumption 3: Target community organizations and entities have interest in the project's risk management initiatives, participate in them and promote participation by its members.
Products 2.3.: Target population groups participants in awareness activities and climate risk management and adaptive techniques training: **see specific products below**.	**2.3.**_ N° and type of adaptive actions and techniques introduced at local level							
Products 2.3.1: Preparation of agreements, programs, projects that lend continuity to project activities and	**2.3.**1.1 N° of prepared continuity actions	0 Covenants*	18	Covenants	18 prepared continuity actions (agreements, programs, project)			

achievements, that incorporate the project's lessons learned, its results and recommendations from the project's monitoring and evaluation reports.	(agreement, programs, project)							
Products 2.3.2: Publication of lessons learned on COPASA's website and of the organizations that include a similar dissemination on their corresponding websites	**2.3.2**.1 N° of lessons per type	0 Annual Publication*	1	Annual Publication	01 publication of lessons per type, at mid-term and at end			
Products 2.3.3: Elaboration of technical guides about: 1. adaptation to climate change and environmental risk management. 2. management and operation of early warning system. 3. adaptation and risk prevention in educational institutions. 4. Seedings of forage cereals and cultivated grasses, installation of modernized irrigation pilots, wetlands management, animal health, shelters construction, improvement of family housing.	**2.3.**3.1 N° developed guides, **2.3.**3.2 N° N° of printed copies **2.3.**3.3 N° of copies delivered **2.3.**3.4 Qualification of quality management for technical guides.	0 topics*	13	topics	13 topics developed			
		0 Guides*	43,000	Guides	43,000 guides elaborated and printed			
		0 Guides*	2000	Guides	2000 guides elaborated on environmental risks topics			
		0 Guides*	4,000	Guides	4000 guides elaborated on early warning systems topics			
		0 Guides*	4,000	Guides	4000 guides elaborated on Adaptation and risks prevention topics in schools			
		0 Guides*	4,000	Guides	4000 guides elaborated on installation of forage cereals topics			
		0 Guides*	4,000	Guides	4000 guides elaborated on installation of improved grasses topics			
		0 Guides*	4,000	Guides	4000 guides elaborated on pressurized irrigation systems topics			
		0 Guides*	4,000	Guides	4000 guides elaborated on wetlands management topics			
		0 Guides*	2,000	Guides	2000 guides elaborated on Animal Health topics			
		0 Guides*	4,000	Guides	4000 guides elaborated on shelter construction topics			
		0 Guides*	4,000	Guides	4000 guides elaborated on housing improvement topics			
		0 Guides*	4,000	Guides	4000 guides elaborated on safe water management and consumption topics			
		0 Guides*	2,000	Modules	2000 Modules for recovery of ancestral indicators			
		0 Guides*	1,000	Guides	1,000 guides about personal and family development and strengthening aimed primarily at women			
		Baseline value not applicable	80	%	80% /100% in the value of product qualification, according to established qualification procedure (for this			

					indicator a baseline will not be established, it will be measured starting with execution).			
<u>Products 2.3.4</u>: Training sessions about: 1. installation, management and operation of teaching modules on community early warning systems EWS, and strengthening of district and community civil defense platforms. 2. Adaptation to climate change, risk management and environmental protection (educational institutions). 3. Formation of basic semester evaluation and needs analysis teams at district level. 4. In disaster prevention (establishment of semester evaluation teams, climate change risk management, elaboration of long-term climate change risk management strategy and its dissemination), for municipal officials and community representatives. 5. Diagnostics of dangers and vulnerabilities, interactive risk maps, prevention plans, community attention, for heads of households. 6. Risk management and environmental protection, for educational institutions. 7. Transfer of techniques for Andean highland rural housing improvement: Trombe solar walls, rural electrification systems, composting latrines and improved stoves. 8. Training workshops on adaptation technologies (modern irrigation techniques, handling and upkeep of forage grains, associated grasses, clover in high altitude wetlands, animal care and health, shelter construction). **(Products included in: Target population groups participants in awareness activities about adaptation and risk reduction).**	**2.3.4**.1 N° workshops held. (indicator included in N° and types of actions or risk reduction strategies introduced at local level) **2.3.4.2** N° of participants per workshop **2.3.4.3** N° total of participants. **2.3.4**.4 % of women participants (25% for all activities, 30% housing improvements) **2.3.4**.5 Qualification of quality management of training sessions.	0 workshops*	72	Workshops	72 workshops			
		0 Communities*	36	Communities	36 Rural communities participate in the development of EWS teaching modules			
		0 participants*	540	Participants.	540 Participants in the updating of community civil defense platforms			
		0 sessions*	05	Sessions	05 Schools develop plans for climate change adaptation, risk management and environmental protection			
		0 schools*	05	Schools	Educational institutions participate in training programs on environmental topics			
		0 students and teachers*	1000	Students and teachers	1.000 students and teachers participate in training workshops about the environment and prevention plans			
		0 teams*	4	Teams	Formation of 04 basic teams for evaluation of damages at provincial level			
		0 workshops*	08	Workshops	08 workshops held in five (5) provincial municipalities.			
		0 Communities*	36	Rural Communities	36 Communities participate in the process for the elaboration of Prevention Plan			
		0 households*	540	Households	540 beneficiary households with training programs.			
		0 sessions*	72	Sessions.	72 training sessions developed			
		0 workshops*	18	Workshops	18 workshops on disaster prevention, for officials			
		0 officials*	72	Officials	72 municipal official and community representatives, are trained in prevention workshops,			
		0 training Solar Walls sessions*	72	Solar Walls training sessions	72 training sessions are developed for transfer of technique for the improvement of Andean, highland rural housing: Trombe solar walls			
		0 Composting latrines training sessions*	72	Composting latrines training sessions	Training topic: Construction of composting latrines			

		0 Improved Stoves training sessions*	72	Improved Stoves training sessions	Training Topic: Construction of improved stoves			
		0 panels*	72	Photovoltaic Panels	Training Topic: Installation of Photovoltaic Panels			
		0 rural communities*.	36	Rural Communities.	36 Rural communities prioritized for the rural housing improvement program			
		0 workshops*	144	Workshops	144 training workshops on adaptation technologies offered to 36 rural communities			
		0 trainees*	3,750	Trainees	3,750 household members are trained in different adaptation technologies that the project offers			
		Baseline value not applicable	25	%	% minimum of women participants: 25% for all the activities except for household improvement activities.			
		Baseline value not applicable	30	%	% minimum of women participants: 30% for housing improvement activities			
		Baseline value not applicable	80	%	80% /100% in the value of the product qualification, according to established qualification procedure.			

NOTE 1: THE CELLS MARKED WITH THIS COLOR CONTAIN OUTCOMES OR PRODUCTS (OR THEIR INDICATORS) RELATED TO THE ADAPTATION FUND RESULTS FRAMEWORK.

NOTE 2: The text highlighted with this color makes reference to criteria defined with gender orientation.

NOTE 3 about baseline: * = baseline indicator value is 0, because that indicator measures any specific project activity and its value, before the project start is 0.
**** =** Indicator related to the specific project activities beneficiaries. Such base line indicators will be identifiable when the project activities beneficiaries will be selected, after project start (identifying these kind of indicators for all the population in the project area would be extremely expensive and will not have practical function within the project.

NOTE 4 about baseline: *** Average values**,** based on 4 samples taken in this way: Yanaquihua district 29.11.2016; Pampamarca district 30.11.2016; Andagua district 01.121.2016; San Juan de Tarucani district 02.12.2016. Samples analyzed by BHIOS Laboratorios, Arequipa, Peru.

Sources and verification mechanisms: Progress and technical reports, surveys, Commitments Agreement (including beneficiaries' selection); attendance rolls for participants; Training agreements; Activity/materials/tools and inputs/products/seeds and inputs receipt memoranda; photographic registries; Audio-visual registries; SENAMHI reports; camelid production registers, laboratory tests (water human consumption)

Responsible for Monitoring: COPASA team, coordinated by the Project Director.

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

Project Objective(s) [45]	Project Objec Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amoun t (USD)
Project Objectives: 1. Strengthen livelihoods in the rural communities of 5 Andean highland provinces in the Arequipa Region through local processes of adaptation and climate risk reductions;	1.1. % of households and communities whose livelihood is most resilient due to implementation of livelihood strengthening actions.	**Outcome 6:** Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient livelihoods	**See product below 1.1**
Project Objectives: 2. Strengthen skills of rural communities in 5 Andean highland provinces in the Arequipa Region in order to reduce climate risks	**2.1** % of target population aware of the adverse climate change effects and adequate responses	**Outcome 3:** Strengthened awareness and ownership of adaptation	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	**See product below 2.2**
(OUTCOME) Secondary Result 1.2: Greater capacity for resilience in the ecosystem in response to pressures caused by climate change and variability.	**Sec 1.2.1** # of improved and recovered wetlands through expanded irrigation with rustic canals that best support the conditions resulting from variability and climate change	**Outcome 5**: Increased ecosystem resilience in response to climate change and variability-induced stress	5.1 Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress	**See product below 1.2.2**
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**

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

Products 1.1: Specific livelihood strategies strengthened in relation to the impacts of climate change.	**Product indicators 1.1.1**: of number and type of adaptation assets created in support of individual or community specific livelihood strategies: 1.1.1.1 # of shelters built. 1.1.2.1 # of installed fences. 1.1.3.1 Ha of high altitude forage cereals planted. 1.1.4.1 Ha of improved grasses planted. 1.2.1.1 # of pressurized irrigation modules installed. 1.2.4.1 # of reservoirs built. 1.2.5.1 # of rustic reservoirs built.	***Output 6:*** Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community-livelihood strategies	**1,390,100**
Result (OUTCOME) 2.2: Greater awareness and ownership concerning local processes of adaptation and climate change risk. **Products 2.2.**: Awareness activities about adaptation and risk reduction with the participation of groups from target population.	**Product indicators 2.2.**: number and type of actions or risk reduction strategies introduced at local level: 2.2.1.1 # de drills 2.2.2.1 # of implementation events of EWS module dissemination. 2.2.3.2 # of plans its elaborated prevention plans and disaster attention in educational institutions. 2.2.4.2 # of civil defense platforms formed at district level. 2.2.4.4 # of civil defense platforms formed at community level.	***Output 3***: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level	**33,200**
Product 1.2.2: Vulnerable social, natural, physical assets	1.2.2.1 N° of wetlands with improved irrigation through rustic canals that can best withstand	***Output 5:*** Vulnerable physical,	5.1. No. and type of natural resource assets	**21,600**

strengthened in response to climate change impacts, including variability.	to conditions resulting from the variability and climate change	natural, and social assets strengthened in response to climate change impacts, including variability	created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	

B. 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.

FINAL BUDGET WITH AXES OF THE FRAMEWORK EXPRESSED IN USD (US DOLLARS)											
RESULTS	INDICATOR	ACTIVITY	GOAL			TOTAL COSTS	AMOUNT REQUESTED YEAR 1	AMOUNT REQUESTED YEAR 2	AMOUNT REQUESTED YEAR 3	Total year 1+2+3	BUDGET NOTAS
			QTY.	U.M.	P.U.	2.941.446				TOTAL AMOUNT REQUESTED	
I.- DIRECT COSTS, USD											
COMPONENT 1: APPLICATION OF MEASURES AIMED AT STRENGTHENING MEANS OF SUBSISTENCE AND SOURCES OF INCOME FOR VULNERABLE COMMUNITIES IN THE SELECTED AREAS											
ANIMAL NOURISHMENT AND PROTECTION AXIS						**1,390,100**	**442,277**	**407,046**	**540,777**	**1,390,100**	
Products 1.1.1: shelters built for animal protection (in particular alpaca dams and offspring)	**1.1.1.1.** 270 shelters built.	270 shelters built, with a capacity of 70 vulnerable animal in each shelter	270	Shelter	1,550	418,500	130,781.00	130,781.00	156,938	418,500	**A**
Products 1.1.2: Protective fences, with livestock netting, installed.	**1.1.2.1.** 72 fences installed	72 fences installed	72	Fences	1,500	108,000	49,091	0	58,909	108,000	**B**
Products 1.1.3: Seeding and cultivation of high altitude forage cereals.	**1.1.3.1.** 900 Ha high altitude forage cereals planted. Ha of high altitude resistant forage cereals planted, preserved available for grazing (starting the 13th week of the seeding). (Indicator included in Number and type of adaptation assets created in support of subsistence strategy).	Ha of high altitude forage cereals planted.	900	Ha	800	720.000	225.000	225.000	270.000	720.000	**C**
Products 1.1.4: Seeding and cultivation of improved grasses.	**1.1.4.1.** 72 Ha of improved grasses seeded. Ha of improved grasses seeded, preserved, available for grazing (starting the 13th week of the seeding) (Indicator included in Number and type of adaptation assets created in support of subsistence strategy).	Ha of improved grasses seeded.	72	Ha	600	43,200	2,880	23,040	17,280	43,200	**D**
Products 1.1.5: Installation of clover in wetlands for improving forage cover	**1.1.5.1.** 72 Ha of wetlands improved with clover.	Ha of wetlands improved with clover.	72	Ha	700	50,400	18,900	12,600	18,900	50,400	**E**
Products 1.1.6: Animal health campaigns in selected rural communities	**1.1.6.1.** 10,000 dosed animals	10,000 dosed animals	10,000	Animals	5	50,000	15,625	15,625	18,750	50,000	**F**
WATER RESOURCE MANAGEMENT AXIS						**385,600**	**52,465**	**172,275**	**160,860**	**385,600**	
Products 1.2.1: Pressurized irrigation modules installed in selected communities.	**1.2.1.1.** 72 Ha of modules installed. Ha of improved grasses. (Indicator included in number and type of adaptation assets created in support of subsistence strategy).	72 modules of pressurized irrigation installed	72	Modules	3,200	230,400	15,360	122,880	92,160	230,400	**G**
Product 1.2.2.: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability.	**1.2.2.1.** N° of wetlands with improved irrigation through rustic canal that can best withstand the conditions resulting from variability and climate change.	36 wetlands with improved irrigation through rustic canal (in order to increase vegetal matter production) that can best withstand the conditions resulting from variability and climate change.	36	Wetland / community	600	21,600	7,855	1,964	11,782	21,600	**H**
Products 1.2.3: Construction and improvement of canals to optimize the water resource management in wetlands.	**1.2.3.1.** 10,000 meters of improved canals	10,000 meters of built and improved canals.	10,000	LM	4	40,000	0	18,182	21,818	40,000	**I**
Products 1.2.4: Construction of reservoirs for storage of rainfall, runs or natural sources (springs).	**1.2.4.1.** 36 de reservoirs built (rustic ponds)	36 Rustic ponds (Rustic Reservoirs built)	36	Unit	2,600	93,600	29,250	29,250	35,100	93,600	J
ATTENTION TO HUMAN HEALTH AXIS						**364,600**	**121,533**	**121,533**	**121,533**	**364,600**	
Products 1.3.1: Water Purification Systems installed in the most vulnerable communities, in order to reduce the incidence of diarrheal diseases	**1.3.1.1.** 05 safe water purification systems installed	05 of safe water/purification systems installed.	5	Systems	11,000	55,000	18,333	18,333	18,333	55,000	**K**
Products 1.3.2: Campaigns for improvement of "rural healthy housing": through heating via solar walls; rural electrification (autonomous photovoltaic systems), composting latrines and improved stoves	**1.3.2.2.** 72 Composting Latrines Built	72 Composting Latrines Built.	72	Latrines	1,600	115,200	38,400	38,400	38,400	115,200	
	1. 3.2.3. 72 of Improved Stoves built.	72 of Improved Stoves built.	72	Stoves	1,000	72,000	24,000	24,000	24,000	72,000	**L**
	1.3.2.4. 72 photovoltaic panels installed	72 photovoltaic panels installed	72	Panels	1,100	79,200	26,400	26,400	26,400	79,200	
	1.3. 2.5. 72 Solar walls	72 of Solar walls built.	72	Walls	600	43,200	14,400	14,400	14,400	43,200	

SUBTOTAL OF COMPONENT 1	-	-	-	-		**2,140,300**	**616,275**	**700,854**	**823,171**	**2,140,300**	
COMPONENT 2: IMPLEMENTATION OF MEASURES AIMED AT STRENGTHENING INSTITUTIONAL AND COMMUNITY CAPACITIES TO REDUCE RISKS OF LOSSES OCCASIONED BY CLIMATE CHANGE.											
GOVERNANCE AXIS						**1,400**	**400**	**400**	**600**	**1,400**	
Products 2.1.1: Agreements and coordination with local and community authorities for the design and implementation of monitoring plans. **Products 2.1.2**: Commitments for selection of beneficiaries with the participation of various actors **Products 2.1.3**: Implementation of training modules for teamwork and leadership, field days.	**2.1.1.1** N° of agreements (Covenants). **2.1.2.1.** N° N° of commitments signed. **2.1.3.1** N° of Modules implemented.	04 provincial covenants; 18 district covenants. 36 commitments signed. 2 modules implemented in 36 communities.	2	projects	700	1,400	400	400	600	1,400	**M**
RISK AND CLIMATE CHANGE MANAGEMENT AXIS						**33,200**	**12,836**	**8,379**	**11,985**	**33,200**	
Products 2.2.1: Staging of disaster drills, at provincial level.	**2.2.1.1.** 05 Drills	05 Drills staged	5	Drills.	1,000	5,000	0	3,000	2,000	5,000	**N**
Products 2.2.2: Implementation of teaching modules for early warning systems EWS in rural communities	**2.2.2.1.** 36 events for implementation and dissemination module. (indicator included in # and type of actions or risk reduction strategies introduced at local level)	36 teaching modules for EWS implemented	36	Motivational and awareness visits.	400	14,400	8,229	0	6,171	14,400	**O**
Products 2.2.3: Accompaniment to educational institutions, in elaboration of their prevention plans and disaster attention, as an adaptation measure to climate change.	**2.2.3.1.** 05 processes of accompaniment to project execution.	05 Schools Elaborate their prevention plans and disaster attention, as an adaptation measure to climate change.	5	Processes in educational institutions.	600	3,000	750	750	1,500	3,000	**P**
Products 2.2.4: Advisories for formation and strengthening of community and district civil defense platforms (reconnoitering, and startup).	**2.2.4.1** 18 processes initiated and culminated	18 processes of accompaniment to formation and strengthening of district civil defense platforms	18	Processes in District Municipalities.	600	10,800	3,857	4,629	2,314	10,800	**Q**
KNOWLEDGE MANAGEMENT AXIS						**295,461**	**70,654**	**70,654**	**154,153**	**295,461**	
Products 2.3.1: Preparation of agreements, programs, projects that lend continuity to project activities and achievements. **Products 2.3.2**: Publication of lessons learned in COPASA's website and of the organizations that include a similar dissemination in their corresponding websites	**2.3.**1.1 N° of continuity actions prepared (agreements, programs, project) **2.3.2.1.** 01 Publication	18 continuity actions prepared (agreements, programs, project) 01 publication of lessons by type, at midterm and at end	1	Edited Document	44,233	44,233	0	0	44,233	44,233	**R**
Products 2.3.3: Elaboration of technical guides about: 1. adaptation to climate change and environmental risk management. 2. Management and operation of early warning system. 3. adaptation and risk prevention in educational institutions. 4. Seeding of forage cereals and cultivated grasses, installation of modern irrigation pilots, wetlands management, animal health, construction of shelters, family housing improvement.	**2.3.3.1.** 13 guides developed	13 topics developed	13	Topics	700	9,100	2,600	2,600	3,900	9,100	
	2.3.3.2 . 43,000 copies printed	43,000 guides elaborated and printed	43,000	Guides	5	215,000	61,429	61,429	92,143	215,000	**S**
Products 2.3.4: Training sessions about: 1. installation, management and operation of teaching modules for community early warning systems EWS, and strengthening of district and community civil defense platforms. 2. adaptation to climate change, risk management and environmental protection (educational institutions). 3. formation of basic biannual evaluation and needs analysis teams at district level. 4. in disaster prevention (establishment of biannual evaluation teams, climate change risk management, elaboration of climate change risk management strategy) long-term and its dissemination), for municipal officials and community representatives. 5. diagnostics of dangers and vulnerabilities, interactive risk maps, prevention plans, community attention, for heads of household. 6. Risk management and environmental protection, for educational institutions. 7. Transfer of techniques for the improvement of Andean highland rural housing: Trombe solar walls, rural	**2.3.4.1** 180 participants per workshop (5 per community)	180 Participants for the installation of early warning EWS teams	180	Participants.	4	720	90	90	540	720	**U**
	2.3.4.2 . 540 of participants per workshop	540 Participants in the upgrading of the community civil defense platforms	540	Participants.	4	2,160	270	270	1,620	2,160	
	2.3.4.3. 1000 students per workshop	1000 students and teachers participate in training workshops about environment and prevention plans	1,000	Students and teachers	4	4,000	500	500	3,000	4,000	
	2.3.4.4. 8 participants per workshop	08 workshops held in 05 provincial municipalities for EDAN teams	64	Workshops	4	256	51	51	154	256	
	2.3.4.5. 540 participants per workshop	540 beneficiary households participate in the process of elaboration of prevention plans through training programs.	540	Households	4	2,160	432	432	1,296	2,160	
	2.3.4.6. 72 participants per workshop	72 municipal official and community representatives are trained in prevention workshops,	142	Officials.	4	568	142	142	284	568	

electrification systems, composting latrines and improved stoves. 8. Training workshops on adaptation technologies (modern irrigation techniques, handling and upkeep of forage grains, associated grasses, clover in high altitude wetlands, animal care and health, shelter construction).	**2.3.4.7.** 72 participants per workshop	02 Training sessions for the transfer of techniques for improvement of rural Andean highland housing: Trombe solar walls,	140	Participants.	4	560	112	112	336	560	
	2.3.4.8. 72 participants per workshop	Training topic: Construction of composting latrines	141	Participants.	4	564	113	113	338	564	
	2.3.4.9. 72 participants per workshop	Training topic: Construction of improved stoves	142	Participants.	4	568	114	114	341	568	
	2.3.4.10. 72 participants per workshop	Training topic: Installation of photovoltaic panels	143	Participants.	4	572	114	114	343	572	
	2.3.4.11. 26 participants per workshop (144 workshops)	3750 households members are trained in different adaptation technologies that the project offers	3,750	Trainees	4	15,000	4,688	4,688	5,625	15,000	
COMPONENT 2 SUBTOTAL	-	-	-	-	-	**330,061**	**83,890**	**79,433**	**166,739**	**330,061**	
TOTAL DIRECT COSTS = (COSTS SUB COMPONENTS 1 +2 OF THE PROJECT), USD						**2,470,361**	**700,165**	**780,287**	**989,909**	**2,470,361.00**	
II.- INDIRECT COSTS (ADMINISTRATIVE EXPENSES) = PROJECT EXECUTION COSTS, USD											
ADMINISTRATIVE EXPENSES											
A.- PROFESSIONAL SERVICES						**161,490**	**64,596**	**64,596**	**32,298.**	**161,490**	
1.- Project Director			30	Month	3,338.	101,490	40,596	40,596	20,298	101,490	
2.- Field Coordinator			30	Month	1000	30,000	12,000	12,000	6,000	30,000	
3.- Administrative Assistant			30	Month	1000	30,000	12,000	12,000	6,000	30,000	
B.- TICKETS AND PER DIEMS						**8,700**	**2,940**	**3,480**	**2,280**	**8,700**	
Airline Tickets Lima-Arequipa-Lima :			6	Trips	300	1,800	360	720	720	1,800	
National Per Diems Per Diems Lima-Arequipa-Lima			6	Per Diems	150	900	180	360	360	900	
Tickets and Local Per Diems			240	Per Diems	25	6,000	2,400	2,400	1,200	6,000	
C.- VISIBILIZATION /DISSEMINATION						**12,500**	**1,250**	**6,250**	**5,000**	**12,500**	
Visibility activities			5	Visibilization	500	2,500	1,250	1,250	0	2,500	
Internships			5	Internships	1,000	5,000	0	5,000	0	5,000	
Regional Forum/Press Conference			1	Regional Event	5,000	5,000	0	0	5,000	5,000	
E.- TRANSPORT AND MOVES						**5,510**	**2,204**	**2,204**	**1,102**	**5,510**	
Transport of materials to work zone			1	Various	5,510	5,510	2,204	2,204	1,102	5510	
F.- ENVIRONMENTAL MANAGEMENT MONITORING AND EVALUATION						**65,000**	**65,000**	**0**	**0**	**65,000**	
Project's Environmental Management			1	Est.	18,000	18,000	18,000	0	0	18,000	
Monitoring and Evaluation			1	Est.	47,000	47,000	47,000	0	0	47,000	
TOTAL INDIRECT COSTS = PROJECT EXECUTION COSTS, USD						**253,200**	**135,990**	**76,530**	**40,680**	**253,200**	
TOTAL DIRECT + INDIRECT COSTS, USD						**2,723,561**	**836,155**	**856,817**	**1,030,589**	**2,723,561**	
III.- PROJECT IMPLEMENTATION COSTS, USD						**217,885**	**217,885**	**0**	**0**	**217,885**	
Project/Programme Cycle Management Fee charged by the Implementing Entity, CAF			1	Est.	217,885	217,885	217,885	0	0	217,885	
TOTAL FINANCING REQUESTED (DIRECT COSTS + EXECUTION COSTS + IMPLEMENTATION COSTS), IN USD						**2,941,446**	**1,054,040**	**856,817**	**1,030,589**	**2,941,446**	

Budget notes:

CODE		DESCRIPTION
A		**Construction of alpaca shelters: Structure built in adobe, with corrugated zinc sheets, placed on top of frame made from wooden eucalyptus poles, with an area of 70 m2. Construction with stone and clay foundations, resistant adobes.**
	A 1	Visit to authorities.- Coordination with them: construction of shelters, selection of beneficiaries, agreements, schedules, maintenance and follow on replication commitments
	A 2	Awareness among the actors.- Presentation of works to be done, of their function and adverse climate events and uses (including training actions for animal health)
	A 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the work, knowledge and management of the variables.
	A 4	Training of actors.- Training for beneficiaries, in construction techniques. Place: community locales provided by the work's receptor organization.
	A 5	Acquisition and transport of materials.-1. Collection of construction materials required for the shelters; preparation of the terrain; excavation for foundations; storage of materials. 2. Acquisition of materials, definition of parties responsible for security and performing inventory. Project technicians advise and the local authority supervises
	A 6	Technical advising and execution of the activity.- construction process, with periodic supervisory visits and corrective actions by the project staff.
	A 7	Presentation of the activity to the beneficiaries.- Verification of work quality; delivery in a public act with the presence of community and local authorities; the signing of the act of reception.
B		**Installation of fencing with livestock mesh**
	B 1	Visit to authorities.- Coordinate: selection of locations for livestock fencing, of beneficiaries; signing of agreements; definition of schedules and commitments.
	B 2	Awareness raising among the actors.- Presentation to beneficiaries of benefits of the la protection of the best pastures with livestock meshed fencing (animal diet in periods of scarcity, better resistance to adverse climate conditions).
	B 3	Execution of planning workshop.- Presentation to selected community of fencing management, emphasis in handling of gestating dams and of *crias* to reduce losses.
	B 4	Training of actors.- Transmission of techniques: installation of mesh fencing, placement of posts, rotation of pastures. Place for trainings: community locales provided by the work's receptor organization.
	B 5	Acquisition and transport of materials.- 1. Collection of construction materials required for the shelters; preparation of the terrain; excavation for foundations; storage of materials. 2. Acquisition of materials, definition of parties responsible for security and performing inventory. Project technicians advise and the local authority supervises
	B 6	Technical advising and execution of the activity.- construction process, with periodic supervisory visits and corrective actions by the project staff.

	B 7	Presentation of the activity to the beneficiaries.- Verification of work quality; delivery in a public act with the presence of community and local authorities; the signing of the act of reception.
C		**The production of improved forage with the installation of 900 hectares of high altitude forage cereals of the barley and oats type. Allows for reserves of forage for animal diet in periods of scarcity.**
	C 1	Visit to authorities.- Coordinate: selection of place to install forage cereals toe beneficiaries; execution of agreements; definition of schedules and commitments. Signing of agreements.
	C 2	Awareness raising among the actors- Presentation of the benefits of forage cereals in order to guarantee animal diet in periods of scarcity and improved resistance of animals in the face to adverse climate events.
	C 3	Execution of planning workshop- Training of beneficiaries in planning for the execution of the work, knowledge management of the variables.
	C 4	Training of actors.- training for beneficiaries, in techniques and processes of installation of seeds, conservation and storage of the product.
	C 5	Acquisition and transport of materials- acquisition of seeds, in the city of Puno, contact with the INIA (National Institute of Agricultural Investigation) in order to guarantee seed quality; program transport to the area, determine warehouses and storekeeperswho will be responsible for the security of the product; inventories
	C 6	Technical advising and execution of the activity..- Accompaniment in the time with periodic technical visits of supervision and corrective actions.
	C 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the suitability of the installation, maintenance, harvest and post-harvest of the vegetal material produced; presentation in a public act with the presence of local and community authorities; signing of the act of reception.
D		**The production of forage is improved with the Installation of 72 Ha of improved forage grasses contributing to the reduction the a disminuir la morbidity and mortality of the livestock herds, and thus improving in the end family income**
	D 1	Visit to authorities.- Coordinate: selection of places for installing cultivated grasses, and of beneficiaries; execution of agreements; definition of schedules and commitments. signing of agreements.
	D 2	Awareness raising among the actors.- Presentation of benefits of improvements of the forage cover (ryegrass, others) in order to guarantee animal diet in period of scarcity and improved resistance of animal in the face of adverse climate events.
	D 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the activity, knowledge management of the variables.
	D 4	Training of actors.- training for beneficiaries, in techniques and processes of installation of cultivated pastures, conservation and storage of the product.
	D 5	Acquisition and transport of materials- contacts for acquisition of seeds, in the quality and quantity required; transport, determine warehouses and storekeepers in order to guarantee in order to guarantee security; carry out respective inventories with assistance from the project technicians and supervisión of the local authority
	D 6	Technical advising and execution of the activity..- This activity is going to allow for guaranteeing that installation of the cultivated pastures be done in a technical and timely manner, to which end the project staff, periodically, will perform periodic supervisory visits, in order to verify that

		technical considerations planned for in the technical document are complied with, and if there were any breach or poor application in the process, the pertinent corrective actions will be taken
	D 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the suitability of the installation, maintenance, harvest and post-harvest of the vegetal produced; presentation in a public act with the presence of the local and community authorities; signing of the act of reception.
E		**The production of forage is improved with the Installation of 72 Ha of improved forage grasses contributing to the reduction the a disminuir la morbidity and mortality of the livestock herds, and thus improving in the end family income**
	E 1	Visit to authorities.- Coordinate: selection of places for installing cultivated pastures, selection of beneficiaries and of wetlands (*bofedales*) to intervene; execution of agreements; definition of schedules and commitments. signing of agreements.
	E 2	Awareness raising among the actors.- Presentation of benefits of improvement of forage coverage in wetlands (*bofedales*) in order to guarantee animal diet in periods of scarcity and improved resistance of animals in the face of adverse climate events.
	E 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the work, knowledge management of the variables.
	E 4	Training of actors.- training for beneficiaries, in techniques and clover installation processes in the selected *bofedales*, crop maintenance, nourishment of the animals in those areas, protection of the installation.
	E 5	Acquisition and transport of materials- contacts for acquisition of seeds, in the quality and quantity required; transport, determine warehouses and storekeepers in order to guarantee in order to guarantee security; carry out respective inventories with assistance from the project technicians and supervisión of the local authority
	E 6	Technical advising and execution of the activity..- This activity is going to permit guaranteeing that the installation of clover be done in a technical and timely manner, to which end the project staff, periodically, will perform periodic supervisory visits, in order to verify that technical considerations planned for in the technical document are complied with, and if there were any breach or poor application in the process, the pertinent corrective actions will be taken
	E 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the suitability of the installation, maintenance, harvest and post-harvest of the vegetal material produced; presentation in a public act with the presence of local and community authorities; signing of the act of reception.
F		**Execution of animal health campaigns: Parasitic illnesses affect the livestock production as well as public health, and their risks are found associated with the system of production, an important step for fulfilling the goal is the formation and designation of the technical team that will assume responsibility for initiating the necessary actions for the proper and timely fulfillment of the activity, for which reason the project staff must complete a census of the breeders, and determine the number of animals that each one owns, in order to program the dosing campaigns in a real manner, and likewise the project will train two producers in each prioritized community so that they be recognized by SENASA (National Agricultural Health Service), as livestock promoters, and they can apply the necessary vaccinations, antiparasitic drugs, and antibiotics.**
	F 1	Visit to authorities.- Coordinate: selection of places to build shelters, selection of beneficiaries; execution of agreements; definition of schedules and commitments. Signing of agreement with the SENASA.

	F 2	Awareness raising among the actors.- Presentation of benefits of the work to be built and of the principles of animal diet for improving the resistance of animals in the face of adverse climate events.
	F 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the activity, knowledge management of the variables.
	F 4	Training of actors.- training for beneficiaries, in animal health
	F 5	Acquisition and transport of materials- coordination with SENASA representatives, for a schedule for acquiring medicines, transport to prioritized areas, training for the veterinary promoters and acquisition of minimum work equipment
	F 6	Technical advising and execution of the activity..- This activity will be done through an agreement of inter-institutional collaboration between the SENASA, the local authorities and the project representatives so that the suitability of the work is guaranteed
	F 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the suitability of the health campaign; report in a public act at the end of the campaign, with the presence of the local and community authorities; signing of the act of reception.
G		**Installation of 72 high altitude pressurized irrigation systems, which permit optimizing the good use of water for improving the dietary reserve of the livestock herds**
	G 1	Visit to authorities.- Coordinate: selection of places for installing 72 high altitude pressurized irrigation systems, selection of beneficiaries; execution of agreements; definition of schedules and commitments. Signing of agreement with the corresponding Agricultural Agency.
	G 2	Awareness raising among the actors.- Presentation of the benefits of high altitude pressurized irrigation systems, in order to ensure the animal diet in periods of scarcity and improved resistance of animals in the face of adverse climate events.
	G 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the work, knowledge management of the variables.
	G 4	Training of actors.- training of resident beneficiaries, in techniques for carrying out construction process and improvement of high altitude pressurized irrigation systems
	G 5	Acquisition and transport of materials- acquisition of equipment (PVC hoses of various sizes, GeoTextiles, sprinklers, filters, spigots and drip lines) and of the adequate and necessary tools; programming of transport to the area, determining warehouses and storekeepers for the security of materials, inventories
	G 6	Technical advising and execution of the activity..- This activity will permit guaranteeing that the construction, improvement and maintenance of the built structure be done in a technical and opportune manner, for which reason the project staff will perform periodic supervisory visits, in order to verify that the technical considerations foreseen in the document are fulfilled ,and if there were some breach or poor application of the processes, the pertinent corrective actions will be done.
	G 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the activity; presentation in the public act with presence of the local and community authority.
H		**Recovery of highland wetlands (*bofedales*)**

	H 1	Visit to authorities.- Coordinate: selection of wetlands to intervene, selection of beneficiaries; execution of agreements; definition of schedules and commitments. Signing of agreement with the corresponding Agricultural Agency.
	H 2	Awareness raising among the actors.- Presentation of benefits of protecting wetlands (*bofedales*) in order to guarantee animal diets in periods of scarcity and improved resistance of animals in the face of adverse climate events.
	H 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the work, knowledge management of the variables.
	H 4	Training of actors.- training of resident beneficiaries, in techniques for carrying out of feeding processes of animals, rotation of pastures and wetlands care.
	H 5	Acquisition and transport of materials- This activity will consist of the acquisition of the adequate and necessary tools (shovels, picks, palas, spikes, rakes, wheelbarrows, etc), as well as to program transport to the area, determine warehouses and storekeepers that will be responsible for guaranteeing their security, performing the respective inventories with advising from the project technicians and supervision by the local authority
	H 6	Technical advising and execution of the activity..- This activity will guarantee that the improvement of the maintenance and expansion of the wetlands (*bofedales*) be done in a technical and opportune,manner for which reason the project staff, periodically, will carry out supervisory visits, in order to verify that technical considerations planned for in the technical document are complied with, and if there were any breach or poor application in the process, the pertinent corrective actions will be taken.
	H 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the suitability of the installation, maintenance, harvest and post-harvest of the vegetal material produced; presentation in a public act with the presence of local and community authorities; signing of the act of reception.
I		**Improvement and construction of rustic canals which will allow expanding the area of the wetlands existing in the area, as well as directing water to natural and cultivated pastures existing near the natural water storage.**
	I 1	Visit to authorities.- Coordinar: selection of places for building and/or improving rustic canal, selection of beneficiaries; execution of agreements; definition of schedules and commitments. Signing of agreement with ARMA, (environmental authority) and the corresponding Agricultural Agency.
	I 2	Awareness raising among the actors.- Presentation of benefits of building small rustic canals in order to guarantee animal diet in periods of scarcity and improve resistance of animals in the face of adverse climate events.
	I 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the work, knowledge management of the variables.
	I 4	Training of actors.- training of resident beneficiaries, in the processes of construction and/or improvement of rustic canals, water transport, protection of canals.
	I 5	Acquisition and transport of materials- acquisition of equipment (shovels, picks, spikes, rakes, wheelbarrows); program transport to the area, determine warehouses and storekeepers for security of materials, inventories
	I 6	Technical advising and execution of the activity.: This activity will permit guaranteeing that the construction, improvement and maintenance of the built structure, be done in a technical and timely manner, to which end the project staff, periodically, will perform periodic supervisory visits,

		in order to verify that technical considerations planned for in the technical document are complied with, and if there were any breach or poor application in the process, the pertinent corrective actions will be taken
	I 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the suitability of the installation, maintenance, harvest and post-harvest of the vegetal material produced; presentation in a public act with the presence of local and community authorities of the rustic canals built and/or improved to the communities selected; signing of the act of reception.
J		**The storage and management of water is improved with the construction and/or el improvement of 36 rustic micro-dams (small pools of water) in order to ensure the storage of rainwater and be able to allow for the recharge of the water table and to guarantee a minimum water reserve that can guarantee the irrigation of natural and cultivated pastures existing in the area of influence of the work**
	J 1	Visit to authorities.- Coordinate: selection of places for the construction and/or improvement of these water pools, selection of beneficiaries; execution of agreements; definition of schedules and commitments. Signing of agreement with ARMA, (regional environmental authority) and the corresponding Agricultural Agency.
	J 2	Awareness raising among the actors.- Presentation of benefits of building rustic pools of water in order to guarantee animal diet in periods of scarcity and improve resistance of animals in the face of adverse climate events.
	J 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the work, knowledge management of the variables.
	J 4	Training of actors.- Training of resident beneficiaries, in the processes of construction and/or improvement of pools of water, storage of rainwater, protection and maintenance of the structure, use of materials.
	J 5	Acquisition and transport of materials- acquisition of equipment (shovels, picks, spikes, rakes, wheelbarrows); program transport to the area, determine warehouses and storekeepers for security of materials, inventories
	J 6	Technical advising and execution of the activity.: This activity will permit guaranteeing that the construction, improvement and maintenance of the built structure be done in a technical and opportune manner, for which reason the project staff will perform periodic supervisory visits, in order to verify that the technical considerations foreseen in the document are fulfilled ,and if there were some breach or poor application of the processes, the pertinent corrective actions will be done.
	J 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the suitability of the installation, maintenance, harvest and post-harvest of the vegetal material produced; presentation in a public act with the presence of local and community authorities of pools of water built and/or improved to the communities selected; signing of the act of reception
K		**Installation of water purification equipment for consumption in selected residences of the prioritized communities in order to reduce the incidence of diarrheal illnesses that occur in the area contributing in this manner to reducing the rate of malnourishment common in the highlands areas**
	K 1	Visit to authorities.- Coordinate: selection of place to install water purification systems for consumption; execution of agreements; definition of schedules and commitments. Signing of agreement with the respective medical post.

	K 2	Awareness raising among the actors.- Presentation of benefits of installing water purification systems for consumption to reduce incidence of illnesses and to better support adverse climate conditions.
	K 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the activity, knowledge management of the variables.
	K 4	Training of actors.- Training of resident beneficiaries, in installation and use of small water purification systems for consumption.
	K 5	Acquisition and transport of materials- acquisition of equipment; program transport to the area, determine warehouses and storekeepers for security of materials, inventories
	K 6	Technical advising and execution of the activity.: This activity will permit guaranteeing that the installation of small water purification equipment be done in a technical and timely manner, to which end the project staff, periodically, will perform periodic supervisory visits, in order to verify that technical considerations planned for in the technical document are complied with, and if there were any breach or poor application in the process, the pertinent corrective actions will be taken
	K 7	Presentation of the activity to the beneficiaries.- Verification of the quality of the suitability of the installation, maintenance, harvest and post-harvest of the vegetal material produced; presentation in a public act with the presence of local and community authorities of water purification systems to the communities selected; signing of the act of reception.
L		**Improvement of 72 rural residences to be employed as demonstration pilots of how the rural residence ought to be, directed at the families that live in the highlands areas of the Arequipa region, endowing with minimal services as is the case with thermal walls, improved stoves, composting latrines and autonomous photovoltaic systems**
	L 1	Visit to authorities.- Coordinar: selection of places for improving rural housing, selection of beneficiaries; execution of agreements; definition of schedules and commitments. Signing of agreement of technical cooperation between community organizations and the technical teams of the selected municipality and the project representatives.
	L 2	Awareness raising among the actors.- Presentation of benefits of improving their residences, endowing them with some minimal services, so that they can be better adapted to support adverse climate conditions that occur in their communities
	L 3	Execution of planning workshop.- Training of beneficiaries in planning for the execution of the work, knowledge management of the variables.
	L 4	Training of actors.- Training of resident beneficiaries, in processes for the improvement of rural housing, endowing it with minimal services such as thermal walls, improved stoves, composting latrines and autonomous photovoltaic systems with the necessary technical considerations and above all how they should be employed
	L 5	Acquisition and transport of materials- acquisition of equipment (shovels, picks, spikes, rakes, wheelbarrows); program transport to the area, determine warehouses and storekeepers for security of materials, inventories
	L 6	Technical advising and execution of the activity.: This activity will permit guaranteeing that the advising for the improvement of rural housing be done in a technical and timely manner, to which end the project staff, periodically, will perform periodic supervisory visits, in order to verify that technical considerations planned for in the technical document are complied with, and if there were any breach or poor application in the process, the pertinent corrective actions will be taken.

	L 7	Presentation of the activity to the beneficiaries.- verification of the quality of the suitability of the installation, maintenance, harvest and post-harvest of the vegetal material produced; presentation in a public act with the presence of local and community authorities of improved rural housing and endowed with minimal services such as thermal walls, improved stoves, composting latrines, and autonomous photovoltaic systems to the communities selected; signing of the act of reception
M		**Implementation of training modules in work and equipment and leadership through field days**
	M 1	Visit to authorities.- Coordinate; present activities for forming leaders and representatives.
	M 2	Awareness raising among the actors.- Presentation of benefits of leading processes of development in their jurisdictions, prioritizing gender activities.
	M 3	Execution of planning workshop.- Technical cooperation agreements between local authorities, specialized NGOs, community leaders and project representatives in order to execute the activity.
	M 4	Training of actors: This activity will permit training resident beneficiaries, en methodologies in order to achieve the formation of leaders, lending special interest to gender training.
	M 5	Systematization of the experience: Once compliance with the previous steps is achieved, and providing that the project staff guarantees the suitability of the activity, in a public act with presence of the local and community authority will present the systemized document, where it is shown who are the natural leaders in the community and should be used by the local authorities, community leaders and representatives of other institutions in order to facilitate the execution of the processes
N		**Staging of 05 disaster drills, in districts**
	N 1	Elaboration of the proposal: In conjunction with the regional, provincial, and district INDECI (National Institute of Civil Defense) a proposal will be elaborated that allows for the creation of a natural disaster drill, in such a way that the residents can be prepared in the face of any adverse event and to adapt to the same quickly, improving in this way levels of resilience and can perform these analyses adequately
	N 2	Visit to authorities locales: Coordination for programming actions so that the members of the civil defense platforms can organize programmed drills; inter institutional cooperation agreements between the INDECI (National Institute of Civil Defense) local authorities and community representatives.
	N 3	Awareness raising among the actors.- Presentation of benefits staging drills and of convening the most recognized persons and local authorities.
	N 4	Staging of the Drill: This activity will be performed on the date scheduled in coordination with INDECI, both regional as well as provincial, carrying out beforehand awareness raising and motivation activities.
	N 5	Elaboration of the report: At the end of the activity the respective reports will be made to the INDECI, both regional as well as provincial, so that they can analyze the drills execution and in this manner, the drills can be scheduled and developed in a planned manner every year
O		**Installation of 72 Kits of weather measurement for the early detection of situations associated with risk phenomena (snowfall, cold spells, rains, gale winds, mudslides, landslides, floods, etc.).**
	O 1	Visit to authorities.- Coordinate: selection for places to install EWSs, improve rural housing, selection of beneficiaries; execution of agreements; definition of schedules and commitments.

		Signing of technical cooperation agreement between the SENAMHI (National Meteorological and Hydrological Service), the technical team of the municipality selected and project representatives.
	O 2	Awareness raising among the actors- Presentation of benefits of the warning system in order to take prevention measures in the face of adverse climate conditions
	O 3	Execution of planning workshop.- Meeting with beneficiaries in order to present management and care of the system.
	O 4	Training of actors.- This activity will allow for training those who will be responsible for handling the installations where the 72 weather reading Kits are located
	O 5	Acquisition and transport of materials- acquisition of equipment; program transport to the area, determine warehouses and storekeepers for security of materials, inventories
	O 6	Technical advising and execution of the activity..- This activity will permit guaranteeing that the advising on the installation of the reading equipment, their maintenance and care, together with the representatives of the SENAMHI
	O 7	Presentation of the activity to the beneficiaries.- Once compliance with the previous steps is achieved, and providing that the project staff guarantees the suitability of the activity, in a public act with presence of the local and community authority will present the 72 weather reading Kits to the communities selected so that they use them adequately.
P		**05 Educational institutions elaborate their planes for prevention and attention of disasters, as a climate change adaptation measurement.**
	P 1	Elaboration of the proposal.- This activity will be done in conjunction with the local educational authority, the selected educational institution, the local authority and the project, in this competition activities will be prioritized that allow for promoting actions in which the students are prepared to be able to analyze the risks to which they are exposed and what adaptation measures they should take
	P 2	Visit to authorities.- Presentation to authorities of benefits of vinculation with the project.
	P 3	Awareness raising among the actors.- Presentation in educational institutions of the benefits of activity
	P 4	Execution of workshop.- This activity will be coordinated between the local educational authority, the educational institution selected, the local authority and the project, so that it be they who carry out said activity, and it will be the local authorities who guarantee the presence of the actors required for this process. To this end, the clearest methods will be employed, so that they do not become onerous for the participants and the maps and the implicated plans can be obtained.
	P 5	Elaboration of the report.- At the end of the activity the corresponding reports will be made to the regional educational authority on their development, so that they become scheduled and developed in a planned manner every year
Q		**Formation of 18 Civil Defense Platforms involving the local authority in being prepared to adopt the adaptation measures in the face of climate change effects occurring in the area**
	Q 1	Elaboration of the proposal.- In conjunction with the regional, provincial and district INDECI a proposal will be elaborated that allows for training the residents in the highlands areas of the Arequipa region, on the importance of being informed and organized through civil defense platforms, training in them in the duties and obligations that this role entails.

	Q 2	Visit to authorities.- Coordinate with the local authorities to program the corresponding training for the members of the civil defense platforms, inter-institutional cooperation agreement between the INDECI (National Institute of Civil Defense), the local authorities and community representatives.
	Q 3	Awareness raising among the actors.- Work meetings with each representative, to present the benefits of forming committees and of their activity
	Q 4	Execution of workshop.- This activity will be done in a coordinated manner with the INDECI, so that it be they who carry out said activity, and it will be the local authorities the ones who guarantee the presence of the participants required for this process
	Q 5	Elaboration of the report.- At the end of the activity the corresponding reports will be made to the civil defense representatives so that it be they who gain this knowledge and can manage its corresponding recognition
R		**Expenses for the systematization, publication, dissemination of the experience**
	R 1	Elaboration of the proposal.- In conjunction with the project's technical team and the CAF specialists, the elaboration of the document to be disseminated will be proposed, to this end a system will be utilized que edits the proposal, engaging a specialist in diagramming the this type of documents and a printing press that uses it specifically.
	RC2	Socialization of the proposal.- The proposal will be socialized among the principal project actors so that it can be reviewed and enhanced and finally produce a document that fulfills the proposed expectations.
	R 3	Development of the proposal.- Finally the document will be published and made public through a press conference, in which the CAF specialists as well the project specialists will participate. Likewise, the regional government will be invited as well as the various agencies and institutions present in the region
S		**Elaboration of technical guides that cover 13 topics to be presented to the participants in the project**
	S 1	Elaboration of the proposal.- In conjunction with the project's technical team and the CAF specialists, the elaboration of the topics and concepts contained in the technical guides will be proposed. To this end a systematizer will be contracted to edit the proposal, a diagrammer specialized in this type of documents and a printing press to print the proposal.
	S 2	Socialization of the proposal.- The proposal will be socialized among the principal project actors so that it can be reviewed and enhanced and finally produce a document that fulfills the proposed expectations.
	S.3	Development of the proposal.- Finally the document will be published and made public through a press conference, in which the CAF specialists as well the project specialists will participate. Likewise, the regional government will be invited as well as the various agencies and institutions present in the region.
T		**Elaboration of 43,000 technical guides**
	T 1	Elaboration of the proposal.- To this end, adult training magazine designers will be hired, who in coordination with the project specialists will design the respective guides, placing an emphasis in their clarity and ease of understanding
	T 2	Coordinate with designer.- With the original master document in hand, together with the designer will be coordinated with the publishing company for the printing of the documents.

	T 3	Printing of guides.- The publishing company, responsible for the printing of the guides, will print them, employing to this end the appropriate techniques, quality paper and original innovative finish so that the beneficiary population receive and use them correctly.
	T 4	Present to beneficiaries.- After finishing the magazines, they will be se presented to the persons that actively participated in the scheduled training sessions, and executed the planned works correctly, and to a small number of local authorities so that they can be included in their local library and that in turn serve them as a model for future printings.
U		**Field days for the transfer of knowledge through training sessions**
	U 1	Elaboration of the proposal.- For each training session proposed in the current project, a document will have to be designed that contains each one of the processes and entails the execution of the activity and the end of which will encompass the systematization of each experience and the elaboration of the respective report, with the necessary recommendations that allow for the improvement and enhancement of the experience.
	U 2	Visit to authorities.- Each time that a workshop comes up, at the end of the workshop, the dispatch of the report, improving the relationship with the project and its sustainability.
	U 3	Awareness raising among the actors.- Presentation of specific benefits of the topics of each workshop.
	U 4	Execution of workshop.- The workshops will be held in places where the activity will be carried out, in the modality of field day, where the project technicians will explain in a practical way to the beneficiaries the correct manner of carrying out the construction work, maintenance and their improvement.
	U 5	Elaboration of the report.- At the end of the activity and after systematizing the information obtained, the final activity document will be elaborated, presenting a copy to participating authorities so that they can apply the adaptation measures that will be proposed there.

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

	Upon Agreement signature	**One Year after Project Start[a/]**	**Year 2[b/]**	**Year 3**	**Total (USD)**
Scheduled Date	February 1rst 2017	February 1rst 2018	February 1rst 2019		
Project Funds (USD)	836,155	856,817	1,030,589		2,723,561
Implementing Entity Fee (USD)	87,100	87,100	43,685		217,885
Total (USD)	**923,255**	**943,917**	**1,074,274**		**2,941,446**

[a/]Use projected start date to approximate first year disbursement

[b/]Subsequent dates will follow the year anniversary of project start

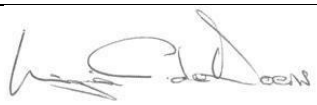
[c/]Add columns for years as needed

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

A. Record of endorsement on behalf of the government[46] *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:*

Viviana Grissel Zaldívar Chauca *Advisor* *Advisory Cabinet* *Ministry of the Environment of Peru*	Date: *July, 11, 2016*

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

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (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* *Office of Environment and Climate Change* *Implementing Entity Coordinator*	
Date: *July, 11, 2016*	lcastro@caf.com +57.1.743.7355
Project Contact Person: María Carolina Torres	mctorres@caf.com +52 55 11026904

46 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.

ANNEXES LIST (MAIN DOCUMENT)

ANNEX A - COST COMPARISON FOR COST-EFFECTIVENESS ANALYSIS AYNINACUY PROJECT

EVALUATION OF PROJECT COSTS EXPRESSED IN US DOLLARS												
COST-EFFECTIVENESS AYNINACUY PROJECT												
DESCRIPTION OF THE COMPONENT	U.M.	QTY	P.U.	TOTAL COST (MATERIALS)	Labor Requirement /activity		EXECUTION MODALITY (M.O.)			TOTAL PROJECT COST IN ITS DIFFERENTS MODALITIES		
				2,428,733	QTY. SESS.	TOTAL	Ayni Type Labor (Ayninacuy) (1)	Rural Labor (2)	Urban construction labor Included 15 % of CG + Utl. (3)	ALTERNA-TIVE N° 1 Ayni (Ayninacuy) (1)	ALTERNA-TIVE N° 2 Rural Labor (2)	ALTERNA-TIVE N° 3 Urban construction labor (3)
A.- COSTOS DIRECTOS												
Construction of 270 shelters	Unit	270	1,591	429,680	20	5,400	Ayni	Z	567,000	429,680	699,680	996,680
Animal Health Campaigns	Animals	10,000	5	45,000	0	2,500	Ayni	125,000	262,500	45,000	170,000	307,500
Construction of protective fences	Unit	72	2,010	144,720	10	720	Ayni	36,000	75,600	144,720	180,720	220,320
Installation of forage cereals	Ha	900	900	810,000	10	9,000	Ayni	450,000	945,000	810,000	1,260,000	1,755,000
Installation of clover	Ha	72	550	39,600	40	2,880	Ayni	144,000	302,400	39,600	183,600	342,000
Installation of cultivated grasses	Ha	72	800	57,600	40	2,880	Ayni	144,000	302,400	57,600	201,600	360,000
Recovered Wetlands	Unit	36	600	21,600	50	1,800	Ayni	90,000	189,000	21,600	111,600	210,600
Construction of ponds	Unit	36	2,900	104,400	200	7,200	Ayni	360,000	756,000	104,400	464,400	860,400
Improvement and Construction of Rustic Canals	Mts	10,000	5	50,000	0	2,000	Ayni	100,000	210,000	50,000	150,000	260,000
Installation of pressurized irrigation systems	Unit	72	3,500	252,000	50	3,600	Ayni	180,000	378,000	252,000	432,000	630,000
Installation of water purification systems for human consumption	Unit	5	10,000	50,000	50	250	Ayni	12,500	26,250	50,000	62,500	76,250
Installation of Trombe walls	Unit	72	500	36,000	20	1,440	Ayni	72,000	151,200	36,000	108,000	187,200
Installation of composting latrines	Unit	72	1,200	86,400	20	1,440	Ayni	72,000	151,200	86,400	158,400	237,600
Installation of Photovoltaic Systems	Unit	72	800	57,600	10	720	Ayni	36,000	75,600	57,600	93,600	133,200
Installation of Improved Stoves	Unit	72	101	7,240	10	720	Ayni	36,000	75,600	7,240	43,240	82,840
Installation of Early Warning Systems	Unit	36	600	21,600	5	180	Ayni	9,000	18,900	21,600	30,600	40,500
Advisory and follow-up to strengthening processes of district and community civil defense committees, for their recognition and startup	Committee	18	1,000	18,000	18	324	Ayni	16,200	34,020	18,000	34,200	52,020
Educational innovation competitions in environmental and climate change subjects, coordinated with local educational management units and schools.	Competitions	5	1,000	5,000	5	25	Ayni	1,250	2,625	5,000	6,250	7,625
Teach and train heads of households in elaborating danger and vulnerabilities diagnostics; interactive risk maps, prevention plans, community attention	Participants/ Sessions	540	3	1,620	1	540	Ayni	27,000	56,700	1,620	28,620	58,320
Training sessions for the installation, management and operation of community early warning systems EWS, for strengthening community and district civil defense committees	Participants/ Field Days	540	3	1,620	1	540	Ayni	27,000	56,700	1,620	28,620	58,320
Fields days for the transfer of knowledge about installation techniques, management and maintenance of forage cereals	Participants/ Field Days	600	3	1,800	1	600	Ayni	30,000	63,000	1,800	31,800	64,800

Field days for the transfer of installation techniques, management and maintenance of clover in wetlands.	Participants/ Field Days	360	3	1,080	1	360	Ayni	18,000	37,800	1,080	19,080	38,880
Field days for the transfer of installation techniques, management and maintenance of modern irrigation teams.	Participants/ Field Days	360	3	1,080	1	360	Ayni	18,000	37,800	1,080	19,080	38,880
Field days for the transfer of installation techniques, management and maintenance of associated grasses, in selected communities	Participants/ Field Days	600	3	1,800	1	600	Ayni	30,000	63,000	1,800	31,800	64,800
Field days for the transfer of installation techniques, management and animal health for beneficiary producers in rural communities	Participants/ Field Days	600	3	1,800	1	600	Ayni	30,000	63,000	1,800	31,800	64,800
Field days for the transfer of construction techniques of livestock shelters,	Participants/ Field Days	600	3	1,800	1	600	Ayni	30,000	63,000	1,800	31,800	64,800
Field days for the transfer of construction techniques for rural Andean highland housing, in: installations of heating systems with solar walls, rural electrification systems, autonomous photovoltaics, composting latrines and improved stoves.	Participants/ Field Days	480	3	1,440	1	480	Ayni	24,000	50,400	1,440	25,440	51,840
Elaboration of technical guides about adaptation to climate change in environmental risk contexts.	Guides	10,000	3	30,000	1	1	Ayni	50	105	30,000	30,050	30,105
Elaboration of technical guides about management and operation of the early warning system, as a measure of climate change adaptation.	Guides	5,000	3	15,000	1	1	Ayni	50	105	15,000	15,050	15,105
Elaboration of technical guides on adaptation and risk prevention topics in educational institutions,	Guides	5,000	3	15,000	1	1	Ayni	50	105	15,000	15,050	15,105
Elaboration of practical guides for adaptive practices oriented at topics covering the seeding of forage cereals, of cultivated grasses, installation of modern irrigation pilots, wetlands management, animal health, construction of shelters, improvement of family housing, as an adaptation measure and risk management in the face of climate change	Guides	23,000	3	69,000	1	1	Ayni	50	105	69,000	69,050	69,105
Workshops for the formation of 05 basic damage assessment and needs analysis teams at district level,	Participants/Workshops	5	600	3,000	1	1	Ayni	50	105	3,000	3,050	3,105
Prioritized educational institutions receive training in adaptation to climate change, risk management and environmental protection topics	Participants/Workshops	5	600	3,000	1	1	Ayni	50	105	3,000	3,050	3,105
Educational institutions elaborate their prevention and disaster atttention plans, as an adaptation measure to climate change.	Risk Management Plans	5	600	3,000	1	1	Ayni	50	105	3,000	3,050	3,105
Training workshops directed at municipal officials and community representatives,	Risk Management Plans	5	1,000	5,000	1	1	Ayni	50	105	5,000	5,050	5,105
Staging disaster drills, in districts	Drills	5	1,000	5,000	1	1	Ayni	50	105	5,000	5,050	5,105
Dissemination of experiences	Doc.	1	30,253	30,253	0	0	Ayni	0	0	30,253	30,253	30,253
TOTAL				**2,428,733**				**2,388,400**	**5,015,640**	**2,428,733**	**4,817,133**	**7,444,373**
PERCENTAGES								**0%**			**201%**	**336%**
B.- INDIRECT COSTS												
B.1. PROJECT ACTIVITIES				**278,224**								
B.2. PROJECT IMPLEMENTATION COSTS				**214,597**								
Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)	Est.	1	214,597	214,597						214,597.00	214,597.00	214,597.00
TOTAL PROJECT IMPLEMENTATION COSTS				**2,921,554**						**2,921,554**	**5,309,954**	**7,937,194**
COMPARATIVE EVALUATION OF LABOR COSTS										**LOWEST COST**	**MID COST**	**HIGHEST COST**

ANNEX B.1 Ayninacuy Project's Environmental and Social Evalution Report

ENVIRONMENTAL AND SOCIAL ASSESSMENT REPORT

AYNINACUY PROJECT

In the approval process before the Adaptation Fund of the United Nations, titled:

"AYNINACUY: Strengthening the livelihoods of vulnerable highland communities in the provinces of Arequipa, Coloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru"

and with project identification number:

"AF Project ID: PER/RIE/Rural/2015/1"

ELABORATED BY DACC - CAF

November – December 2016

DIRECTORATE OF THE ENVIRONMENT, CLIMATE CHANGE UNIT
ENVIRONMENTAL AND SOCIAL ASSESSMENT REPORT
APPROVAL PROCESS BEFORE THE ADAPTATION FUND

PROJECT NAME	AYNINACUY: Strengthening the livelihoods of vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa
COUNTRY	Peru
ASSESSMENT DATE	November, December 2016
RESPONSIBLE FOR THE OPERATION	María Carolina Torres
EXECUTIVE / EVALUTATING CONSULTANT	Oscar Villalobos (responsible for Version 2 of the report)
CCU COORDINATOR	Ubaldo Elizondo

A. INTRODUCTION

A.1. CAF as the implementing agency

CAF a multilateral financial institution whose misión is to support the sustainable development of its member countries and the integration of Latin America. The institution tends to the private and public sectors, supplying multiple products and services to a broad portfolio of clients constituted by the member States, private companies and financial institutions.

In its management policies, CAF integrates social, environmental and economic variables, in order to guarantee the sustainability of the operations in which there is some kind of support or financing. The project financing cycle in CAF and the structuring of strategic programs in distinct areas (including Climate Change), require the integral vision of sustainability and of the construction of alliances with distinct actors in the region.

In the environmental dimension, CAF supports countries in Latin America in environmental management for the construction of sustainable development that allows them to migrate toward a green economy, driving an environmental management for the sustainable development of the countries in the region.

Through the Climate Change Unit, CAF contributes to the mitigation and adaptation to global climate change and promotes the sustainable, low carbon development in the Latin America and Caribbean Region (LAC). The climate change program has two strategic lines: (i) mitigation of climate change and carbón markets and (ii) adaptation to climate change. This last point seeks to support and promote planned adaptation processes at the policy, plans, programs, and projects level, in order to orient the construction of sustainable development of the countries of the LAC Region.

One of the lines of action that structures the Adaptation Program of the Climate Change Unit promotes access to the flow of financial resources as regards adaptation. Thus, CAF, in its role as accredited Implementing Entity before the Adaptation Fund of the United Nations, to the date of the presentation of this proposal, was in the midst of developing the approval process of the financing for the Ayninacuy Project.

A.2. The Environmental and Social Policy of the Adaptation Fund

The environmental and social policy of the Adaptación Fund in force at the moment of this assessment demands of the implementing entities:
Have a system for environmental and social management that provides security with respect to the environmental and social risks identified, evaluated and considered earlier in the design of the project.
Adopt measures for avoiding, minimizing or mitigating these risks during the implementation.
Monitor and report the status of these measures during and at the end of implementation and provide with adequate measures for the informed participation of all the interested parties.
On the other hand, the environmental and social policy of the Adaptation Fund contains 15 environmental and social principles related to the following environmental and social aspects, whose detailed assessment is included in the section C. of this report.

1. Compliance with applicable, international and national norms
2. Access and equity
3. Marginal and vulnerable groups
4. Human rights
5. Gender equity and empowerment of women
6. Indigenous peoples
7. Fundamental labor rights
8. Involuntary resettlement
9. Protection of natural habitats
10. Conservation of biological diversity
11. Climate change
12. Pollution prevention and resource efficiency
13. Public health
14. Physical and cultural heritage
15. Conservation of lands and soils

The environmental and social policy of the Adaptation Fund requires that the projects be screened in order to verify the types of environmental and social risks that their implementation can generate and that, in accord with the screening, can be classified as Category A, B or C. In accord with the screening, the Ayninacuy Project was classified in Category B (insignificant environmental and social risks, not broadly disperse and easily mitigated.

According to the environmental and social policy of the Adaptation Fund, for the projects classified in Categories A and B, it is necessary to develop an environmental and social assessment, as well as an environmental and social management plan that identifies the measures necessary to avoid,

minimize or mitigate the environmental and social risks identified for the environmental and social assessment.

This environmental and social assessment report responds to the requirement for an environmental and social assessment for a project classified in Category B (in accord with the environmental and social policy of the AF), and its results ratify the same classification: B.

In accord with the environmental and social policy of the Adaptation Fund, for the projects classified in Categories A and B, it is necessary that the implementing agency's commitment in order to implement an environmental and social management plan be reflected in the project's monitoring and reporting plan, this assessment states as a mandatory requirement for the environmental and social management of the Ayninacuy Project, the development of the Environmental and Social Management Plan for the Project's implementation, consistent with the specific findings which the assessment describes in section C of this report.

A.3. CAF's Environmental and Social Assessment of the Ayninacuy Project and CAF's environmental and social safeguards

The CAF's environmental and social policy requires that the projects, in whose financing the CAF intervenes, comply with the CAF's environmental and social safeguards, and for the verification of that compliance the CAF has at its disposal an environmental and social assessment system. The first version of the Environmental and Social Assessment of the Ayninacuy Project verified in detail the compliance with the demands of the CAF's environmental and social assessment system, including the compliance of its corresponding Environmental and Social Safeguards. Annex I of this report contains a synthesis of the conclusions and results of the first version of the report, which includes a summary table of the declaration of compliance with safeguards, just as it was included in the first versión of the assessment.

> NOTE: in the assessment related to the CAF's safeguards, the Project received the same qualification foreseen in the preliminary assessment: **L.**

A.4. The current Environmental and Social assessment of the Ayninacuy Project

This current document corresponds to the second versión of the report on the environmental and social assessment of the Ayninacuy Project. Just as the first versión of the report emphasized their verification of compliance with the CAF's environmental and social safeguards, this second versión expands the screening of compliance with the provisions expressed in the environmental and social principles of the Adaptation Fund and of the assessment of potential environmental and social risks and impacts associated with the project's activities, in particular responding to the requirements expressed in the PER technical review document dated September 6th, 2016, result of the Adaptation Fund's meeting 28.

In coherence with the Environmental and Social Policy of the Adaptation Fund, in response to the current report, the Ayninacuy Project will elaborate an Environmental and Social Management Plan that includes adequate measures for avoiding, reducing or mitigating the potential risks identified in this report. Said Environmental and Social Management Plan will include provisions for follow-

up, monitoring and reporting associated with the measures of environmental and social management, for the entire duration of the project.

A.5. Assessment Methodology

For the development of this evaluation, it was sought to understand the interaction of the project activities with its environmental and social environment, in particular to verify the circumstances of risk and possible impact, in light of the environmental and social principles of the Adaptation Fund. For this, the following phases of activities were developed:
Documentary review:

- The project document was reviewed and analyzed, in particular its analysis of context and problems of climate change, its components, activities and its logical framework structure.
- The Environmental and Social Policy of the Adaptation Fund was reviewed. Also the applicability of each of its principles to the different activities and outputs of the project was verified.
- The previous version of the environmental and social assessment report of the project and the requirements of the FA with respect to environmental and social assessment and the Environmental and Social Management Plan contained in the document PER technical review dated September 6, 2016 (resulting from the 28th meeting of the Adaptation Fund) were reviewed.
- Secondary documentary sources were reviewed to complement the analysis.
- Interviews and interaction with various project stakeholders:
- In order to understand the logic design of the project and its response to the socio-environmental problem of climate change that it seeks to respond to, a process of interaction of two months (in two stages) with the project's design team was indispensable, both by electronic media, office and field tour.
- The participation in the project consultation activities allowed direct contact with a wide range of members of the peasant communities targeted by the project. This interaction was important for the assessment of some of the social risks and impacts of some project activities.
- The interviews with mayors and the interaction with them helped to analyze the demands and challenges of the social and cultural component of the project, and to the valued how important for these actors are the opportunities offered by the project.

Field trips of social interaction scenarios of the project:

- A strategy was developed with Copasa to optimize the tour required for environmental and social evaluation and for consultation activities. A sampling of one district for each of the five provinces was agreed (for the first report of the environmental and social assessment one group contact and one trip have already been developed for a first district of a province) and a meeting with members of the respective communities in each of those districts. The tour allowed a sampling of five of the 18 districts, which, in the five provinces, are part of the project's target area.

- The routes allowed to observe the way in which productive units are inserted in the natural environment, how they are conformed and the conditions in which the productive activity is developed. They also helped to understand the relationships with the natural environment, in particular with natural grasslands, bofedales and water sources.
- The planned route allowed also to observe a part of the Salinas and Aguada Blanca National Reserve that intersects with the project's target area, and to verify the various productive activities that are carried out there, under the existing legal framework, including mining activity, alpaca breeding and related activities such as the tannery of camelid hides.

The party responsible for this assessment report carried out two tours in the project's target areas. In the first, he accompanied the tour and the assessment and consultation activities that were provided in the first report of the environmental and social assessment of the Ayninacuy Project, during the 16th and 17th of May, 2016. In the second one, as the party responsible for the assessment and also accompanying the project's assessment activities, between the 12th and 16th of December, 2016. The two tours were different. The first of them included the rural and urban areas of the Sibayo, Tuti and Callalli districts (in the province of Caylloma). The second tour traversed part of the Salinas and Aguada Blanca National Reserve, and the rural and urban areas of the municipalities of Andagua (province of Castilla), Puika (province of La Union), Andaray (province of Condesuyos) and San Juan de Tarucani (province of Arequipa).

The impacts and risk characterization and valuation used

To categorize impacts (positive or negative), the emphasis was placed on its intensity, together with considerations of the related recovery capacity of the environment, the interrelationship with other effects, their reversibility, the term in which they manifest, and comments were added about their cause effect relation (direct, indirect), their persistence (temporary, permanent) and the magnitude of its extension (punctual, medium, low). The following scale was used

Category	Associated Impacts
Category I	High impact (**H**)
Category II	Moderated impact (**M**)
Category III	Low / Null (**L**) impact

To assess risks associated with impacts, qualitative considerations were made regarding the severity, the hazard involved, the extent, the vulnerability of the environment, the probability of occurrence. The magnitude of the risk was characterized as follows:

Category	Associated Risks
Category I	Significative Risk (S)
Category II	Moderated Risk (M)

Category III	Light Risk (L)

The Assessment team

To implement the current evaluation the following professionals made part of the Evaluation Team: Arturo Rivera as member of the Copasa's project design group and leader of the project area tour; María Carolina Torres as CAF´s Project Executive and link between Copasa, CAF and the Social Environmental and Climate Change Consultant, Oscar Villalobos, responsible for this exercise of Environmental and Social Assesment and its report; Marcos Mejia as CAF´s assessment report reviewer. Copasa´s administrative team supported the Assessment and consultation activities.

Identification of the applicable environmental and social principles of the Adaptation Fund

In the table that follows, the principles that, after the analysis were applicable, are shown. Section C of this report details the analysis.

Adaptation Fund **environmental and social principles**	P 1: Compliance with the Law	P 2: Access and Equity	P 5: Gender Equity and Women's	P 6: Core Labour Rights	P 9: Protection of Natural Habitats	P 10: Conservation of Biological	P 11: Climate Change	P 12: Pollution and Prevent.	P 14: Physical and Cultural Heritage	P 15: Lands and Soil Conservation.
Component 1. Implementation of measures aimed at reinforcing the means of subsistence and sources of income in the vulnerable communities in the areas selected and the implementation of complementary measures.			**x**	**x**						
ANIMAL NOURISHMENT AND PROTECTION AXIS										
Products 1.1: specific strategies for livelihood strengthen in relation to the impacts of climate change.										
Products 1.1.1: shelters built for animal protection (in particular alpaca mothers and offspring)	x	x						x		
Products 1.1.2: Protective fencing, with livestock netting, installed.	x	x				x		x		
Products 1.1.3: Seeding and cultivation of high altitude forage cereals.		x				x				
Products 1.1.4: Seeding and cultivation of improved pastures.		x				x				
Productos 1.1.5: Installation of clover in highland wetlands to improve forage		x					x			
Products 1.1.6: Animal health campaigns in selected rural communities		x								

WATER MANAGEMENT AXIS										
Products 1.2.1: Modules of pressurized irrigation installed in selected communities.		x						x		
Product 1.2.2: Improved vulnerable natural assets in response to climate change impacts, including variability.	x	x						x		
Products 1.2.3: Construction and improvement of canals in order to optimize the management of water resources in wetlands.	x	x						x		
Products 1.2.4: Construction of reservoirs for storage of rainfall and of runs or natural sources.	x	x						x	x	x
Products 1.2.5: Construction of rustic reservoirs (ponds) for rainfall storage and runs or natural sources.	x	x						x	x	x
ATTENTION TO HUMAN HEALTH AXIS										
Productos 1.3.1: Water purification systems installed in the most vulnerable communities, in order to reduce the incidence of diarrheal diseases	x							x		
Products 1.3.2: Improvement campaigns for "healthy rural homes": heating via solar walls; rural electrification (autonomous photovoltaic systems), composting latrines and improved stoves		x						x		
COMPONENT 2: Implementation of measures aimed at strengthening institutional capacities and those of the community in order to reduce risks of losses occasioned due to climate change.			x							
AXIS GOVERNANCE										
Products 2.1.1: Agreements and coordination with local and community authorities for the design and		x								

implementation of monitoring and evaluation plans (included follow-up once project activities finished and final evaluation).										
Products 2.1.2: Commitments for beneficiary selection with the participation of various social actors: local authorities, community authorities, representatives of community organizations		x								
Products 2.1.3: Implementation of training modules in teamwork and leadership, in field days										
Activities 2.1.3: Ritual spiritual blessing activities - and project start										
Climate Change Risk Management Axis										
Productos 2.2: Awareness activities about adaptation and risk reduction with group participation of the target population: **see specific products below.**										
Products 2.2.1: Disaster drills staging, at provincial level.										
Products 2.2.2: Implementation of teaching modules for early warning EWS in rural communities										
Products 2.2.3: Accompaniment to educational institutions, in elaboration of its prevention and disaster attention plans, as climate change adaptation measures.										
Products 2.2.4: Advisories for the formation and strengthening of district and community level civil defense platforms (reconnoitering, startup).	x	x								
Knowledge Management Axis										
Products 2.3.: Target population groups participants in awareness activities and climate risk management and										

adaptive techniques training: **see specific products below**.										
Products 2.3.1: Preparation of agreements, programs, projects that lend continuity to project activities and achievements, that incorporate the project's lessons learned, its results and recommendations from the project's monitoring and evaluation reports.		x								
Products 2.3.2: Publication of lessons learned on COPASA's website and of the organizations that include a similar dissemination on their corresponding websites										
Products 2.3.3: Elaboration of technical guides about:										
Products 2.3.4: Training sessions		x							x	

B. DESCRIPTION OF THE PROJECT AND ITS CONTEXT

B.1. The Project's area and context

The Project is an initiative of the Regional Government of Arequipa, in Peru. The project's target area correspond to the rural areas of 18 districts located in the Andean highlands of 5 provinces (Arequipa, Castilla, Caylloma, Condesuyos and La Union), in the región or Department of Arequipa, Peru. In these areas, which correspond to the Puna grassland ecoregion, the principal economic activity is livestock raising, in particular alpaca raising, shared with that of sheep, goats, pigs and cattle.

Map: Center, in blue: the 5 provinces of Arequipa that make up the Project's general target area. Left: location of the Arequipa Region in Peru. Right: Location of the Salinas and Aguada Blanca National Reserve in the Arequipa Region.[47]

"It consists of elevated zones, between 3,800 and 4,500 MASL approximately, with a climate that varies from cold to very cold, a dry season and wet one, strong differences in temperature between day and night and significant exposure to wind and solar radiation. The topography is flat or undulated, with a scattering of gorges here and there. The natural vegetation is dominated by natural high elevation grasses … They are areas typical for extensive livestock raising. The lower areas sheep dominate as well as some cattle; in the high elevations (above 4,100 MASL), where the exceptionally hard grasses limit the raising of sheep, camelids dominate (llamas and alpacas). Below 4,000 MASL, which is approximately the limit for agriculture, there is some farming activity based on plants resistant to the cold … Agriculture is, however, very secondary."48

[47] Sources: http://www.mapade.org/arequipa.html; https://es.wikipedia.org/wiki/Anexo:Distritos_del_departamento_de_Arequipa;

http://www.saberia.com/mapas-del-mundo/peru/mapa-politico/

[48] Farm economy of the Peruvian Sierra. José María Caballero. Instituto de Estudios Peruanos. IEP Ediciones, Lima. Digital version available at http://archivo.iep.pe/textos/DDT/economiaagrariasierra.pdf. Consulted in November 2016.

Although the activity of alpaca raising, together with other livestock activities in Peru, has a low participation in the national GDP, the way of life it represents is of high importance for the sector of the population dedicated to it. In addition, the rural communities dedicated to this activity are characterized by high levels of poverty:
"If indeed the livestock sector shows a participation in the GDP less significant than other sectors, its activity turns out to be vital for an important sector of the population… Andean highland livestock raising, … represents 12% of the GDP derived from livestock raising. Toward the end of 2010 there were in Peru 6,609 recognized rural communities, characterized by their high levels of poverty and dedicated principally to free range livestock. These rural families constitute approximately 69% of the rural families and 30 % of the total number of families in the country (Flores et al., 2007)."49

The ecosystems that sustain Andean highland livestock raising possess high climatic vulnerability:
"The majority of cattle, sheep, and camelids in Peru are found between 2,200 and 4,500 meters above sea level (masl), and they are in the hands of rural communities, which employ the pastures as a basic resource for feeding their animals. The Puna grasslands ecoregion, where the majority of free range livestock is carried out, encompasses an area of more than 21 million hectares, of pastures, highland wetlands (humedales), glaciers, bodies of water and protected areas, and it is a key ecosystem for the national economy, for the environmental products and services that it offers to society (Brown and MacLeod, 2011). Duse to the fragility of the ecosystems that this area shelters and to the high levels of poverty it exhibits, has been considered to be an area with high vulnerability to the impacts of climate change (Vidal and Muñoz; 2010, Flores et al., 2012)."50

Andean highland livestock raising (of camelids and sheep) "unfolds principally under extensive systems, of high dependence in the face of climate conditions for the generation of fodder that feeds them and for the health of the animales."51

The "Ayninacuy" Project has as its goal the reduction of vulnerability and to increase the adaptation capacity in order to respond to the impacts of climate change in the rural communities of the Andean highland areas of the following districts: in the province of Arequipa, the districts of San Juan de Tarucani, Chiguata, Pocsi, Quequeña and Polobaya; in the province of Caylloma, the districts of San Antonio de Chuca, Sibayo, Tuti and Callalli; in the province of Castilla, the districts of Chachas, Andagua, and Orcopampa; in the province of Condesuyos, the districts of Chuquibamba, Andaray and Yanaquihua; in the province of La Union, the districts of Pampamarca, Huaynacotas and Puika. In view of the fact that these communities depend almost exclusively on the production of alpaca fiber, the Project seeks to reduce their exposure to the threats of climate risk, through the strengthening of their livelihood through the development of adaptation processes and reduction of climate change risks which grant resilience to this way of life and through the strengthening of

[49] The economy of climate change in Peru. Inter-American Development Bank, Economic Commission for Latin America and the Caribbean. 2014. (Monograph from the BID; 222, NDB-MG-of reference to CEPAL, United Nations: LC/W.640). Pg 83. Available at: http://repositorio.cepal.org/bitstream/handle/11362/37419/1/S1420992_es.pdf. Consulted as this source in November 2016.
[50] Op cit. Pg 83.
[51] Op cit. Pg 83.

capacities of the communities for reducing the risks associated with the economic losses resulting from the effects of climate change.

The Project's specific activities include:

- Specific livelihood strategies strengthened in relation to climate change impacts:
- Outputs 1.1: 270 shelters built for animal protection; 36 Animal Health Campaigns; 72 protective fences installed, 900 has of high altitude cereals; 72 has of improved highland wetlands with clover; 72 has of improved pastures.
- Outputs 1.2: 72 pressurized irrigation modules installed; 36 highland wetlands (vulnerable natural assets) strengthened; 10,000 m of improved/built rural canals; 36 micro-dams built; 36 rustic reservoirs built.
- Outputs 1.3.1: Five (5) Water purification systems in the most vulnerable communities.
- Outputs 1.3.1: Campaigns for the improvement of human living conditions in 72 rural residences (72 improved homes by: 72 composting latrines built, 72 of improved stoves built, 72 photovoltaic panels installed and 72 of solar walls built).
- Strengthening and development of community and institutional capacities for reducing risks associated with economic losses due to the weather:
- Outputs 2.1: 22 Agreements with local and community authorities for the implementation of Evaluation and Monitoring Plans; 36 commitments of beneficiaries' selection; 2 training modules in teamwork and leadership;
- Outputs 2.2: Awareness-raising activities about adaptation and risk reduction: 9 drills; Implementation of de 36 EWS modules; 5 Disaster prevention plans in educational institutions; Formation of civil defense platforms (18 District level and 36 community);
- Outputs 2.2:
- Targeted population groups (28.78% of participating vulnerable communities) in awareness-raising activities and training in climatic risk management and adaptive techniques:
- 18 agreements, programs, projects that will give continuity to the activities and project achievements and for the publication of lessons learned;
- Preparation of technical guides (13 topics, 43,000 copies) 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 household housing improvement.
- Capacity building complementary activities: 1. 72 Adaptive techniques workshops; various risk management strategies at the the institutional, community and district level.

B.2. The Salinas and Aguada Blanca National Reserve and the Project's area

The Salinas and Aguada Blanca National Reserve intersects part of the areas of the districts San Juan de Tarucani (province of Arequipa) and San Antonio de Chuca (province of Caylloma). Not the entire area of these two districts is located in the area of the mentioned Reserve. On the other hand, project activities do not cover all areas of each selected district, such activities will have punctual locations that will be defined in the development of the project. In this way, the activities that can be specified in the context of the project, for communities located in these two districts, may coincide with the area of the Reserve or can be located outside it.

The following map gives an approximate location of the Reserve in relation to the two mentioned districts: San Juan de Tarucani (province of Arequipa) and San Antonio de Chuca (the map corresponds to the province of Arequipa and includes the district of San Antonio de Chuca, which is part of the province of Caylloma).

Location map of the Salinas and Aguada Blanca National Reserve[52]

C. ASSESSMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS ACCORDING TO THE ENVIRONMENTAL AND SOCIAL PRINCIPLES OF THE ADAPTATION FUND

C.1. Applicable national and international regulatory compliance

Below, the main regulations applicable to the project components are listed and evaluated, considering the impacts and risks identified in the evaluation.

[52] Image adapted from a map located in http://www.perutouristguide.com/english/04ar/english_04ar_mapa_arequipa.html. Consulted in December 2016.

C.1.1. Convention related to Wetlands of International Importance especially as Waterfowl Habitats. Ramsar, February 2, 1971. Ratified by Legislative Resolution N° 25353 of November 23, 1991. It came into effect on June 30, 1992.

i. In Article 4, the convention establishes: "Each contracting party will encourage the conservation of wetlands and waterfowl creating natural reserves in them, be they or not included in the List, and will take adequate measures for their stewardship."[53]
ii. In Article 3, the convention establishes: "The contracting parties must elaborate and apply their planning in such as way that the conservation of the wetlands included in the List is favored and, to the extent possible, the rational use of wetlands in their territory."
iii. The creation of the Salinas and Aguada Blanca National Reserve (see section C.9.1 of this document) responds on the one hand to the commitment of creating the natural reserves defined in the aforementioned article 4 and to the commitment of taking measures for their stewardship, established in the aforementioned article 3. The National Service for Protected Areas by the State promotes a sustainable coexistence of productive practices and the conservation of ecosystem services of the reserve, a function which also responds to the commitment of favoring the rational use of the wetlands (in the case of the Project, of the *bofedales*).
iv. This assessment concludes that even thought a sustainable coexistence of productive practices and the conservation of ecosystem services of mentioned reserve are regulatory allowed, in case the project implements any activities within the reserve spaces, as described inn Section C.1.8 of this Environmental and Social Assessment, offer a Light risk of low negative potential impacts that may affect the natural environment of the Natural Reserve of Salinas and Aguada Blanca, and also a low risk of low and punctual negative impacts on the soil of the reserve due to the generation of solid waste in small volumes.
v. As stated also in section C.1.8 of this Environmental and Social Assessment, if the mentioned activities become planned, the Environmental and Social Management Plan of the Project should consider measures to control risks related to the impacts described, to minimize such impacts and to adequately manage solid wastes that may be generated in areas of the Reserve in the mentioned activities.
vi. In addition, as stated also in section C.1.8 of this Environmental and Social Assessment, the Environmental and Social Management Plan of the Project should consider measures to report to the National Service of Protected Areas (Sernanp) in a timely manner and prior to the implementation of such activities and to incorporate to the same Management Plan the obligations that Sernanp may impose accordingly.
vii. Considering the project will implement activities regarding the improvement of the bofedales, this assessment concludes such activities offer a low risk of low negative potential impacts that may affect the selected bofedales. Accordingly, the Environmental and Social Management Plan of the Project should consider measures to prevent and minimize the mentioned risks.

[53]See http://legislacionanp.org.pe/convencion-relativa-a-los-humedales-de-importancia-internacional-como-habitat-de-aves-acuaticas/. Consulted in December 2016.

C.1.2. Convention on Biological Diversity adopted in Rio de Janeiro, June 1992. Approved through LEGISLATIVE RESOLUTION Nº 26181, in May 1993.

i. In Article 3, the convention establishes the following principle: "In conformity with Charter of the United Nations and with the principles of international rights, States have the sovereign right to exploit their own resources in application of their own environmental policy and the obligation of ensuring that the activities carried out within their jurisdiction or under their control do not damage the environment of other States or areas situated outside of all national jurisdiction."

ii. The principle described in the previous paragraph endorses the sovereignty that shelters the described circumstances: 1. In the section C.9 of this document, referring to the coexistence of the productive practices related to raising alpacas and 2. In section C.10 of this document, to the promotion of the use of cultivated grasses in the Andean highland areas where camelids are raised.

iii. In Article 8, the convention establishes: "Each contracting party, to the extent possible and as can proceed:
   a. Will establish a system of protected areas or areas where special measures may have to be taken in order to conserve biological diversity;
   b. When necessary, it will elaborate guidelines for the selection, the establishment and the ordering of the protected areas or areas where special measures may have to be taken in order to conserve biological diversity;

iv. The creation of the Salinas and Aguada Blanca National Reserve (see section C.9.1 of this document) responds to the commitment expressed in paragraph a. that was just described. In turn, one of the objectives of the aforementioned Reserve responds to the commitment expressed in the cited paragraph b: "… has as its objective to conserve the natural and scenic resources of the area, and in particular, to protect the habitats that offer optimal conditions for the development of populations of vicuña, taruca, common parihuana, Andean parihuana and the James parihuana, and to protect *queñual* forests." (see section C.9.1 of this document). Although the coincidence between specific areas of Project actitivies and the areas of the Reserve can only be verified with the development of the Project, in the case of coincidence, the activities of the Ayninacuy Project would be coherent with the sustainable management planned for the Reserve.

v. This assessment concludes that the Ayninacuy Project, in consideration of the mentioned Convention on Biological Diversity only offers the risks identified in the precedent section C.1.2., related to Ramsar Convention and regarding the eventual low affectation of a Protected Area. In consequence, measures for managing risks or impacts mentioned in the same section C.1.2 will be enough to managed risks associated with this regulation (Convention on Biological Diversity).

C.1.3. Law N° 26821. Organic Law for the Sustainable Use of Natural Resources.[54]

[54] Available at http://www.minam.gob.pe/wp-content/uploads/2013/10/compendio_01_-_marco_normativo_general_2.pdf. Consulted in December 2106.

i. In Title iii, of the natural resources of free access, this law establishes: "Article 17.- The inhabitants of the geographic area, especially the members of the rural and native communities, can be benefitted, freely and without exclusivity, of the natural resources of free access of the adjacent surroundings to their lands, in order to satisfy their needs of subsistence and ritual uses, as long as there are no exclusive or exclusionary rights of third parties or reserved to the State. The ancestral modalities of use of natural resources are recognized, as long as they do not contravene the norms covering protection of the environment.
The benefit without exclusivity can not be opposed to third parties, inscribed, nor vindicated. It ends when the State grants the natural resources a matter of benefit. The environment to which the preceding paragraph refers encompasses those natural resources which may be found in the soil, subsoil, and the other ones necessary for subsistence or ritual uses."

ii. Additionally, in article 18 (Subtitle Resources in lands of the rural and native communities, duly titled), the same law says: "The rural and native communities have preference in the sustainable use of the natural resources of their lands, duly titled, except the express reserve of the State or exclusive or exclusionary rights of third parties."

iii. The former fragments of Law N° 26821 habilitate legally the rural and native communities for "the sustainable use of the natural resources of their lands, duly titled" and in order to "gain benefit, freely and without exclusivity, of the freely accessible natural in the surroundings adjacent to their lands, in order to satisfy their needs for subsistence and ritual uses." The Andean highland communities of the Project's target area exercise their alpaca raising way of life in general on the lands that the State previously granted to the rural communities, and eventually in the areas surrounding these lands. In the areas that the law habilitates them for their sustainable use and in order to satisfy their needs for subsistence are found natural pastures, *bofedales*, bodies of water. The Project activities are oriented at strengthening their way of life in order to make it more sustainable. The rural communities are direct beneficiaries of the activities related the strengthening of the productive activity. As such, the execution of the Project's activities that are going to be done in the lands belonging to the communities is coherent with the provisions of this law.

iv. Sustainable use of the natural resources requires responsible behavior of the beneficiary. Consequently, the sustainable use of the natural resources of lands owned by peasant communities offers the risk of non-responsible uses. The project will focus on the use made by the target communities of these resources. The risk of unsustainable spot use is assessed as light, with moderate negative environmental impacts associated. The Environmental and Social Management Plan of the project must include measures to control this risk within the framework of the project activities and to promote the responsible use of the natural resources available to the project peasant communities.

C.1.4. <u>Law Nº 24656 – General Law of Rural Communities</u>

i. In Article 37, this law establishes: "The Public Sector will foster the development of livestock within the Rural Communities, through the introduction of new technologies in

the management of pastures, new varieties of grasses and the improvement of South American camelid cattle, sheep and other livestock."

ii. The Ayninacuy Project, through COPASA, is an initiative of one of the entities of the public sector. Therefore, the Project activities aligned with the "introduction of new technologies in the management of pastures, new varieties of grasses and the improvement of South American camelid livestock" are in coherence with this law.

iii. This assessment concludes that the Project's Environmental and Social Management Plan does not require including measures for managing risks or impacts associated with this regulation.

C.1.5. Executive Order Nº 019-2009-Minambiente, Regulations for Law Nº 27446, Law for the National System of Environmental Impact Evaluation[55]

i. Due to its nature, the Ayninacuy Project is not included in the list of the type of projects (Annex II of the Executive Order) that require some of the levels foreseen by this Executive Order (Declaration de Environmental Impact, Semi-detailed Environmental Impact Study, or Detailed Environmental Impact Study) and that are the purview of the Ministry of Agriculture.

ii. Given that the Project involves livestock activities, the applicability of the requirements of Executive Order N° 013-2013 of the Ministry of Agriculture have been taken into account. This E.O. requires the presentation of an Environmental Management Report (EMR) at the beginning of the project, for projects in Agriculture that can have environmental impacts and that are not included in the categories of projects that require the presentation of an Environmental Impact Study and that must follow the corresponding procedures. In accord with the conclusions of the first report of this Environmental and Social Assessment, this requirement was consider applicable to the Ayninacuy Project.

iii. To respond a moderate risk of regulatory noncompliance, this assessment proposes that the Project's Environmental and Social Management Plan establish opportune measures to verify, once the project has started, the applicability of the presentation of the Report on Environmental Management (REM) to the Ministry of Agriculture, to present the report (in case it is mandatory), and to implement in the project Environmental and Social Management Plan of the project the obligations that could result.

C.1.6. Executive Order Nº 057-2004-PCM, Regulations for Law Nº 27314, General Law of Solid Waste[56]

[55] Available at http://www.minam.gob.pe/wp-content/uploads/2013/09/ds-019-2009-minam-a.pdf. Consulted in December 2016.

[56] Available at http://www.minsa.gob.pe/dgsp/observatorio/documentos/infecciones/DS057_2004_reglam_Residuos%20S%C3%B3lidos.pdf. Consulted in December 2016.

i. The Order regulates Law N° 27314, General Law of Solid Waste, in order to ensure that the management and handling of solid waste be appropriate for preventing sanitary risks, protecting and promoting the environmental quality, the health and well-being of the human being.
ii. This assessment proposes that the Project's Environmental and Social Management Plan establish the adequate measure(s) in order to link responsibly the management of solid waste that the project activities produce with the local solid waste management systems, in order to avoid the light risk of low impacts on the soil resulting of the lack of integration of these emissions of low volume waste.

C.1.7. Executive Order Nº 003-2014-MC, On the Certificate of the Inexistence of Archeological Remains (CIRA)

i. This order establishes the regulations for archeological regulations and in its article 54 specificies what is the aforementioned CIRA. COPASA, the proposing and executing institution of the Ayninacuy Project, consulted at the end of November 2016 with Decentralized Directorate of Culture of Arequipa (local entity of the Ministry of Culture responsible for processing the CIRA), about the applicability the requirement of the CIRA request for the Project activities.
ii. With respect to the aforementioned consultation, the Decentralized Directorate of Culture of Arequipa responded to COPASA through communiqué 19982016-DDC/ARE/MC dated December 13, 2016[57]. The response indicates that the CIRA document is only processed at the start of a work that entails earth moving. Additionally the communication enumerates the requirements for the request processing, in accordance with Executive Order Nº 003-2014-MC.
iii. To control a light risk of noncompliance, this assessment proposes that the Project's Environmental and Social Management Plan establish measures adequate for managing the CIRA document, in the cases in which the Project activities require it, after the precise location is defined, in accord with the other pertinent Project procedures.

C.1.8. Natural Protected Areas Act No. 26834[58]

i. According to Article 5, the exercise of ownership and other real rights acquired prior to the establishment of a Protected Natural Area should be made in harmony with the objectives and purposes for which they were created. Consequently, the rights to use eco-systemic services for the benefit of the alpaca breeding activities must be carried out in harmony with the protection of the ecosystem whenever such activities are done within the space of a Protected Natural Area.

[57] This document is included as an Annex of this assessment.
[58] Available at http://biblioteca.unmsm.edu.pe/Redlieds/Recursos/archivos/Legislacion/Peru/ley26834.pdf. Consulted in December 2016.

ii. Project activities that cause earthmoving (building sheds and the implementation of water reservoirs and to a lesser degree the improvement of canals), offer a low risk of low negative potential impacts that may affect the natural environment of the Natural Reserve of Salinas and Aguada Blanca, in the event that such activities are carried out in the areas of the San Juan de Tarucani Districts (Province of Arequipa) or San Antonio de Chuca (Caylloma Province) intersecting with the Reserve.

iii. Project activities that are located in the manner described in the previous paragraph also offer a light risk of low and punctual negative impacts on the soil of the reserve due to the generation of solid waste in small volumes.

iv. In consideration of the previous paragraph ii, the Environmental and Social Management Plan of the Project should consider measures to control risks related to the impacts described, to minimize such impacts and to adequately manage solid wastes that may be generated in areas of the Reserve in the mentioned activities.

v. In addition, in the case where, in the project development, the location of any project activities is determined in the manner described in paragraph i. above, the Environmental and Social Management Plan of the Project should consider measures to report to the National Service of Protected Areas (Sernanp) in a timely manner and prior to the implementation of such activities and to incorporate to the same Management Plan the obligations that Sernanp may impose accordingly.

C.2. Access and Equality

C.2.1. <u>On access to the benefits of the project</u>

i. The Project proposes specific mechanisms for facilitating Access to the various benefits it promotes:
   - <u>How outputs 1.1, 1.2 and 1.3.2 will be achieved</u> (Project proposal document, V24): Under CAF supervision, once the direct beneficiaries are selected, in accord with previously established agreements in each district, with the collaboration of the local authorities and the participation of the community members, agreements will be established in order to distribute responsibilities and to resolve logistical aspects of the execution of activities.
   - With regard to community systems for water purification that the Project will deliver (output 1.3.1), the Project clarifies that resources will be assigned to 5 districts in which the community has recourse to water sources for human consumption with quality levels that are not adequate for that use. The project expresses in its proposal that the assignation will be a criterion of the project's responsible party, in accord with the preliminary assessment. This assignation criterion of this particular benefit was informed in the consultation meetings.
   - Relating to **outputs 2.1. (**Activities to raise awareness and to develop capacities regarding local processes for management and self-management of adaptation and climate risk reduction), the project proposes: With the collaboration of local

authorities and community leaders, COPASA will coordinate the activities of convocation, will lead and coordinate their execution.

- In particular, as outputs 2.1.2, the project proposes 36 commitments for the selection of beneficiaries with the participation of various actors.
- With respect to **outputs 2.2. (**Activities to raise awareness and develop capacities regarding local, community and institutional processes of adaptation and climate risk reduction), the project proposes: With the collaboration of local authorities and community leaders, COPASA will coordinate activities of convocation, will agree upon with the local authorities and corresponding actors an agenda for the development of each activity and will accompany and lead with a technically competent official the attainment of each product.

ii. And, relating to **outputs 2.3. (**Activities to raise awareness improve and transmit capacities for climate risk management and adaptive techniques), the project offers: With the collaboration of local authorities and community leaders, COPASA will coordinate activities of convocation, will agree upon with the local authorities and corresponding actors an agenda for the development of each activity and will accompany and lead with a technically competent official the attainment of each product.

C.2.2. <u>On the potential risks of negative impacts of the Project with regard to Access and equity</u>

The measures signalled by the section immediately above reflect the fact that since the Project planning stage control mechanisms have been foreseen in order to regulate access to the benefits of the Project and in order for there to be participation from local authorities and community leaders. On the other hand, in the consultations meetings this guideline established in the Project design was communicated, with the proviso that the local authorities as well as the community leaders will respond to the communities for the consistency of convocations, of agreements and of decisión-making.

Considering both the benefits that the Project offers, as well as the control mechanisms proposed by the Project, this assessment identifies the following social risks with regard to equity in access:

a. Moderate risk in the effectiveness of the convocations (in their contacts and motivation), in the following levels: i. COPASA toward the local authorities; ii. The local authorities (district mayors) toward the representatives and spokespeople of the communities, through other figures of the district administration (lieutenant governors, subprefects, commisaries, others) and through the community leaders. Given that the participation in the Project activities is voluntary, it is assumed that the levels of participation depend in an important manner on the effectiveness of these convocations.
b. Light risk in the consistency of the elaboration of the agreements: the agreements need to be practical and socially viable.
c. Light in the consistency of the follow-up on the agreements in decisión-making.

The previous risk scenarios are associated with moderately negative social impacts of medium or long duration of dissatisfaction, of producing distrust in processes similar to the Project, and of demotivation in the face of other initiatives; at the same time these potential negative impacts

involve the secondary moderately negative potential impact of obstructing the social sustainability of the initiatives that the Project proposes or of other similar ones.

In order to manage these aforementioned risks and to prevent and avoid the corresponding described impacts, the Project's Environmental and Social Management Plan requires designing adequates measures.

This assessment takes into consideration that the Project does not present risks of impediments to access to some type of services, lodging, work conditions or land rights. Additional risks related to access and equity were not identified. This assessment did not identify existing inequities related to marginal or vulnerable groups that could be exacerbated by the project.

C.3. Marginal and Vulnerable Groups

C.3.1. On social and economic marginalization in the rural alpaca raising communities in the Andean highlands

A study done by the United Nations for Industrial Development Organization (UNIDO), characterizes in this way the general social and economic marginalization of the Andean highland populations in Peru[59]:

For some 100,000 families, the raising of alpacas constitutes the principal economic activity, being for the majority of them the only one. With this, their economic situation is characterized by levels of poverty in which the real income, due to its magnitude and insecurity, places them in a situation of economic and social marginalization. This situation is worsened in the western area of the Andes in the country due its condition as dry grassland Puna (high provinces that include the Department of Arequipa). Family income of the Andean highland breeders varies between 490 and 900 dollars per year (information from 2010), income that comes from the sale or barter of their production (alpaca fiber, meat and/or *charqui* [dried, jerked meat]) and/or of the temporary sale of their labor in the valleys and urban centers. To this a disadvantageous situation is added in the commercialization chains of their products and the inputs they use.

On the other hand, the 2016 economic and social report of the Arequipa Region presents a relation of districts of poverty groups.[60] In accord with this classification, the Project includes within its target population 5 of the districts located among the 11 districts with most critical poverty indexes and poverty rates (San Juan de Tarucani, Chachas, San Antonio de Chuca, Pampamarca and Puika). In a following level of association, the Project includes within of its target population 11 of the districts located among the 35 districts with the most critical poverty indexes and rates.

[59] Status of the camelid textile sector's situation in Peru. Eliseo de los Ríos Perea, UNIDO, May 2010. Available at: http://infoalpacas.com.pe/wp-content/uploads/2016/09/Diagnostico-Nacional-Estado-de-Situaci%C3%B3n-del-Sector-Textil-Cam%C3%A9lidos-en-el-Per%C3%BA-2.pdf. Consulted in December 2016.

[60] Page 42. Report available at: http://www.bcrp.gob.pe/docs/Proyeccion-Institucional/Encuentros-Regionales/2016/arequipa/ies-arequipa-2016.pdf. Consulted in December 2016.

C.3.2. On the Project objectives and the selection of target communities

The general objective set forth for the Project is to strengthen the way of life of alpaca breeders in the chosen communities. On the other hand, the Project intends to implement an integral management model that can serve as a reference for local authorities, for community leaders and for producers. This assessment interprets that:

i. In the framework of the intent to implementa an integral management model for the problems arising from climate change that affect the threatened way of life of alpaca breeders, the Project seeks to attend to the Andean highland populations at the highest elevations, where the stress factors from climate change are the most significant.
ii. In order to focus on the alpaca breeders' way of life in the Andean highlands of the Arequipa Region, the Project is focused on the way of life characterized by high levels of social and economic marginalization.
iii. Although in the priority of the project's objectives, attending to alpaca breeders' communities with higher levels of poverty is not found, in the selection of the target population, the Project includes a significant component of the districts with the most critical poverty rates. In the perspective of implementing an integral management model in order to confront the problems of climate change that affect the threatened way of life, this assessment finds it reasonable to select among the target population communities showing heterogeneity, including the variable of poverty levels, given that this characteristic reinforces the holistic perspective.

C.3.3. On the potential, negative risks and impacts generated by the Project regarding the marginal and vulnerable groups

With regard to the project's general objective, strengthening the alpaca breeders' way of life in the communities selected and in consideration of the fact that the project's activities are focused on training in good practices and implementing them, in respect of the participation agreements established with the communities, under an agreement with the owners (this last element in the case of the implementation in the productive areas), this assessment identifies moderate positive potential impacts for the participating producers (participation is voluntary), recognized as a socially and economically marginalized group.

The alpaca raising communities, within the unit of community property, are organized territorially, by families, and in the framework of this territorial distribution are not identified in the analytical literatura of quality of life levels in the Arequipa Region[61], nor in the assessment tours, other social groups that in the context of the alpaca raising communities correspond to the more critical levels of marginalization and vulnerability, than those in these same communities. In this perspective, considering that the Project is directed at a set of socially and economically marginalized

[61] In the references cited above in section C.3 of this assessment or in the statistics from the INEI (National Institute of Statistics and Information of Peru), Available at: https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1261/Libro.pdf (verifiied in December 2016).

communities, the success of the project's activities, in their combination, projects a potential positive moderate impact (M) of medium and long duration on the sustainability of the alpaca raising way of life. In a corresponding manner, the light risk of the failure of some, or all activities to strengthen productive activity, would have a moderate negative potential impact of medium or long duration on the sustainability of the alpaca breeders' way of life, due to the distrust and negative image that can be arise from the innovations and technical solutions proposed by the Project. With regard to this risk, this assessment considers that the Assessment and Monitoring Plan included in the Project document is an adequate and sufficient management provision and, as a consequence, that the Project's Environmental and Social Management Plan does not need to include additional measures to handle it.

On the other hand, additional to the risk considerations expressed in the previous paragraph, these Project activities aimed at strengthening the alpaca raising way of life in the selected communities seleccionadas offer no risks or impacts for children, the elderly or people with disabilities or other notable health conditions, given that the Project activities related to the strengthening of the productive activity are limited to the habitual context of these activities, in which children, the elderly or persons with disabilities or other notable health conditions are not present.

The previous affirmations of no generation of negative risks or impacts for vulnerable groups, related to the activities specific to the productive activity, are extendable to the Project's activities corresponding to risk management (capacity development).

For these reasons, this assessment does not identify specific vulnerable groups, distinct from the very same alpaca raising communities, on which it is necessary to do follow-up, monitoring and assessment during the implementation of the Project, in order to verify warding off negative impacts. In accord with the considerations and findings of this assessment, the Project's Environmental and Social Management Plan does not need to include measures related to the management of risks or negative impacts related to marginal or vulnerable groups.

C.4. Human Rights

The Project's activities do not present the risk of affecting human rights, and as a consequence do not generate corresponding potential negative impacts:

i. The population is very uniform in culture, race, origin, economic position, and the activities are going to be coordinated with their own district and community leaders. No risks of discrimination are anticipated in this dimensión of human rights.
ii. No interaction scenarios within the Project are anticipated which may generate risk of restraints on personal liberty or security, neither of forced labor, on judicial action options, nor due to intervention in private or personal life, or on use of private property, nor freedom of thought or belief, nor on access to social security o on the unfettered development of personality, nor on work or leisure.

iii. The Project's design pays special attention to the freedom of participation, by guaranteeing free access to the activities offered, not by response to the risks identified in the freedom of participation.
iv. The Project's activities do not generate risks of restraints on freedom of movement.
v. The Project promotes training activities, not because risks have been identified in the right of access to education, but rather in response to an absence of opportune offerings which responds to the diverse pressures arising from climate change.

This assessment does not identify the need for the Environmental and Social Management Plan to design risk management actions for human rights.

C.5. Gender Equality and Women's Empowerment

C.5.1. Some statistical índices that demonstrate inequality for women in the target population

In the composition of the rural population in the provinces of the project's target districts, women have percentages slightly lower than men, between 38.9% (Province of La Union) and 47.8% (Province of Arequipa). In the Region's rural area, the 2007 census recorded a 6.7% illiteracy rate among women, with 1.6% among men[62], and a total regional value in 2016 of 5.9% among women with 1.7% among men[63]. The Arequipa Region occupies the 8th place in low rates of illiteracy among the country's 25 departments.

In accord with the study developed in 2015[64], the second highest index of gender violence in the country corresponds to the Department of Arequipa, with the singular feature that in the rural areas of the Sierra the most characteristic factors are presented, such as elevated indexes of populational dispersión, greater levels of poverty and elevated rates of illiteracy. The Sierra is the country's natural region where the highest levels of illiteracy are concentrated[65]. In the country there exists a Ministry of Women and Vulnerable Populations, whose origin goes back to 1996.

C.5.2. Transversal gender assessment of the Ayninacuy Project

During the conceptual development phase of the Ayninacuy Project proposal, a transversal gender analysis was done for the project[66]. The conclusions and recommendations of the analysis to manage the identified risks and its main results were the following:

i. Women tend to be entrusted with grazing (due to the migration of men in search of work), weaving, commercialization and homemaking.

[62] INEI, Regional Statistical Compendium-2011.
[63] Peru Gender Gaps 2015. INEI. Available at: https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1309/Libro.pdf. Consulted in December 2016.
[64] Map of violence against women. Universidad Católica de San Pablo, Arequipa. Available at: http://ucsp.edu.pe/investigacion/wp-content/uploads/2016/03/5.-Mapa-de-la-violencia-contra-la-mujer.pdf. Consulted in November 2016.
[65] https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1253/cap05/ind05.htm. Consulted in December 2016
[66] Done by a CAF professional, specialist in gender topics, in June 2016.

ii. Broadening the statistical information was recommended in order to expand the description of the role of women. In response, COPASA built a blended information database (INEI statistics and interviews in the sampling of the project's target districts). This information database is synthesized in the table that is presented in Annex H of this report. Among other aspects, the information proves the role of women's stable permanence in the household while the male moves in order to seek out other sources of income. This tendency corresponds to women's role as permanent shepherdess in the household economy.

iii. Reviewing the project's objectives was recommended with the goal of identifying opportunities to define objectives centered on women, in order to promote recognition of women. In response, the following elements were included in the matrix of the Project's logical framework:

- Prioritize women heads of households in the selection of beneficiaries for housing improvement.
- Reach a mínimum of 25% of female participation in the skills development activities in local self management and management processes for climate change risk.
- Include at least one woman in the setup of civil defense platforms at the community level.
- Include at least one woman in setup of civil defense platforms at the district level.
- Within the support booklets for training, include a booklet referring to the topic of personal and family development (at the request of women in the consultation activities).
- Reach a mínimum of 30% of female participation in the skills development activities for improvements in housing processes.

iv. In all the project's collective or group participation activities, establish criteria for women's participation: equality in the right to speak and vote on decisions, equality in ubication among the two genders, during meetings, (in the environmental assessment it was verified that a few communities retain the tradition of locating, in the meetings, in a differentiated way the two genders, with advantages for the men).

v. Encourage openly in all the convocations and meetings related to the Project women's participation in conditions of gender equality.

vi. Establish in the Environmental and Social Management Plan measures that guarantee the former provisions.

C.5.3. <u>On potential negative risks and impacts generated by the Project regarding gender equality</u>

This assessment considers there is a moderate risk of low women's participation, with a moderate potential impact (M), due to reduced access of women to the benefits of the project; at the same time, this impact entails the secondary moderate potential impact (M) of dissatisfaction, demotivation and distrust toward the Project and similar initiatives. These impacts would involve the loss of opportunity to set a precedent of recognition and empowerment of women that can contribute to transforming identified unequal relations.

The aforementioned risks are valued as moderate (the moderate potential negative impacts could be dissatisfaction, distrust in the processes similar to the project, demotivation in the face of other initiatives), although with important consequences in the social sustainability of the initiatives the Project proposes or other similar initiatives.

In order to manage the mentioned risks and to avoid their corresponding potential impacts, the Project's Environmental and Social Management Plan requires the design of measures to ensure preventing, avoiding and controlling them.

C.6. Indigenous Peoples

C.6.1. On the recognition of some Andean highland rural communities as a part of indigenous peoples

The identification or recognition as indigenous peoples of some of the Andean highland communities in Peru whose principal or sole livelihood is the raising of camelids has a singular complexity within the framework of Peruvian legislation:

i. The Peruvian State has a developed legal framework for the recognition, legalization and rights of its indigenous peoples.[67] The Peruvian State recognizes as **indigenous or original peoples** those who maintain and reproduce their own cultural institutions such as the use of ancestral languages (Quechua and Aymara in the Andes, Asháninka and Shipibo-Konibo in the Amazon, among others) and that develop ancestral cultural practices that are mixed with previous practices such as western dress, the use of Spanish and modern technology. Under the official logic of the Peruvian State, native communities and rural communities are differentiated. The Ministry of Culture maintains an updated list of communities that are recognized as part of the indigenous or original peoples those communities in which 40% or more of their population possesses as their first language an indigenous language (the list will also include other communities that can be identified as part of indigenous peoples independent of their first language).[68] In the Andean highlands of Peru, within communities recognized as part of the indigenous people, no native community has been recognized, while some of the Andean Highland communities have received the recognition of rural communities that make up part of the indigenous or original peoples.

   For this identification, as objective criteria for the identification of the indigenous peoples, the Peruvian State employs the following:[69]

   - Indigenous or original language, insofar as it constitutes one of the principal social and cultural institutions.

[67] For the recognition of territories, the Law of Native Communities and of Farming Development of the Jungle and Brow of the Jungle, approved by Law Decree 22175 (1978), and the General Law of Rural Communities (1987) -Both laws have been included in the Political Constitution of 1993-, with the legalization in this legal framework of the native communities and of the rural communities and the distinction, in the same framework, between native and rural communities. Additionally, since 1995, the rights of indigenous or original peoples are protected starting with the enforcement of Convention 169 of the ILO (it was ratified by the Congress of the Republic in 1994). See the official website of the Ministry of Culture of Peru: http://bdpi.cultura.gob.pe/introduccion. Consulted in December 2016.

[68] http://bdpi.cultura.gob.pe/busqueda-de-comunidades-campesinas.

[69] http://bdpi.cultura.gob.pe/identificacion-de-pueblos-indigenas.

- Communal lands recognized by state entities, insofar as it constitutes a factor in order to establish territorial connection.
- Additionally, for this identification, the Peruvian State leaves to the exclusive subjective criterion for identification of the native communities in the Amazon:
- "Ethnic self-identification … Amazon, insofar as it constitutes the recognition of the communities of belonging to a collectivity that has an indigenous or original identity."70

ii. In the legal framework rural communities are differentiated from native ones:

- "Rural communities are public interest organizations, with legal existence and juridical personhood, integrated by families that inhabit and control determined territories, linked by ancestral, social, economic and cultural ties, expressed in communal ownership of land, community work, mutual aid, democratic governance and the development of multi-sector activities, whose goals are oriented at the full realization of its members and country." Article 2. Law 24656.
- "Native communities have an origin in the tribal groups of the Jungle and the brow of the Jungle and are constituted by ensembles of linked families for the following principal elements: language or dialect, cultural and social characters, common holding and usufruct of a same territory, with a concentrated or dispersed settlement." Article 8º. Decree Law 22175.

iii. Starting from the described Peruvian legal framework of recognition of rural and indigenous communities belonging to indigenous or original peoples, the application of various of criteria proposed by the UN for the identification of indigenous peoples[71] results difficult for rural communities that have received this recognition:

- For example, self-identification, proposed as the principal criterion, does not turn out to have uniform application in the rural communities, given that the recognition as part of the indigenous peoples has arrived as a centralized decisión of state.
- Other example is the strong link with the territories and the surrounding natural resources. This is a clearly recognizable characteristics in the rural, alpaca raising communities, and only some of them have obtained the official recognition of being part of the indigenous or original peoples (official recognition, applied to Andean Highland rural communities, is based on percentage greater than 40% of the members speaking the ancestral first language;
- The possession of differentiatable political, social, and economic systems is not clearly applicable (an important part of differentiatable systems have lost effectiveness or are no longer distinguishable);
- the presence of differentiatable language, culture and beliefs is ambiguous since Quechua coexists partially with a general link with Catholic traditions;
- not constituting dominant groups of the society is a condition that can be extended to the majority of rural communities in Peru.

[70] Ibid.
[71] Who are indigenous peoples - Factsheet. Available at: http://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf. Consulted in December 2016.

C.6.2. Collective ownership of land in Andean highland communities in Peru

In Peru, with the agrarian reform enacted over a ten year period during the Governments of General Juan Velasco Alvarado (between August 1968 and December 1975) and General Francisco Morales Bermudez (from December 1975 to July 1980), a long period came to an end marked by traditional *haciendas* which organized the provincial society and the economy in a large part of the country. 15,826 farming operations and more than 9 million hectares were expropriated. In the areas formerly under the control of the *hacienda* system cooperatives were organized with the goal of maintaining economies of scale and the infrastructure (irrigation and others) and lands were adjudicated to other associations such as groups and rural communities and employee-owned companies.[72]

The aforementioned agrarian reform is the origin of the present collective ownership of the land in the rural communities in the Andean highlands dedicated to raising camelids. This transfer of land ownership was not carried as a recognition or restitution to indigenous populations, as proposed in in Article 26 of the UN Declaration on the rights of indigenous peoples, but rather as the transfer of lands to users, in which Andean highland communities were one of the collective beneficiaries of the policy of agrarian reform.[73]

C.6.3. The Andean highland rural communities in Peru recognized as part of the Indigenous or Original Peoples in the Project area

During the preparation of this report, the Region of Arequipa had registered 104 rural communities, located throughout the Region's 109 districts. Among them, the current list of rural communities recognized as part of the indigenous or original peoples added up to 56 recognized communities. The Project's defined target area includes 18 of the 72 districts of the Region. In those 18 districts there are 20 recognized communities, which correspond to an order of a third of the recognized communities in the region[74].

For reasons both of coordination with the established governmental authorities as well as due to requirements of logistics, the Project's target area is prioritized by districts, in consideration of the the predominance of the camelid or alpaca raising activities. The selection of the target area has not had the criterion of directing itself at recognized rural communities as a part of the indigenous peoples, given that this type of selection would elevate the costs of the Project, by elevating the logistics and coordination activities required in order to generate the same quantity of activities.

According to the agrarian census, 3 of each 4 rural communities speak Quechua. If indeed the census does not record bilingual competency (Quechua – Spanish), this ability is very common, and both in the development activities of the Environmental and Social Assessment as well as in those of consultation, this bilingual competency was verified and the express recognition of not needing an Quechua interpreter/translator for the comprehension of the information distributed for the Project team. In particular, the leaders (authorities in the district hierarchy or community

[72] Agrarian Reform and Rural Development in Peru. Fernando Eguren, Centro Peruano de Estudios Sociales, CEPES. Available at: http://www.ruralfinanceandinvestment.org/sites/default/files/1248203802936_01__eguren_peru.pdf. Consulted in December 2016.

[73] "States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned". Article 26, United Nations Declaration on the Rights of Indigenous Peoples

[74] http://bdpi.cultura.gob.pe/busqueda-de-comunidades-campesinas

representatives) manifested solid communicative competencies in Spanish; in these encounters, in general, the ability to read in Spanish was shown to be competent.

In the following 18 districts of the project's target area rural communities recognized as part of the indigenous or original peoples were registered: in the province of Arequipa, in the districts of San Juan de Tarucani (rural community Salinas Huito, San Juan de Tarucani and Toruni Tiullani Pati, 3 of 4 registered communities) and Chiguata (rural community Condori, 1 of 3 registered communities); in the province of Caylloma, in the district of Sibayo (rural community Llacto Sayaña, 1 of 1 registered community); in the province of Castilla, in the districts of Chachas (rural community Chachas, 1 of 1 registered communities); and Orcopampa (rural communities Orcopampa, Sarpane and Tintaymarca, 3 of 5 registered communities); in the province of Condesuyos, in the district of Andaray (rural community Arirahua, 1 of 1 registered communities); and in the province of La Union, in the districts of Pampamarca (rural communities Ccayahua, Huampo Secsincaylla, Huarhua and Mungui, 4 of 4 registered communities), Huaynacotas (rural communities Huaynacotas, Huayqui, Piramarca, and San José de Luicho, 4 of 5 registered communities); Puika (rural communities Chincayllapa and Pettce, 2 of 2 registered communities).

NOTE: the definition of rural communities that the Law 24656 provides (General Law of Rural Communities)[75] is adequate for the project's target communities, be they or not recognized as part of the indigenous or original peoples. The definition of native communities is not applicable to the project's target communities.

C.6.4. <u>On the risks and potential negative impacts generated by the Project with regard to the rights of indigenous peoples and the responsibilities related to them</u>

The differentiation that the Peruvian State establishes between rural and native communities are part of the indigenous or original people is very significant. The application of the UN Declaration on the Rights of Indigenous Peoples remains pertinent in all its extension for the native people, while for the rural communities its application and pertinence is not entirely generalizable. This report does not intend to take part in a complex discussion regarding this topic.

On the other hand, beyond the pertinence of the considerations of the UN Declaration on the Rights of Indigenous Peoples, and even if the decision to apply these considerations, the review of the project's activities in light of the aforementioned declaration permits concluding that regarding the Ayninacuy Project only one risk and its corresponding negative impact was only identified:

i. The project's emphasis is in the strengthening of the traditional way of life, developing adequate skills to meet the demands of the new climate change scenario, without interfering with property relationships, nor with the access to the environmental services in the surroundings. In consequence:
    - Does not present risks related to human rights (article 1), neither with the preservation of the culture, in light of the international standards of human rights (art. 34).

[75] "The rural communities are considered organizations of public interest, with an legal presence and juridical personhood, composed of families that inhabit and control determined territories, linked by ancestral, social, economic and cultural ties expressed through communal land ownership, communal work, mutual aid, democratic governance and the development of multi-sector activities whose goals are oriented at the full realization of their members and country."

- The relationship with the communities is established by the rural communities that exercise a threatened way of life, without discrimination as to their condition of being or not recognized as part of the indigenous or original peoples with which there is no risk due to discrimination based on recognition as indigenous, neither in the convocations, nor in the execution of the activities (article 2).
- Participation in the Project is voluntary and the decision regarding it belongs to each community. The benefits of the project, in delivering updated competencies in the face of a threatened way of life, provide skills for a greater capacity to decide freely on their own economic development (article 3).
- Rural communities will be linked to the Project from the representation of each community, and in a representative way various agreements related to decision-making on Project activities will be established. The internal decisions of each community in relation to the Project will conserve their autonomy (article 4).
- Among the Andean highland rural communities, the authorities and traditional institutions are practically unknown[76]. Representation and community authority is exercised through the institutional channels of the state (reported communities, municipal institutions). Article 5 is not pertinent.
- The project does not present risks with regard to nationality (article 6), or physical integrity (art. 7), nor in the face of forced cultural assimilation (art. 8). The right to belong to a community will be strengthened through Project activities, due to constant stimulation to the community representation (art. 9).
- The Project does not present no risk of displacement (art. 10), nor of interference with the relationships of land ownership (art. 26) and intends on validating their own cultural traditions (an initiation ritual for the Project will be promoted in accord with the local traditions of each province; arts. 11 and 12). There is no manner in which may interfere with the transference of traditional culture; given the presence of Quechua as the first language in some communities, even with the high level of Spanish-Quechua bilingualism, there exists a low risk that the Project activities, from the consultation, among some participants, a full understanding of the shared information by the Project is not achieved (art. 13. Although this article is directed at States, for the Project the corresponding risk is assumed). The risk entails a potential moderate social impact (M) of medium or long duration of dissatisfaction, perception of exclusion and demotivation, facing initiatives similar to those of the project..
- The Project does not present risk of interference with the communities' own educational systems (art. 14). If indeed the Project will reinforce the technical training, its development does not present a threat for these educational systems.
- Articles 15, 16, 27, 28, 30, 37, 38, 39, and 40 are not pertinent to the Project activities (arts. directed at States). The Project will generate exclusively 5 jobs among members of the communities; the contractual relationships will be regulated by the

[76] Technical analysis of the agrarian census results and valuing of data for future public policies, within the framework of the project … Sara López Chegne. National Agrarian Confederation 2014. Available at: http://cna.org.pe/ckfinder/userfiles/files/INFORME%20%20CENAGRO%20resumen.pdf. Consulted in December 2016.

CAF, whose corresponding procedures and controls present a high guarantee. No risk is anticipated in this aspect (art. 17). Articles 19 and 24 are not pertinent either to the project (neither state legislative or administrative measures intercede, nor is there a relationship with traditional medicines).

- The Project will provide support in participative decision-making, regarding the autonomy of the communities. The autonomous internal decision-making processes will be strengthened (art. 18). The Project is oriented at strengthening the basic way of life, from support for already established institutions at the core of these communities (art. 20). The Project will promote the improvement of the economic and social conditions (quality of housing, health; art. 21). The Project will promote the prioritization of women heads of households in the distribution of direct benefits (art. 22). The consultation and validation of the Project design bolsters the right to define priorities in the face of their own development; on the other hand, the planned training in order to participate actively in the definition of the participative budgets in addition to bolstering that same right, develops competencies regarding this (art. 23). Through the mechanisms of participation in the Project will strengthen the links of belonging (art. 33). In these 6 aspects the Project provides a positive impact.
- The Project does not present risks to nor interference in the spiritual relationships with the terrain and resources that the communities possess (art. 25). The Project intends on obtaining their recognition their initiation rituals for the project, with which a positive impact will be generated.
- The Project intends to have a positive impact on the environment through improvement in water management (whose use will be reflected in the internal environmental service of the ecosystem) and in the productivity of the lands used for the way of life (art. 29).
- The Project will not interfere with the communities' own knowledge management (art. 31), nor will it interfere with the determination of the responsibilities of the individuals within the communities; the establishment of agreements will be of a representative character (art. 35).
- Through technical training that the Project will share in order to strengthen of the resources available for the livelihood, the Project hopes to strengthen the capacity in order to define priorities for the sustainable development for their own land and resources (art.32).
- Art. 36 is not pertinent (the Project does not have any interference beyond national boundaries; recognition of the rural communities as part of the indigenous or original peoples is limited to Peru's national territory). Arts. 41 to 46 are not pertinent (general clarifications of the declaration).

In conclusion, the exhaustive review of the UN Declaration permits concluding that the Project will only generate a light risk of imprecision or understanding of the information presented to the communities in the development of the Project with a low social impact of limited access to the benefits of the project, and low social impact of medium or long duration of dissatisfaction, perception of exclusion and demotivation in the face of similar initiatives to those of the project. As

a result, the Project's Environmental and Social Management Plan (ESMP) will include an appropriate measure of control.
On the other hand, in various other aspects, considered in the declaration, the Project presents moderate social positive impacts. Thus, in addition to the control measure that was just required, the Project's Environmental and Social Management Plan does not require including other control measures related to Indigenous Peoples.

In the event that the verification to be carried out at the beginning of the project, regarding the applicability of the Environmental Management Report (EMR), entails the imposition of additional requirements to the project related to the peasant communities recognized as part of indigenous or native peoples, the Management Plan must contemplate measures to accommodate the requirements in the Environmental and Social Management of the Project.

C.6.5. On the Law of the Right to Prior Consultation of Indigenous and Original Peoples, recognized in Convention 169 of the International Labor Organization (ILO). Law 29785, regulated through Executive Order No 001-2012-MC

The law develops the content, principles and the procedure for the right to prior consultation of indigenous or original peoples with regard to legislative or administrative measures that affect them directly, interpreted in conformity with the obligations established in Convention 169 of the International Labor Organization (ILO), ratified by the Peruvian State through Legislative Resolution 26253. It deals with regulation for State actions, for which reason it is not pertinent for the project.

C.7. Fundamental Labor Rights

Project activities do not present the risk of affecting fundamental labor rights, and in consequence does not present potential negative impacts:

i. The Project is going to promote mutual action that forms a significant part of the cultural traditions of the region. This assessment:
   - Concludes that this Project guideline seeks to motivate and drive active participation of the community members in the solution of problems that pressure their livelihood.
   - Highlights the fact that the benefits of mutual action will fall on the very members of the community, distributed under participative agreements. On the other hand, the Project promotes mutual action because it offers the project's target communities an availability of shared resources that offer a highly significant advantage of reduced financing costs from various of the solutions to some of the climate change stress factors they are facing.
   - Does not identify risks related to fundamental labor rights in the promotion of mutual action, under the perspectives of the project.

ii. The contracting or remuneration that the Project is going to generate is/are minimal, and will be concentrated in the executing technical team of the project, which includes 5 local leaders in a role equivalent to training assistants.

- The control and follow-up of the project's contracting and remuneration relations will be under the responsibility of the CAF. This assessment evaluates that the procedures and accreditation of the CAF as the implementing entity are sufficiently trustworthy and that, starting with that trustworthiness their follow-up for the Project is not necessary inasmuch as the pertinent management is traceable in the CAF management systems, if the followup comes to be requested.

This assessment does not identify the need for the Project's Environmental and Social Management Plan to design risk or negative impact management actions for fundamental labor rights.

C.8. Involuntary Resettlement

None of the Project activities is related to property relationships or with changes in residence, or of the place of work or the exercise of a way of life. The project's actions will be carried out in areas subjected to a communal property regime, and the productive functions of some minimal areas in which the activities related to productive practices may be done could be modified, in function of the progress and agreements related to the improvement of the way of life: This does not entail any risk of resettlement, neither voluntary nor involuntary and in consequence does not present potential negative impacts.

This assessment does not identify the need for the Project's Environmental and Social Management Plan to design risk management actions for involuntary resettlement.

C.9. Protection of Natural Habitats

C.9.1. Salinas and Aguada Blanca Natural Reserve[77]

Created through Executive Order N° 070-79-AA of 1979, it is extends over 366,936 hectares, between 3,500 and 6,000 masl, in the Departments of Arequipa and Moquegua, in the provinces of Arequipa, Caylloma and General Sánchez. In accord with the National Service of Protected Areas of Peru (SERNANP),[78] has as its goal preserving natural and scenic resources in the area, and in particular, protect the hábitats that offer optimal conditions for the develop of vicuña, taruca, common parihuana, Andean parihuana and James parihuana, and protect queñual forests.

According to SERNANP: "This national reserve is extensively populated. The large part of its territory belongs to thirteen rural communities and in its interior there are more than one hundred private properties recognized by current legislation … This singular ecosystem provides a valuable and irreplaceable environmental service: the winds that come from the Punenian/Bolivian highlands cause rains, snowfall and hail, between October and April, that are retained by the breaks of yaretals, queñuals, hay fields, tola fields, storing them in the high elevation wetlands, lagoons and

[77] See map in section B.1 of this report.
[78] http://www.sernanp.gob.pe/de-salinas-y-aguada-blanca. Consulted in December 2016.

in the subsoil. From there it is released slowly during the year, with which the hydrological cycle is regulated, for the benefit of the communities."[79]

The Salinas and Aguada Blanca National Reserve is located in the District of San Juan de Tarucani - Arequipa, in the district of Yanahuara and the district of San Antonio de Chuca in the province of Caylloma, of which the first and third form part of the districts in which the project's activities will be implemented. As a consequence, the location of project activities in the rural areas of the Districts of San Juan de Tarucani (province of Arequipa) and of San Antonio de Chuca (province of Caylloma), can be or cannot be superimposed over the areas of these districts located in the National Reserve, as explained above in section B.1. (specific location of field project activities will be defined after the agreements for the destination of the direct benefits mentioned in section C.2.1 of this report will be established).

Sections C1.1. ND C.1.8 of this Environmental and Social Assessment, mentioned that, in case project activities become planned in the project area that matches with the Salinas and Aguada Blanca National Reserve, the Environmental and Social Management Plan of the Project should consider measures:

- to control risks related to the potential impacts there described,
- to minimize such impacts and
- to adequately manage solid wastes that may be generated in areas of the Reserve in the mentioned activities,
- to manage low and punctual negative impacts on the soil of the reserve due to the generation of solid waste in small volumes.
- to promote the responsible use of the natural resources available to the project peasant communities
- to report to the National Service of Protected Areas (Sernanp) in a timely manner and prior to the implementation of such activities and to incorporate to the same Management Plan the obligations that Sernanp may impose accordingly.

C.9.2. <u>On the Andean highland wetlands (*bofedales*)</u>

The Ministry of the Environment of Peru defines in this manner the *bofedales* [high elevation wetlands]: "The *bofedales* also called *oqonales*, are a community of plants that occupy poorly drained soils, permanently wet and of a green hue which contrasts with the other communities […] They fulfill an important role in the grazing of livestock."[80]

On the other hand, "… the *bofedales* are high elevation wetlands, considered also as prairies with permanent moisture. The flora found in the *bofedales* is known as hydrophytic vegetation, in such

[79] Ibid.

[80] Glossary of Terms for the Formulation of Environmental Projects. Ministry of the Environment, Peru. Available at: http://cdam.minam.gob.pe/novedades/glosarioterminosambientales.pdf. Consulted in December 2016. For a definition and description of *bofedales* as a feature of Andean highland topography, see also: http://mires-and-peat.net/media/map15/map_15_05.pdf. Consulted in December of 2016.

a way that: "The *bofedales* constitute the most important pasture ecosystems in the arid and semiarid zones of the Peruvian-Bolivian high plains, an area found above 3800 masl. They provide various environmental services such as that of regulating the water cycle and soil protection. They possess large carbon reserves and are highly productive, providing quantities of high quality fresh grasses for raising livestock, the principal activity in the area".[81]

Sections C1.1. of this Environmental and Social Assessment considered that improvement bofedales project activities offer a low risk of low negative potential impacts that may affect the selected bofedales and that, accordingly, the Environmental and Social Management Plan of the Project should consider measures to prevent and minimize the mentioned risks.

C.9.3. On the potential risks and negative impacts generated by the Project for the protection of natural habitats

The Project does not entail the unjustified conversion or degradation of critical hábitats in this National Reserve:

i. In comparison with the tradition of raising alpacas, the creation of reserve is relatively recent (1979) and its definition allows for, without prohibiting or transforming, both the existence of the camelid raising way of life as well as the property rights of the communities. SERNANP (the official protection agency, National Service of Protected Areas by the State) promotes a sustainable coexistence of the productive practices and the conservation of the ecosystem services in the reserve.
ii. Camelid raising is a free range livestock practice which for many generations has interacted with the natural surrounding in a very significant way, at the same time, has coexisted with the conservation of many ecosystem services that permit the preservation of the natural vegetal and animal species recognized today. The pressure on the ecosystems services of the Reserve and the competition for them exercised from the raising of camelids predates the Project and the Project can contribute to reducing some of these pressures (such as the overgrazing and the competition for forage with indigenous species like the vicuña) through the specific and controlled production of cultivated fodder. The project's integral management proposal can be qualified as a proposal of basic agroecology or of farming production with a systemic focus, for the Andean highland context in Peru, both in the area of the Salinas and Aguada Blanca National Reserve, as well as in the rest of the area of the grassland puna and of other Andean highland ecosystems in which the raising of camelids is done in the project's target area.
iii. In the aforementioned perspective, considering that the creation of the reserve is oriented at conserving the services of its ecosystems in coexistence with the pre-existing mode of production, the Project is not going to generate risks of inducing an unjustified conversion of the habitat of the Reserve, inasmuch as part of its natural habitats have been partially in productive areas from many generations (the Project is not oriented at introducing new

[81] Dynamics of *bofedales* in the Peruvian-Bolivian high plains. Zorogastúa-Cruz, R. Quiroz J. Garatuza –Paya. Lima, 2012: available at: http://www.itson.mx/publicaciones/rlrn/Documents/v8-n2-3-dinamica-de-los-bofedales-en-el-altiplano-peruano-boliviano.pdf. Consulted in December 2016.

productive units, but rather at strengthening the existing ones). The raising of alpacas in the area of the Salinas and Aguada Blanca Reserve, is not a productive activity that is introduced into a virgin zone, but rather is a productive activity accepted as preexisting in the definition of the reserve's objectives.

iv. The raising of alpacas in the Salinas and Aguada Blanca Reserve is validated within the environmental legal framework of Peru, even within the categorization as the Ramsar area of the Reserve. Although this circumstance can turn out to be singular in the habitual framework of the management of the Ramsar areas, it is a consequence of an initiative on the part of the Peruvian State to protect the ecosystem services of the protected area, in the manner in which their conservation continues to coexist with the productive practices of camelid raising in all its complexity. This complexity includes practices that could result questionable in other Ramsar contexts (baths in veterinary products, limited, low impact use of non-indigenous grasses and forage, construction of housing for producers and animal shelters, construction and use of stone and wire mesh fences, combination with raising sheep and cattle) but which are pre-existing to the regulatory creation of the Reserve and are not excluded in its declaration.

v. Considering the previously described context, this assessment does not identify, for the project's activities (that include la divulgation of best practices for the activities related to the way of life), risks associated with the way of life that mean the unjustified conversion or degradation of critical habitats. This qualification of no risks is justified by the fact that: i. the conversion and partial degradation of the natural environmental conditions of the reserve happened decades and probably centuries ago, while the declaration of the reserve seeks to preserve the balance already established between the ecosystem services and the productive activity and ii. various Project activities permit reducing the pressures that the way of life exercises on the natural surroundings (such as competition for natural sources of forage, for sources of water available over extended periods of time).

vi. On the other hand, the use of non-native species for crops, both for food as well as forage for the camelids, also forms part of the alpaca raising way of life in the Andean highland rural communities. If indeed the principal basis of feed for camelids are the natural pastures, the use of non-native forage crops is employed under the criterion of complementary feed and as support during periods of low productivity in the natural pastures.82 The Peruvian State itself promotes the use of non-native forage crops in the Andean highland areas, without differentiation of the producer's location. Thus, for example AGRO RURAL, Rural Farm Productive Development Program, which is a bureau of the Ministry of Agriculture, promotes the cultivation of forage oats, in Andean highland regions, not only as a complement for the use of the producer, but also for sale as a source of supplemental income.83

vii. Starting with these comments, the Project activities directed at strengthening the alpaca raising way of life do not generate a high nor a moderate negative environmental impact

82Manual of handling practices for alpacas and llamas. FAO. Available at: www.fao.org/docrep/014/w3341s/w3341s02.pdf. Consulted in December 2016.

83As a related example, a news ítem on the delivery of forage oats to producers (May 2015) can be consulted at: http://www.andina.com.pe/agencia/noticia-entregan-avena-forrajera-a-los-productores-alpaqueros-arequipa-558589.aspx. Consulted in December 2016.

to the regional productive scenario, in which the raising of alpacas has been developed. Although alpaca breeding productive activities (like all productive activity) offer short-term negative micro impacts, without excluding these specific aspects, it is concluded that the project does not offer negative environmental impacts resulting from an unwarranted conversion or significant additional degradation of the natural scenario prior to the project.

viii. If indeed all productive activity tends to offer limited negative micro-impacts, without getting into the analysis of these isolated aspects, and starting from the general consideration that the Project does not produce any unjustified conversion or additional degradation of the natural surroundings prior to the project, it is concluded that the Project does not present negative environmental impacts resulting from the unjustified or additional degradation of the natural surroundings.

With respect to the traditional use of natural grasses and of *bofedales* for grazing, to which the Project recurs:

- It can be observed in the definition of the term "*bofedal*", cited above in C.9.2, the recognition of the environmental service that the *bofedales* provide livestock grazing. In the context of this concept, the use of the *bofedales* for grazing that the Project recognizes and encourages does not introduce new risks related to the use of this ecosystem service and as a consequence does not generate negative environmental impacts to corresponding risks. The impact of overgrazing is pre-existing to the Project and is originated in the limitations of the areas available, and in the reduction in the productivity of soils generated by climate change pressures (cold snaps, droughts) both in the areas of *bofedales* as well as in the natural grasses and in the cultivated grasses. The Project aims at generating a moderate positive environmental impact (M) (moderate due to its scale), through the production of an additional supply of nutrients for the alpacas that can help to reduce the pressure on the ecosystem services used by the producers.

Given that, in the analysis of this evaluation, the project does not involve the unjustified conversion or significant degradation of critical habitats of this National Reserve, the Environmental and Social Management Plan of the Ayninacuy project is only required to develop risk negative impacts management measures to the low punctual and short term impact, or micro-impacts, that may be generated by the activities that the project can carry out in areas of the Reserve. (The consideration of these specific impacts is provided in sections C.12 and C.15 of this document and is related to solid waste management and soil protection). The associated risk is assessed as light.

However, in case the selection of direct beneficiaries of the project, in accordance with the relevant procedures, includes areas to be intervened by the project within the limits of the Reserve, respecting the authority and autonomy that the National Service of Protected Areas of Peru (Sernanp) exerts on the Reserve, the Environmental and Social Management Plan of the project shall include adequate measures to notify Sernanp about the decision and to incorporate into the project activities the requirements that Sernanp may request, or, if necessary, to advance the decision-making processes required to select areas to intervene that conform to the requirements or conditions that will be drawn from Sernanp.

C.10. Conservation of Biological Diversity

C.10.1. On the use of improved seeds for forage

In the same region of Arequipa, in areas located in the lower elevations, the agriculture is very consolidated as an economic activity that, among other crops, produces varieties of barley and oats. COPASA has as its disposal successful experiences with forage cereals, developed in elevation such as the Project has as a target area (over 5,000 masl). Forage cereals form part of the alpaca raising way of life, as well as in the case of cattle herders in the same elevations. In this sense, the Project is not going to introduce unknown species to the region, but rather is going to use improved sedes of species that have already been introduced in the productive culture.

C.10.2. On the use of other improved sedes for animal feed

As part of the tour for this assessment, the evaluator heard from the producers of successful cases of the use of cold resistant grasses, including ryegrass in the Region of Arequipa.

This assessment identified Peruvian governmental initiatives that encourage, for Andean highland scenarios, the use of species such as ryegrass and *dactylis glomerata* (orchardgrass) as forage alternatives:

i. The Ministry of Agriculture offers on its website a Manual of Cultivated Grasses for Andean highland areas (the manual was elaborated by the Directorate of Breeding, in the Ministry's General Directorate of Farm Promotion). The manual "is aimed at orienting the Breeding Specialists of the Regional Farm Bureaus, with the fundamentals of installation and handling of cultivated pastures, with the end of strengthening their capacities for articulating with the platform of services … will allow the breeders to employ an efficient use of the forage resource, with the subsequent improvement of efficiency in its use, leading them to the development of competitive and sustainable livestock raising". The manual include guidelines for species such as: Perennial Ryegrass, Long Rotation Ryegrass, Short Rotation Ryegrass and Annual Ryegrass, and White, Red and Pink Clover.[84]

ii. PACC PERU, a program for adaptation to climate change, is an initiative of bilateral cooperation between the Ministry of the Environment of Peru and the Swiss Agency for Development and Cooperation - COSUDE. PACC PERU offers on its website a pamphlet on planting and handling of cultivated grasses for rural families, elaborated by FONCODES (National Program of the Ministry of Development and Social Inclusion). According to the pamphlet, its proposal "Permits producing sufficient cultivated annual grasses in the rainy seasons, to conserve forage in the form of hay or in silos and to cover periods of scarcity. For example, in the higher elevations to feed alpacas."[85] Among others, the pamphlet

[84] Available at: http://agroaldia.minag.gob.pe/biblioteca/download/pdf/manuales-boletines/pastos-forrajes/manual_pastos.pdf. Consulted in December 2016.

[85] Available at: http://www.paccperu.org.pe/publicaciones/pdf/129.pdf. Consulted in December 2016.

recommends varieties such as English Ryegrass, Italian Ryegrass and Dactylis Glomerata (a bunchgrass).

This assessment did not identify pertinent ecological studies or reports on the use of resistant grasses such as ryegrass or *dactylis glomerata*, which are the species referenced for this use in the project document.

C.10.3. On the competition with other animal species for ecosystem services

As was noted in section C.9 of this report, the coexistence of the raising of alpacas and of the natural environment that continues to offer ecosystem services that the natural context offers and sustains this way of life that pre-exists the project. This is applied both to the Salinas and Aguada Blanca National Reserve as well as to the rest of the Andean highland regions of Arequipa of the project's target area. In this coexistence, it can be considered that the alpacas and llamas that the object of productive activity share and at the same compete for ecosystem services of areas for grazing and water. Up to the present, this simultaneous coexistence and competition has been allowing the subsistence of wild species such as vicuña of the rest of typical species in the region. If indeed, the dynamics that climate change exercises over all the ecosystems of the Peruvian Sierra, up to the present the aforementioned coexistence is shown to be sustainable and, as a consequence, this assessment asserts that the present Project does not represent a threat to sustainability.

C.10.4. On the potential risks and negative impacts generated the Project with regard to the protection of biological diversity

The present assessment did not find any documentation to support that the introduction and generalization of the use of resistant grasses such as ryegrass or *dactylis glomerata* in the project's target area, be it an ecologically adequate response, as a technical solution to the limitations of forage that the pressures of climate change has been creating for the camelid raising way of life. No documentation was found that suggests that it is not an ecologically adequate response in the Andean highland context in Peru.

Given that in the two initiatives mentioned, the Ministry of Environment figures as one of the promoters, this assessment does not enter into questioning ecológical irrigation (for the Peruvian environmental context) related to the use of improved grasses such as Ryegrass and *dactylis glomerata*. In the face of the absence of information available on the mentioned risk, and in particular in the face of participation of the Peruvian State in the promotion of the use of the non-native grasses solution, including the mentioned species, as forage for alpacas, this assessment proposes a vote of confidence on the use proposed by the State. If indeed the positive impacts are known (in the farm economy) of the use of cultivated grasses, this assessment declares that it did not identify inclusive information on the ecological impact of the use of the aforementioned cultivated grasses.

It is proposed in this regard that to the Project's Environmental and Social Management Plan foresee, as a recommendation, a verification measure with the pertinent environmental authority regarding the ecological adaptation of the measure. The measure is proposed as recommendation, with the goal of not challenging the sovereignty of the Peruvian State.

This assessment concludes that the Project's other activities do not present the risk of an negative effect on the protection of biological diversity. In conclusion, this assessment does not identify the need for the Project's Environmental and Social Management Plan to design additional risk management actions for biological diversity.

C.11. Climate Change

C.11.1. The restoration of *bofedales* proposed by the Project

With the goal of restoring and expanding the natural areas of the *bofedales* that are used for grazing alpacas, the Project proposes the use and improvement of existing rustic canals, which allow for the distribution of water in the *bofedales*. This assessment interprets the improvement of the canals as cleaning and manual adaptation to permit the optimization of the downward flow of water in the *bofedal*, and with this an extension and/or recovery of the area irrigated by this trajectory.
Additionally the projects proposes the use of resistant native species (red clover and white clover) for the recovery/expansión of the *bofedales* and in order to help slow the process of soil degradation and of desertification associated with it. This assessment interprets the Project's proposal as the use of the species mentioned exclusively in the areas recovered or expanded through the rehumidification of the *bofedal's* lost areas, or in the eventually expanded areas through the optimization of water trajectory in the *bofedal*. This assessment interprets that the Project's proposal referring to the use of resistant native species mentioned above **does not consider** substitution of the vegetal production common to the *bofedal* found at the moment of the recovery activities for the *bofedales*. This **restrained** use of resistant species native to the re-humidified or expanded areas would permit guaranteeing that the vegetal production common to the *bofedales* found at the momento of the recovery activities is not going to be substituted and that the soils of the active *bofedal* are not going to be modified. This restraint would allow for avoiding the risks of greenhouse gas emissions associated with the degradation or transformation of the peat or turf that may be accumulated in the *bofedal*.

C.11.2. On the potential risks and impacts generated by the Project with regard to climate change, in relation to the dynamics of the *bofedales*

In the previous section the supposition of this assessment, referring to the restriction on the use of proposed resistant native species (red clover and white clover). The restriction refers the fact that those species will only be used in the rehumidified areas of the *bofedales* or in areas expanded thanks to the optimization of the downward trajectory of water. This supposition requires confirmation and control during the execution of recovery/expansión activities in the *bofedales*, at

the same time that the substitution of the active flora of the *bofedal* must be avoided. Were this criterion not followed, the moderate risk of increasing greenhouse gas emissions may arise as a consequence of the eventual transformation and degradation of the peat deposits the soil in the *bofedales* may contain. In order to avoid this risk, the Environmental and Social Management Plan will have to include adequate and sufficient guidelines to control this risk and to maintain respect for the active flora common to the *bofedal* and for the condition of the soils that sustain this active flora. The negative impact of climate change by not controlling the described risk would be light, due to the impact of activities in terms of the scale of the affected areas (small scale).

C.11.3. On the other potential risks and impacts generated by the Project with regard to climate change

The project's activities have an important component concerning motorized movement. The five provinces cover an area of 43,600 Km2 and a circuit through their capitals that exceeds 1,200 Km (confirmed during the tours employed for this assessment). For some of the motorized movements four wheel drive pickup trucks are required (due to the type of some of the roads) and for others a motorcycle would be necessary. These movements are unavoidable and their optimization responds in first place to the need to protect the project's Budget and in second place it has a positive effect (although very reduced) in terms of reduction of greenhouse gas emissions.
The expected volume of movements that the Project may generate is not significant in relation to the volume of vehicular circulation in the project's target area (confirmed during the tours done for this assessment), given the diverse origins of vehicular mobility in the context (mining activity, tourist activity, productive activity, commercial activity).

Thus, this assessment concludes that the greenhouse emissions arising from the vehicular movements produced by the Project are not significant in the volume of the emissions resulting from the vehicular activity extant in Project's target area. Its impact is assessed to be low (L).

This assessment concludes that the Project's Environmental and Social Management Plan shall to design risk management actions due control and mitigate the greenhouse gas emissions resulting from vehicular movement associated with the project.

C.12. Pollution Prevention and Resource Efficiency

The Project's activities present neither significant environmental risk nor impact due to pollution o due to the efficiency of resource use (the corresponding environmental potential impact is assessed as very light):

i. The Project activities related to the development of skills generate residue common to the logistics of these events: paper, food packing material, organic food residue. In the group activities observed during the consultation in the communities, this assessment could observe adequate practices on the part of COPASA and the local authorities in collecting this waste and the verification of a return to the prior state of the spaces used. This waste

generation has a domestic nature and does not merit comparison with international pollution control standards, of energy maximization or minimization of the resources used.

ii. The Project activities related to the development of skills associated with the best productive practices does not present a significant risk with respect to the prevention of pollution or resource efficiency. These improvement activities or of shelter building for the protection of animals generate limited emissions of solid waste which require small scale, limited handling, common to productive activities. These groups of activities do not merit the comparison with international pollution standards, of maximization of energy efficiency or of minimization of used resources.

iii. NOTE: The risks of temporary impacts on soil quality are covered in section C.15 of this report.

This assessment proposes that the Project's Environmental and Social Management Plan include the documentation of the limited solid waste handling actions mentioned in this section, both as a response to a light risk level and with community educational purpose, in order to sustain or implement sustainable habits that include the documentation of responsible activities.

NOTE: the Project activities related to water management, to the optimized production of animal forage and to the rotation of pastures areas have a positive impact in the efficient use of the surroundings' ecosystem services. Due to the scale of the Project activities, in comparison with the scale of habitual use of those resources in the region, the anticipated impact is between low (L) and medium (M). It is to be expected that the positive effects of the educational impact of these activities will increase their scale over time and in function of the sustainability achieved by the Project on account of the technical culture the Project itself offers.

C.13. Public Health

The Project activities do not present the risk of negative effects on public health:

i. Polluting emissions or dangerous conditions will not be generated for the air, the soil, or bodies of water. There will be no occasion for the dispersal, distribution or commercialization of products, inputs or vectors that put public health at risk. There will no intervention in human health through vaccinations, or the dissemination of products or of models of risky consumption.

ii. The water treatment units for human consumption will be delivered to the Project under compliance with regulated quality standards that are specified in the indicators of the project's monitoring framework. This particular activity has a positive low potential impact on public health, due to the scale of its effects.

NOTE: It is expected that the following Project activities have a positive impact on public health, in a very small scale at the regional level:

- the implementation, put into operation and delivery of aforementioned water treatment units for human consumption,

- the implementation, initiation, operation and maintenance of composting latrines, upon their eliminating the risk of contamination of subsoil water with limited emissions of other types of latrines or the direct discharge of human waste into the surrounding area. Also, in this case, it is to be expected that the positive effects of the educational impact of the activities increase their scale over time and in function of the sustainability achieved by the Project for the culture of housing improvement the Project offers.

This assessment does not identify the need for the Project's Environmental and Social Management Plan to design risk management actions for public health.

C.14. Physical and Cultural Patrimony

C.14.1. On the Project activities that can generate risk with regard to physical and cultural patrimony

If indeed Peru is a country with a rich archeological heritage, and in some places located in the Andean highlands of Arequipa[86] there are records of discoveries of archeological remains, it is arguable to consider that the 6 finds[87] already recognized and scattered across 43,000 km2 increase or not the probability of coming across new archaeological remains, through the Project activities. New discoveries of unburied cultural physical assets seem unlikely, given that the project's target area, during a long time, have been highly intervened through the open range raising of camelids, without the reporting of other discoveries.

With the goal of establishing a criterion of authority with respect to this, in December of 2016, the Project consulted with the pertinent authority, the Decentralized Directorate of Culture in Arequipa. The response obtained (included as an annex of this Assessment) indicates that processing a Certificate of the Inexistence of Archeological Remains (CIRA for its acronym in Spanish) would only be required for any work that entails the removal of soils.

The only Project activities that may entail removal of soils are the construction of shelters and of water reservoirs, even when in both activities the depths involved in the removal of soils are insignificant. The Environmental and Social Management Plan will have to specify that the Project will not develop any of its activities in proximity to a place where the Ministry of Culture of Peru has identified physical and cultural assets, whether it be at the beginning of the Project or as a result of the request of the Certificate of Inexistence of Archeological Remains. In the case that the Project activities may have agreed upon the location of one of its activities in an area identified with risk on physical and cultural heritage, the Management Plan will include the corresponding measures for decisión-making corresponding to a new location in the area without risk for its physical and cultural patrimony.

C.14.2. On the potential risks and negative impacts generated by the Project with regard to physical and cultural patrimony

[86] See: http://www.arequipaperu.org/restos-arqueologicos; consulted in December 2016.

[87] Of the six cases mentioned the source cited above, three cases correspond to districts included in the project: two in the province of Arequipa (districts of Polobaya and Quequeña); and one in the province of Condesuyos (district of Chuquibamba).

With reference to the pronouncement obtained from the Deconcentrated Directorate of Culture of Arequipa, this assessment concludes that, for the Project's activities of shelter construction and water reservoirs there is a moderate risk of negative impacts on possible discoveries of physical cultural resources. The risk is evaluated as medium (M) as a consequence of:

- the high intervention over the Project area,
- that the shelters very probably will be built in proximity of the dwellings of producer families, which are also on highly intervened terrain.

The communication of the Decentralized Directorate of Culture of Arequipa indicates that the request for a CIRA (Certificate of the Inexistence of Archeological Remains) must include a plan of the placement of the work which entails the removal of earth. On the other hand, the placements of the shelters and of the water reservoirs will be defined during the Project execution, in follow-up to the established agreements. As a consequence, the processing of the CIRA requests, if required, can only be initiated during the development of the project. As such, the Environmental and Social Management Plan requires the definition of a procedure so that the activities already described that generate the risk of negative cultural impacts on possible finds of physical cultural resources be carried out in coherence with the regulatory procedures. This assessment does not provide a characterization of the intensity of the corresponding potential impacts, given that this all refers to likely undefinable scenarios.

In this assessment, the risks to physical cultural patrimony related to the activities of cultivation and of improvement of existing canals are considered to be insignificant and as a consequence do not require being considered in Environmental and Social Management Plan.

C.15. Land and Soil Conservation

The Project activities do not present a significant risk of effects on the conservation of land and soils:

i. The Project activities that promote the planting of forage cereals are going to be done in terrain that has already been intervened, in which there are old corrals rich in nutrients originating from alpaca manure.
ii. The Project promotes the use of livestock fencing for their use in rotating pasture areas, which permits reduction in overgrazing and improvement in the productivity of terrains.
iii. The areas used for shelters and water reservoirs are limited and very insignificant in comparison with the areas available for the rest of the productive activity for the conservation of the ecosystem services.
iv. The activity of alpaca raising predates the Project and the use of part of the terrain in the region for these livestock forms part of this pre-existence. In conjunction, the Project activities oriented at strengthening animal nourishment, encourage the optimal use of the ecosystem resources and as a consequence generate a low potential positive impact (L) –low due to its scale – on the conservation of lands and soils; this includes the productivity

of the terrains and the bofedales. Although the improvement of bofedales proposed by the Project signifies a positive impact on their productivity, the scale of its impact is low at the regional level. A greater positive impact can be expected over time as a consequence of its educational effect and of the results of sustainability management of the Project results.

v. The other Project activities do not present the risk of negative impacts on the conservation of lands and soils.

vi. The activities of shelter construction generate very low volumen earth-moving and the water reservoirs implementation activities generate low volumen earth-moving (each reservoir will have a capacity of 100m3). The two kinds of earth-moving are limited and not meaningful in comparison with the surrounding areas and generate the risk of a low, limited, short-term negative impact, on conservation of earth and soils.

NOTE: The natural dynamics resulting from climate change generate important processes of transformation of the ecosystems and of the Andean highland soils. For example: some *bofedales* loss areas of vegetal production due to the reduction of water provision, both from ice melts as well as rainfall; other wetlands become slitted with sand as a product of the erosion caused by massive flow of meltwater. The limitations of forage that result from these climate change dynamics bring the consequence that other *bofedales* and terrains with available vegetal cover may be affected on the overgrazing resulting from these limitations. The context of this dramatic ecological situation predates this project.

This assessment considers that the Project's Environmental and Social Management Plan must include management measures for the low, limited and short-term negative impact on the conservation of earth and soils, identified as resulting from the construction activities of animal protection shelters and from the implementation of water reservoirs. This assessment does not identify the need for the Project's Environmental and Social Management Plan to design other risk management actions for the conservation of earth and soils.

D. ORGANIZATIONAL STRUCTURE AND CAPACITY FOR ACTIONS RELATED TO ENVIRONMENTAL AND SOCIAL MANAGEMENT

The technical structure the Project anticipates for its implementation, including the activities of environmental management, assessment, and monitoring include the Project director, and the field coordinator, and the support of the Executive Director of Copasa.

This assessment considers that the proposed technical structure can be sufficient:

- for implementing the Project's Environmental and Social Management Plan established as a response to the results expressed in this report and
- for documenting its implementation,
- provided that the team that makes up the technical structure has the support of an advisor for the decisions related to modifications or updates of the aforementioned Management Plan or for responses to unanticipated situations in which there is a relation with the

responsibilities for the environmental and social management of the project. Any audit or assessment of the project's environmental and social management must be done by competent professional personnel in environmental and social management who are external to the described technical team.

E. CONCLUSIONS AND RECOMMENDATIONS

i. In order to guarantee the responsible environmental and social management of the Ayninacuy Project's implementation, and so that the management be consistent with the environmental and social policy of the Adaptation Fund it is indispensable to design and implement an Environmental and Social Management Plan that responds to the identified risks described in section C of this report. This Environmental and Social Management Plan must include an execution timetable and a followup and monitoring program.

F. PHOTOGRAPHIC ANNEX (to the E&S Assessment)

'HOTO NO 1. Effects of climate change in the project rea: Image after rainfall. By the next day 70% of the isible snow will have melted.

PHOTO NO 2. Effects of climate change in the project area: part of the scarce snow is transformed directly into water vapor, forming clouds.

PHOTO NO 3. Body of water, formed from melted glaciers.

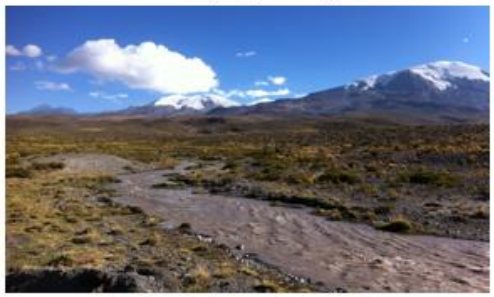


PHOTO NO 4. Current of water produced by the melting.

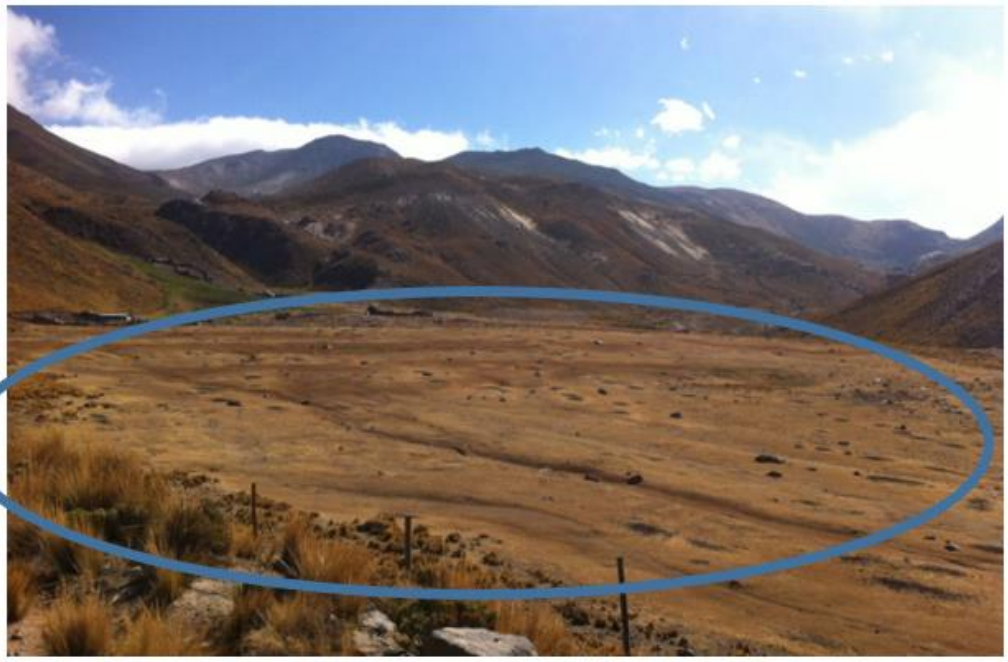


PHOTO NO 5. On the concept of *bofedal*: in the image an enormous *bofedal* in the project area.

PHOTO NO 6. On the concept of *bofedal*: in the image a *bofedal* whose area is separated with fences, for crop rotation. It is an environmentally legal practice.

PHOTO NO 7. On the concept of *bofedal*: in the image a very small *bofedal* in the project area (in the circle, an alpaca).

PHOTO NO 8. Queñual in the project area.

PHOTO NO 9. Salinas Lagoon, Salinas and Aguadablanca National Reserve.

PHOTO NO 10. Wild vicuñas in the proximity of the Salinas Lagoon, Salinas and Aguadablanca National Reserve.

PHOTO NO 11. The coexistence of human activities and wildlife: Wild vicuñas in the proximity of the Salinas Lagoon, Salinas and Aguadablanca National Reserve. To the left the highway, in the background to the left, mining activity, environmentally legal.

PHOTO NO 12. Image of legal mining activity in the Salinas Lagoon, Salinas and Aguadablanca National Reserve.

PHOTO NO 13. Image of the legal mining activity in the Salinas Lagoon, Salinas and Aguadablanca National Reserve.

PHOTO NO 14. Wild fauna in the proximity of the legal mining activity in the Salinas Lagoon, Salinas and Aguadablanca National Reserve.

PHOTO NO 15. Wild fauna in the proximity of the legal mining activity in the Salinas Lagoon, Salinas and Aguadablanca National Reserve.

PHOTO NO 16. Varying fauna in the landscape of the grassland *puna* in the project area.

PHOTO NO 17. Varying fauna in the landscape of the grassland *puna* in the project area.

PHOTO NO 18. Varying fauna in the landscape of the grassland *puna* in the project area.

PHOTO NO 19. Varying fauna in the landscape of the grassland *puna* in the project area.

PHOTO NO 20. Another sample of the wild fauna in the project area.

PHOTO NO 21. People attending one of the consultation meetings, district of Andagua.

PHOTO NO 22. People attending one of the consultation meetings, district of San Juan de Tarucani.

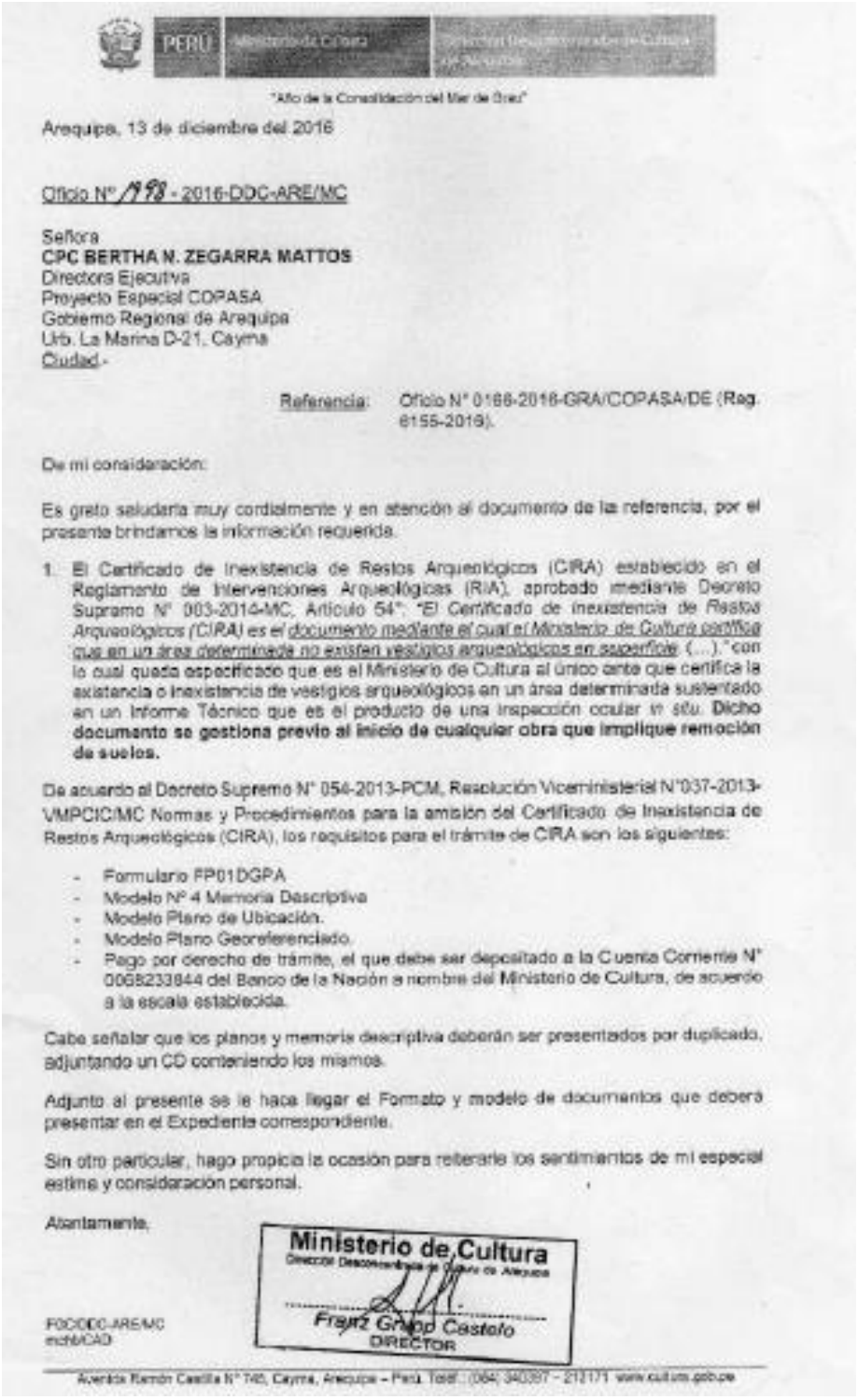
PHOTO NO 23. Central plaza, San Juan de Tarucani. Locales of one of the consultation meetings.

PHOTO NO 24. Image of a camelid leather curing activity in the project area.

PHOTO NO 25. Landscape of the Project area with a large herd of alpacas.

NOTE: All of these photographs were taken during the assessment tour.

G. DOCUMENTARY ANNEX II (to the E&S Assessment): Response of the Directorate of Culture of Arequipa (December 2106) about the procedure of the Certificate of non-Existence of Archaeological Remains (CIRA)



PERU | Ministerio de Cultura | Dirección Desconcentrada de Cultura de Arequipa

"Año de la Consolidación del Mar de Grau"

Arequipa, 13 de diciembre del 2016

Oficio N° 1198 - 2016-DDC-ARE/MC

Señora
CPC BERTHA N. ZEGARRA MATTOS
Directora Ejecutiva
Proyecto Especial COPASA
Gobierno Regional de Arequipa
Urb. La Marina D-21, Cayma
Ciudad.-

Referencia: Oficio N° 0166-2016-GRA/COPASA/DE (Reg. 6155-2016).

De mi consideración:

Es grato saludarla muy cordialmente y en atención al documento de la referencia, por el presente brindamos la información requerida.

1. El Certificado de Inexistencia de Restos Arqueológicos (CIRA) establecido en el Reglamento de Intervenciones Arqueológicas (RIA), aprobado mediante Decreto Supremo N° 003-2014-MC, Artículo 54°: *"El Certificado de Inexistencia de Restos Arqueológicos (CIRA) es el documento mediante el cual el Ministerio de Cultura certifica que en un área determinada no existen vestigios arqueológicos en superficie. (...)."* con lo cual queda especificado que es el Ministerio de Cultura el único ente que certifica la existencia o inexistencia de vestigios arqueológicos en un área determinada sustentado en un Informe Técnico que es el producto de una inspección ocular *in situ*. **Dicho documento se gestiona previo al inicio de cualquier obra que implique remoción de suelos.**

De acuerdo al Decreto Supremo N° 054-2013-PCM, Resolución Viceministerial N°037-2013-VMPCIC/MC Normas y Procedimientos para la emisión del Certificado de Inexistencia de Restos Arqueológicos (CIRA), los requisitos para el trámite de CIRA son los siguientes:

- Formulario FP01DGPA
- Modelo N° 4 Memoria Descriptiva
- Modelo Plano de Ubicación.
- Modelo Plano Georeferenciado.
- Pago por derecho de trámite, el que debe ser depositado a la Cuenta Corriente N° 0068233844 del Banco de la Nación a nombre del Ministerio de Cultura, de acuerdo a la escala establecida.

Cabe señalar que los planos y memoria descriptiva deberán ser presentados por duplicado, adjuntando un CD conteniendo los mismos.

Adjunto al presente se le hace llegar el Formato y modelo de documentos que deberá presentar en el Expediente correspondiente.

Sin otro particular, hago propicia la ocasión para reiterarle los sentimientos de mi especial estima y consideración personal.

Atentamente,

Ministerio de Cultura
Dirección Desconcentrada de Cultura de Arequipa
Franz Grupp Castelo
DIRECTOR

FGC/DDC-ARE/MC
mchACAD

Avenida Ramón Castilla N° 740, Cayma, Arequipa – Perú. Telef.: (054) 340397 - 212171 www.cultura.gob.pe

H. DOCUMENTARY ANNEX III (to the E&S Assessment): STATISTICAL SUMMARY OF THE PROJECT AREA

STATISTICAL SUMMARY OF THE PROJECT AREA																		
Nº	Province	AREQUIPA		CASTILLA				LA UNIÓN						CONDESUYOS			TOTAL	AVERAGE
	District	S.J. Tarucani		Andahua		Orcopampa		Puyca		Pampamarca		Huaynacotas		Andaray	Yanaquihua			
	Comunidad/Anexo	S.J. Tarucani	Huayllachucho	San Antonio	Sopcoro	Sarpani	Misahuanca	Maghuanca	Cuspa	Pampamarca	Tecca-Rumihuasi	Huarcaya	Huayqui	Andaray	Huchumiri	Arirahua		
1	Elevation at which the community is located	4,220	4,160	3,900	3,900	3,800	3,800	4,200	4,200	3,800	3,900	4,200	4,000	4,000	3,800	3,900		3,985
2	Number of Families belonging to the Community	160	60	850	850	46	95	40	40	180	90	300	250	50	30	50	3,091	206
3	Quantity of Men	400	150	400	400	60	86	40	40	90	50	170	115	50	17	30	2,098	140
4	Quantity of Women	450	160	450	400	50	98	50	40	90	40	130	135	47	13	20	2,173	145
5	Quantity of Children	320	180	600	800	80	180	80	80	540	270	250	200	132	20	80	3,812	254
6	Principal source of income of the Community: (camelid raising=1, Agriculture,=2, Mining=3, Others=4)	1	1	1	1	3	2	1	1	1	1	1	1	1	1	1		
7	What kind of animal raising does the	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		

	community prioritize?: Camelids=1, Cattle=2, Sheep=3, Others=4)																	
8	Do the heads of households leave home to seek new sources of income? (Yes=1, No=2)	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1		
9	For how many months do the male heads of household leave to seek work?	4	3	7	7	1	1	4	3	3	3	5	5	5	7	4		
10	What do they do principally when they leave the community?: (Livestock=1, Agriculture,=2, Mining=3, Others=4)	2	2	3	2	2	2	1	2	1	3	3	2	2	3	2		
11	Number of heads on average per family	80	60	50	50	28	48	40	45	60	60	160	140	50	40	30	941	63
12	Number of farms or sectors held by the community	16	20	8	11	4	10	9	10	8	5	16	6	5	6	4	138	9
13	Average number of farms or sectors neighboring the community	9	9	5	8	2	3	4	5	8	4	120	10	5	5	5	202	13
14	Number of familieas in the neighboring farms?	80	80	50	75	25	40	20	15	40	24	70	110	10	10	5	654	44
15	¿Are there schools in the	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		

	community?: (yes=1, no=2)															
16	¿Where does the water they consume come from?: (River=1, Canal=2, Spring=3, Others=4)	3	3	3	1	3	3	2	2	3	3	1	3	2	3	3
17	Do communal housing have any basic sanitation? (yes=1, no=2)	2	2	2	2	2	1	2	2	2	2	2	1	2	2	2
18	Do community dwellings have access to electricity? (yes=1, no=2)	2	2	2	2	1	1	2	2	2	2	2	2	2	2	2
19	Do communal homes have any heating system? (yes=1, no=2)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	What transport system do they use to access the community? (Road = 1, Carteable track = 2, horse track = 3)	2	2	2	2	2	2	2	2	2	3	3	2	2	1	1
21	How do they feed their livestock? (Natural Pastures = 1, Cultivated Pastures = 2, Others = 3)	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
22	How do they solve the problem of animal health? (Craft = 1, With Medications = 2)	1	1	1	1	1	2	1	1	1	1	1	1	1	2	1

I. DOCUMENTARY ANNEX IV (to the E&S Assessment): Synthesis of the conclusions and results contained in the first version of the report of the Environmental and Social Assessment of the Ayninacuy Project

III. Evaluation of environmental and social impacts and risks

In accord with the Project's environmental evaluation, no significant negative environmental impacts have been identified. The negative environmental impacts will be generated principally in the project's construction and/or adaptation stage (component N°1), and it is estimated that they will be temporary, reversible and of limited extent. Among the potential activities are those related to housing adaptation, canals, micro-dams, and change in soil use.

In the Operation stage, the final impact is highly positive, given that it deals with measures that will help to improve quality of life in the communities and to reduce vulnerability in the face of climate change (CC).

a. *Project impacts on the physical component*

Soil:

The actions that will be carried out during the project's execution consist principally of initial earth-moving, displacement from the work area, canals (material from the area will be used, concrete will not be used), micro-dams (the terrain will be modified using geomembranes or similar products), implementation of Trombe walls and vehicle use. The impacts that can be anticipated are related to increased compaction, loss of vegetal cover in the work zones, contamination due to potential minor spills. Another potential source of effects on soil resources may arise from the handling and disposal of solid wastes, to which must be added possible accidental spills of hydrocarbons and chemical products.

It is estimated that the project's impacts of the soil component will be minimal and insignificant, being a temporary and reversible.

Air:

Among the environmental aspects that will produce effects on air quality can be found: emission gases from combustion, generation of particulate matter and noise. These changes will temporary in nature and due principally to vehicle exhaust, earthmoving, transport, hauling and dumping of materials.

These activities will result in a temporary change in air quality in the project area. Another element to keep in mind is the increase in noise levels, due principally to the work activities, for example, the installation of Trombe walls. This sound increase is temporary and insignificant.

It is estimated that the project's impacts on the air component will be of an insignificant, low impact, being temporary and reversible.

Water:

The project establishes the implementation and/or adaptation of micro reservoirs of approximately 10m x 10m, of low impact on surrounding area. Likewise, the water canals to be implemented will be rustic, with material from the area. The impact on water resources occurs in a concentrated manner due to diverse tasks specific to the work stage, arising principally from dust and earth arising from earth-moving. Another potential source of contamination are possible accident or accidental spills.

It is estimated that the project's impacts on the water component will be of low and insignificant impact, being temporary and reversible in nature.

b. ***Project impacts on the biotic component***

Flora

The loss of vegetal cover will be minimal, and specific principally during excavation for earth-moving and the establishment of canals. It is likely that the loss along the trajectory of the rustic canal will be permanent and localized, however, mitigation and/or compensation measures will be carried out.

Fauna

Human presence, noise associated with work activities will disturb the environment, giving rise probably to a temporary abandonment by some species of birds in the area.

The alteration of the habitat, product of the elimination of part of the vegetal cover will not produce meaningful changes in the ecosystem, based on which it is considered that there will not be any significant effect on the area's biodiversity.

The negative impacts on the flora and fauna are of low intensity, localized in a minor portion of the terrain and of brief duration, given that they are limited to the work stage.

c. ***Project impacts on the socioeconomic component***

The final impact is highly positive, given that it deals with measures that will help to improve quality of life in the communities and to reduce vulnerability in the face of climate change (CC).

d. ***Project impacts on the institutional and organizational component***

The Executor Organism is COPASA, an autonomous entity of the Regional Government of Arequipa, created by E.O. 002-97-PRES on the 30th January, 1997. For the fulfillment of its purposes, it has an executive office, reporting to the Governor's Office of the Regional Government, enjoying technical, administrative and financial autonomy.

COPASA has at its disposal broad experience in the execution of projects and programs in the Arequipa Region, in irrigation, and programs related to preventing the effects of climate change. Likewise, it possesses advanced technical knowledge in order to move this project forward. During the Project's evaluation mission it has been possible to observe that there exists good inter-institutional coordination and relations, with the municipalities and the communities in the project's area of influence.

IX. Environmental and social viability of the Operation

In accord with the evaluation done based on the documented and field information, it is considered that the project is viable from the Environmental and social point of view.
In this sense, with the intent of compromising the project's environmental and social viability, the project must: (i) Elaborate an EMR, including management programs that allow for preventing, mitigating and controlling the negative impacts and for driving positive impacts; (ii) Implement the set of environmental and social conditions established by the CAF in the present report; (iii) Implement the proposed Environment Management Plan (EMP); (iii) comply with the environmental and social regulations in force, as well as with the environmental and social Safeguards established by CAF and the AF.

CAF Environmental and social safeguards				
No.	***Aspect***	***Fulfills***		***Observations (*)***
		Yes	***No***	

i.	*National Legislation*	*x*		*Among the principal applicable regulations are:* *- Law N° 28611, General Law of the Environment* *- Law N° 29338, Law of Water Resources* *- Law N° 27314, General Law of Solid Waste* *- Executive Order N° 019-2009-MINAM, Regulations for Law Nº 27446, Law of the National System for the Evaluation of Environmental Impacts.* *The project establishes, within its Environmental Management Plan (EMP), measures and programs for compliance with environmental regulations.*
ii.	*Evaluation of environmental and social impacts, risks and opportunities*	*x*		*The project requires the elaboration of an Environmental Management Report (EMR), which must contain all of the project's environmental impact measures for prevention, mitigation, and remediation, which must be presented to the environmental authority prior to the start of work.* *In this sense, the project contemplates the elaboration of the environmental management instrument, prior to the start of work, which will be elaborated based on the preliminary EMP.*
iii.	*Measures for environmental and social management and budgets*	*x*		*Includes a budget for the application of measures for environmental and social management.*
iv.	*Institutional strengthening, human resources training and information*	*x*		*COPASA has at is disposal broad experience in the execution of projects and programs in the Arequipa Region, in irrigation, and programs related to preventing the effects of climate change. Likewise, it possesses advanced technical knowledge in order to move this project forward. During the Project's evaluation mission it has been possible to observe that there exists good inter-institutional coordination and relations, with the municipalities and the communities in the project's area of influence.*
v.	*Conservation of Water Resources.*	*x*		*Within the Environmental Management Plan (EMP) for the proposed project measures for conservation of water resources are established.*
vi.	*Natural Parks and natural protected areas*	*x*		*Incursions or effects are not anticipated in the natural parks and protected natural areas.*
vii.	*Prevention of disaster risks*	*x*		Within the EMP are included measures for attention to Emergencies.
viii.	*Prevention of contamination*	*x*		*Measures for contamination prevention are based principally in the application of the Environmental Management Plan (EMP).*
ix.	*Regional Cultural Heritage*	*x*		*The project does not anticipate any effect on historical patrimony. However, once defined the specific location of the components, if necessary, the respective permits will be verified and presented.*
x.	*Ethnic groups and cultural diversity*	*x*		*No effect on ethnic groups and/or cultural diversity has been identified.*

xi.	*Participation and community development*	*x*		*Within the EMP, are included mechanisms for civic participation (encounters, meetings, training sessions), where project characteristics and impacts are conveyed.*
xii.	*Resettlement and/or forced relocations*	*x*		*The work projects will not require resettlements.*
xiii.	*Childhood Protection*	*x*		*The Peru's labor legislation prohibits child labor.*
xiv.	*Gender Equity*	*x*		*There is no evidence of any risk related to non-compliance of this safeguard.*

Note: (*) In case of total or partial non-compliance, upon the moment of evaluation, the No column must be marked and as such, in the observations column, the measures for reversing this situation must be established, measures that must be reflected in Section X. Plan of action. Environmental and social conditions is for the financing.

When the condition does not present itself, under observations it must be noted that there is no risk and no column should be marked (YES/NO).

AF Principles				
No.	***Environmental and Social Principles (AF)***	***Fulfills***		***Observations (*)***
		Yes	***NO***	
i.	*Principle 1: Compliance with the Law*	*x*		*Among the principal applicable regulations are:* *- Law N° 28611, General Law of the Environment* *- Law N° 29338, Law of Water Resources* *- Law N° 27314, General Law of Solid Waste* *- Executive Order N° 019-2009-MINAM, Regulation of Law Nº 27446, Law of the National System for Evaluation of Environmental Impact.* *The project establishes, within its Environmental Management Plan (EMP), measures and programs for compliance with environmental regulations*
ii.	*Principle 2: Access and Equity*	*x*		*The project is focused and will be defined at all times considering equity, access, the benefits for the project participants.* *The project establishes, within its Environmental Management Plan (EMP), measures and programs for compliance with this principle.*
iii.	*Principle 3: Marginalized and Vulnerable Groups.*	*x*		*The project will contribute to improving the population's quality of life, as the project's components are established. As such, generating positive impacts for the vulnerable groups is expected.*
iv.	*Principle 4: Human Rights*	*x*		*No effect on human rights is anticipated.*
v.	*Principle 5: Gender Equity and Women's Empowerment*	*x*		*The project will be defined and developed taking into account at all times gender equity both in participation as well as in decision-making. Likewise, as regards the project's benefits.* *The project establishes, within its Environmental Management Plan (EMP), measures and programs for compliance with this principle.*

vi.	*Principle 6: Core Labour Rights*	*x*		*No effects on labor rights are anticipated. In this sense, the project has, within the measures established in the EMP, guidelines for compliance with this principle.*
vii.	*Principle 7: Indigenous Peoples.*	*x*		*No indigenous communities were identified.*
viii.	*Principle 8: Involuntary Resettlement.*	*x*		*Does not apply to the project*
ix.	*Principle 9: Protection of Natural Habitats*	*x*		*The project will not be executed within protected natural areas and/or conservation areas, however, measures will be established for the conservation of the area's flora and fauna, through the establishment of "Measures for management of the biotic component", established in the Environmental Management Plan. It is worth noting that in areas neighboring the project's development are found the Salinas-Aguada Blanca National Reserve and the Cotahuasi Scenic Watershed Reserve.*
x.	*Principle 10: Conservation of Biological Diversity*	*x*		
xi.	*Principle 11: Climate Change*	*x*		*The project has been developed focusing on the reduction of the population's vulnerability to the effects of climate change. In this sense, the project has taken into account at all stages the climate change component.*
xii.	*Principle 12: Pollution Prevention and Resource Efficiency.*	*x*		*The project has a Preliminary EMP where measures for prevention, mitigation and control of environmental impacts, identified in the field and documented evaluation, are specified. Likewise, the elaboration of the Environment Management Report (EMR) is taken into account, for the project's implementation.*
xiii.	*Principle 13: Public Health.*	*x*		*The project establishes, within its Environmental Management Plan (EMP), measures and programs for compliance with this principle.*
xiv.	*Principle 14: Physical and Cultural Heritage*	*x*		*The project does not anticipate any effects on historic patrimony. However, once defined the specific location of the components, if necessary, the respective permits will be verified and presented.*
xv.	*Principle 15: Lands and Soil Conservation.*	*x*		*The Project's effects on soil are of low impact. The project establishes, within its Environmental Management Plan (EMP), measures for soil conservation.*

ANNEX B.1 (Main document) Ayninacuy Project's

Environmental and Social Management Plan

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

AYNINACUY PROJECT

To date, in the process of approval before the United Nations Adaptation Fund, under the title:

"AYNINACUY: Strengthening the livelihoods for vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru"

And the project identification number

"AF Project ID: PER/RIE/Rural/2015/1"

Consulting Financed by: CAF
For the review and approval of COPASA and CAF

Consultant: Oscar D Villalobos
Chemical Eng. Mg Sc.
Bogotá, Colombia

December 2016

A. DESCRIPTION OF THE PROJECT AND ITS CONTEXT [88]

A.1. The Project's area and context

The Project is an initiative of the Regional Government of Arequipa, in Peru. The project's target area correspond to the rural areas of 18 districts located in the Andean highlands of 5 provinces (Arequipa, Castilla, Caylloma, Condesuyos and La Union), in the region or Department of Arequipa, Peru. In these areas, which correspond to the Puna grassland ecoregion, the principal economic activity is livestock raising, in particular alpaca raising, shared with that of sheep, goats, pigs and cattle.

Map: Center, in blue: the 5 provinces of Arequipa that make up the Project's general target area. Left: location of the Arequipa Region in Peru. Right: Location of the Salinas and Aguada Blanca National Reserve in the Arequipa Region..[89]

"It consists of elevated zones, between 3,800 and 4,500 MASL approximately, with a climate that varies from cold to very cold, a dry season and a wet one, strong differences in temperature between day and night and signficant exposure to wind and solar radiation. The topography is flat or ondulated, with a scattering of gorges here and there. The natural vegetation is dominated by natural high elevation grasses … They are areas typical for extensive livestock raising. The lower areas sheep dominate as well as some cattle; in the high elevations (above 4,100 MASL), where the exceptionally hard grasses limit the raising of sheep, camelids dominate (llamas and alpacas). Below 4,000 MASL, which is approximately the limit for agriculture, there is some farming activity based on plants resistant to the cold … Agriculture is, however, very secondary."90

Although the activity of alpaca raising, together with other livestock activities in Peru, has a low participation in the national GDP, the way of life it represents is of high importance for the sector of

[88] For the description of the Project and its context, the Environmental and Social Management Plan transcribes the material used in the corresponding section of the Project's Environmental and Social Assessment.
[89]Sources: http://www.mapade.org/arequipa.html; https://es.wikipedia.org/wiki/Anexo:Distritos_del_departamento_de_Arequipa; http://www.saberia.com/mapas-del-mundo/peru/mapa-politico/
[90]Farm economy of the Peruvian Sierra. José María Caballero. Instituto de Estudios Peruanos. IEP Ediciones, Lima. Digital version available at http://archivo.iep.pe/textos/DDT/economiaagrariasierra.pdf. Consulted in November 2016.

the population dedicated to it. In addition, the rural communities dedicated to this activity are characterized by high levels of poverty:

"If indeed the livestock sector shows a participation in the GDP less significant than other sectors, its activity turns out to be vital for an important sector of the population… Andean highland livestock raising, … represents 12% of the GDP derived from livestock raising. Toward the end of 2010 there were in Peru 6,609 recognized rural communities, characterized by their high levels of poverty and dedicated principally to free range livestock. These rural families constitute approximately 69% of the rural families and 30 % of the total number of families in the country (Flores et al., 2007)."91

The ecosystems that sustain Andean highland livestock raising possess high climatic vulnerability:

"The majority of cattle, sheep, and camelids in Peru are found between 2,200 and 4,500 meters above sea level (masl), and they are in the hands of rural communities, which employ the pastures as a basic resource for feeding their animals. The Puna grasslands ecoregion, where the majority of free range livestock is carried out, encompasses an area of more than 21 million hectares, of pastures, highland wetlands (humedales), glaciers, bodies of water and protected areas, and it is a key ecosystem for the national economy, for the environmental products and services that it offers to society (Brown and MacLeod, 2011). Duse to the fragility of the ecosystems that this area shelters and to the high levels of poverty it exhibits, has been considered to be an area with high vulnerability to the impacts of climate change (Vidal and Muñoz; 2010, Flores et al., 2012)."92

Andean highland livestock raising (of camelids and sheep) "unfolds principally under extensive systems, of high dependence in the face of climate conditions for the generation of fodder that feeds them and for the health of the animals."93

A.2. Project Objectives

The "Ayninacuy" Project has as its goal the reduction of vulnerability and to increase the adaptation capacity in order to respond to the impacts of climate change in the rural communities of the Andean highland areas of the following districts: in the province of Arequipa, the districts of San Juan de Tarucani, Chiguata, Pocsi, Quequeña and Polobaya; in the province of Caylloma, the districts of San Antonio de Chuca, Sibayo, Tuti and Callalli; in the province of Castilla, the districts of Chachas, Andagua, and Orcopampa; in the province of Condesuyos, the districts of Chuquibamba, Andaray and Yanaquihua; in the province of La Union, the districts of Pampamarca, Huaynacotas and Puika.

In view of the fact that these communities depend almost exclusively on the production of alpaca fiber, the Project seeks to reduce their exposure to the threats of climate risk, through the strengthening of their livelihood through the development of adaptation processes and reduction of climate change risks which grant resilience to this way of life and through the strengthening of

[91]The economy of climate change in Peru. Inter American Development Bank, Economic Commission for Latin America and the Caribbean. 2014. (Monograph from the BID; 222, NDB-MG-of reference to CEPAL, United Nations: LC/W.640). Pg 83. Available at: http://repositorio.cepal.org/bitstream/handle/11362/37419/1/S1420992_es.pdf. Consulted at this source in November 2016.
[92] Op cit. Pg 83.
[93] Op cit. Pg 83.

capacities of the communities for reducing the risks associated with the economic losses resulting from the effects of climate change.

A.3. Project Activities

The Project's specific activities include:

- Specific livelihood strategies strengthened in relation to climate change impacts:
  - Outputs 1.1: 270 shelters built for animal protection; 36 Animal Health Campaigns; 72 protective fences installed, 900 has of high altitude cereals; 72 has of improved highland wetlands with clover; 72 has of improved pastures.
  - Outputs 1.2: 72 pressurized irrigation modules installed; 36 highland wetlands (vulnerable natural assets) strengthened; 10,000 m of improved/built rural canals; 36 micro-dams built; 36 rustic reservoirs built.
  - Outputs 1.3.1: Five (5) Water purification systems in the most vulnerable communities.
  - Outputs 1.3.1: Campaigns for the improvement of human living conditions in 72 rural residences (72 improved homes by: 72 composting latrines built, 72 of improved stoves built, 72 photovoltaic panels installed and 72 of solar walls built).
- Strengthening and development of community and institutional capacities for reducing risks associated with economic losses due to the weather:
  - Outputs 2.1: 22 Agreements with local and community authorities for the implementation of Evaluation and Monitoring Plans; 36 commitments of beneficiaries' selection; 2 training modules in teamwork and leadership;
  - Outputs 2.2: Awareness-raising activities about adaptation and risk reduction: 9 drills; Implementation of de 36 EWS modules; 5 Disaster prevention plans in educational institutions; Formation of civil defense platforms (18 District level and 36 community level);
  - Outputs 2.2:
    - Targeted population groups (28.78% of participating vulnerable communities) in awareness-raising activities and training in climatic risk management and adaptive techniques:
    - 18 agreements, programs, projects that will give continuity to the activities and project achievements and for the publication of lessons learned;
    - Preparation of technical guides (13 topics, 43,000 copies) 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 household housing improvement.
    - Capacity building complementary activities: 1. 72 Adaptive techniques workshops; various risk management strategies at the institutional, community and district level.

A.4. The preliminary Environmental and Social Management Plan

During the concept phase of the project development, a preliminary Environmental and Social Management Plan was proposed. This Environmental and Social Management Plan replaces totally

the mentioned precedent preliminary Plan. This Plan can be modified and updated to respond to requirements resulting from the requirement or presentation to the pertinent authorities of the Report of Environmental Management, the CIRA Certificate or the communications with Sernanp and form the reports presented to them.

B. THE PRESENT ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN AND THE ENVIRONMENTAL AND SOCIAL POLICY OF THE ADAPTATION FUND

B.1. The requirements applicable to this Environmental and Social Management Plan

The Environmental and Social Policy of the Adaptation Fund contains, among others, the following requirements for the implementing entities that present to the AF project proposals for their financing:

> **"C. Environmental and Social Management System**
>
> 2. *The implementing entities shall be **responsible for screening all projects/**programmes to determine the extent to which they present environmental or social risks, including all risks associated with the Fund's environmental and social principles identified above.*
> 3. *Implementing entities proposing **projects/ programmes that present environmental and social risks** shall ensure*
>   a. *that the **environmental and social impacts** of such projects/programmes are **thoroughly assessed**;*
>   b. *that measures are identified for avoiding, reducing or mitigating all environmental and social impacts;*
>   c. *and that the implementation of such measures is monitored and reported on through the life of the project/programme.*

In compliance with the previous requirements 2. and 3.a, CAF, acting as the implementing entity of the "Ayninacuy Project- Strengthening the livelihoods for vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru", carried out two reports on the Project's environmental and social assessment. The second report (V2) was done with the goal of responding to the requirements contained in the PER Technical Review document, dated the September 6, 2016, resulting from Meeting 28 of the Adaptation Fund.

This Environmental and Social Management Plan responds to the previous requirements 3b. and 3c. and also to the requirements in the aforementioned PER Technical Review. The plan includes measures exclusively for the principles of the Environmental and Social Policy of the Adaptation Fund for which the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, identified negative environmental and social risks and/or impacts.

This Environmental and Social Management Plan, that responds to a **B** classification of the project (in accord with the Environmental and Social Policy of the AF), has been approved by CAF in its responsibility as implementing agency of the Project and by COPASA in its role as executing agency.

Below is shown the list of the 15 environmental and social principles of the Environmental and Social Policy of the Adaptation Fund. In this list, the principles for which this plan presents management measures appear in bold.

1. **Compliance with applicable, international and national norms**
2. **Access and equity**
3. Marginal and vulnerable groups
4. Human rights
5. **Gender equity and empowerment of women**
6. **Indigenous peoples**
7. Fundamental labor rights
8. Involuntary resettlement
9. Protection of natural habitats
10. **Conservation of biological diversity**
11. **Climate change**
12. **Pollution prevention and resource efficiency**
13. Public health
14. **Physical and cultural heritage**
15. **Conservation of lands and soils**

C. MEASURES FOR MANAGING THE RISKS AND AVOIDING AND MITIGATING THE ENVIRONMENTAL AND SOCIAL IMPACTS IDENTIFIED IN THE PROJECT'S ENVIRONMENTAL AND SOCIAL ASSESSMENT

C.1. Measures related to AF1 principle: Applicable national and international regulatory compliance

C.1.1. Convention related to Wetlands of International Importance especially as Waterfowl Habitats. Ramsar, February 2, 1971. Ratified by Legislative Resolution N° 25353 on November 23, 1991. It came into effect on July 30, 1992.

i. The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, concluded that, in case the project implements any activities within the Natural Reserve of Salinas and Aguada Blanca spaces, the Project's Environmental and Social Management Plan should consider measures to control risks related to low negative potential impacts that may affect the natural environment of the Natural Reserve and to

adequately manage solid wastes that may be generated in areas of the Reserve in the mentioned activities.

ii. Section D.1 describes the corresponding designed measures.
NOTE: See section C.1.8 of this Plan to better clarify this subject.

iii. Additionally, the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, concluded that the project activities regarding the improvement of the bofedales, offer a low risk of low negative potential impacts that may affect the selected bofedales. And, as a consequence, that the Environmental and Social Management Plan of the Project should consider measures to prevent and minimize the mentioned risks.

iv. Section D.11 describes the corresponding designed measures.

C.1.2. Convention on Biological Diversity adopted in Rio de Janeiro, June 1992. Approved through LEGISLATIVE RESOLUTION Nº 26181, on May 1993.

i. The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, concluded that the Project's Environmental and Social Management Plan does not require including measures for managing risks or impacts associated with this regulation.

C.1.3. Law N° 26821. Organic Law for the Sustainable Use of Natural Resources.[94]

i. The Environmental and Social Management Plan of the project must include measures to control this risk within the context of the project activities and to promote the responsible use of the natural resources available to the project peasant communities.

ii. The corresponding measures are describe in section D.1. of this Plan.

C.1.4. Law Nº 24656 – General Law of Peasant Communities

i. The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, concluded that the Project's Environmental and Social Management Plan does not require including measures for managing risks or impacts associated with this regulation.

C.1.5. Executive Order Nº 019-2009-Minambiente, Regulation of Law No. 27446, Law of the National System of Environmental Impact Assessment[95]

i. The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, concluded that the Project's Environmental and Social Management Plan requires establishing opportune measures to verify the applicability of the presentation of the Environmental Management Report (EMR) to the Ministry of Agriculture, to present the

[94]Available at: http://www.minam.gob.pe/wp-content/uploads/2013/10/compendio_01_-_marco_normativo_general_2.pdf. Consulted in December 2016.
[95]Available at http://www.minam.gob.pe/wp-content/uploads/2013/09/ds-019-2009-minam-a.pdf. Consulted in December 2016.

report (in case it is mandatory), and to implement in the project Environmental and Social Management Plan of the project the obligations that could result.

ii. As such, this Management Plan anticipates that, under the responsibility of the Project Director, at the start of the Project, there will be consultation, with the corresponding authority of the Ministry of Agriculture in the Region of Arequipa, regarding the applicability of the requirement of the presentation of the Environmental Management Report (EMR). Based on the response of such authority, the Project Director is responsible for the presentation of the Report and for the implementation in this Plan of the corresponding obligations related to environmental and social management. Section D.1. of this Plan describe the specific measures and responsibilities.

C.1.6. Executive Order Nº 057-2004-PCM, Regulations for Law Nº 27314, General Law of Solid Waste[96]

i. The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, required that the Project's Environmental and Social Management Plan establish adequate measures for linking responsibly the management of solid waste produced by the Project's activities with the local solid waste management systems, in order to avoid the low impacts on the soil resulting from the lack of integration of these low volume waste emissions. These measures are defined in this document in section C.12. corresponding to principle AF12: Prevention of pollution and resource efficiency.

C.1.7. Executive Order Nº 003-2014-MC, On the Certificate of the Inexistence of Archeological Remains (CIRA)

i. The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, required that the Project's Environmental and Social Management Plan establish adequate measures for managing the CIRA document, in the cases in the Project's activities require it, once the precise location of these activities is defined, in accord with the other pertinent Project procedures. These measures are defined in this document in section C.14. corresponding to principle AF14: Physical and Cultural Patrimony.

C.1.8. Natural Protected Areas Act No. 26834

i. In the event that project activities are planned to be located in the areas of the San Juan de Tarucani Districts (Province of Arequipa) or San Antonio de Chuca (Caylloma Province) intersecting with the spaces of the Reserve of Salinas and Aguada Blanca, the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, required that the Project's Environmental and Social Management Plan should consider measures

[96]Available at: http://www.minsa.gob.pe/dgsp/observatorio/documentos/infecciones/DS057_2004_reglam_Residuos%20S%C3%B3lidos.pdf. Consulted in December 2016.

to: control risks related to the impacts described, to minimize such impacts and to adequately manage solid wastes that may be generated in areas of the Reserve in the mentioned activities.

ii. Under the same condition described in the former paragraph, the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, required that the Project's Environmental and Social Management Plan should defined measures to report to the National Service of Protected Areas (Sernanp) in a timely manner and prior to the implementation of such activities and to incorporate to the same Management Plan the obligations that Sernanp may impose accordingly.

iii. In consideration of the condition described above, any project activity that may be carried out in the Salinas and Aguada Blanca National Reserve spaces must comply with the provisions of:
   a. Sections D.12. and D.15. of this Environmental and Social Management Plan, regarding solid wastes management and the protection of the soil.
   b. Section D.1. regarding regulatory compliance in relation to Sernanp.
   c. Section D.9 regarding protection of natural habitats.
   d. Other D sections of this plan that can be applicable, regarding regulatory compliance in relation to Sernanp, under Project Director responsibility.

C.2. Measures related to principle AF2: Access and equality

C.2.1. The considerations of the report on the Environmental and Social Assessment related to gender access and equality

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, identified the following social risks with respect to equity in access:

i. Moderate risk in the effectiveness of the convocations (in their contacts and motivation), in the following levels: i. COPASA toward the local authorities; ii. The local authorities (district mayors) toward the representatives and spokespeople of the communities, through other figures of the district administration (lieutenant governors, subprefects, commisaries, others) and through the community leaders. Given that the participation in the Project activities is voluntary, it is assumed that the levels of participation depend in an important manner on the effectiveness of these convocations.

ii. Light risk in the consistency of the elaboration of the agreements: the agreements need to be practical and socially viable.

iii. Light risk in the consistency of the follow-up on the agreements in decisión-making.

In order to manage the aforementioned risks and to prevent and avoid the corresponding described impacts, the environmental and social assessment required that the Project's Environmental and Social Management Plan include adequate measures.

C.2.2. Anticipated measures in order to prevent, avoid, and control the risks related to equitable access to the benefits of the project

i. With respect to the risk in the effectiveness of the convocations (in their contacts and motivation), in level i. COPASA toward the local authorities;
   - i.1. For each cycle of convocation activities, the Project's field coordinator elaborates a synthesized proposal for the convocation with the following components: Objectives, convocation activities, contained to be transmitted in the convocation, a listing (by responsibility) of leaders/representatives or contacts to be convoked, support strategy(ies) (it can include support and the copy of communications to other entities, whose knowledge creates commitment among the mayors and other local authorities).
   - i.2. The previous convocation proposal is reviewed, commented and authorized by the Project director, who copies the final proposal to Executive Director of COPASA and to CAF. The Project's field coordinator initiates or implements the convocation proposal authorized by the Project director.
   - i.3. Once concluded the cycle of activities for which the convocation has been carried out, the Project field coordinator evaluates synthetically the experience, in terms of the effectiveness of the convocation, including conclusions, recommendations and lessons learned to the extent it applies. The synthetic report of the convocation assessment is reported to the Project director, and he/she attaches it to the periodic monitoring and Project assessment reports.
   - i.4. It is the responsibility of the Project director to verify that each convocation proposal of authorized convocation include pertinent lessons learned that the Project may have generated.

ii. With respect to the risk in effectiveness of the convocation (in their contacts and motivation), in level ii. The local authorities (district mayors) toward the representatives and spokespeople of the communities, through other figures of the district administrations (lieutenant governors, subprefects, commisaries, others) and through community leaders.
   - ii.1. At the beginning of the Project, the field coordinator will elaborate a list of critical contacts for each district (including contacts for each community, responsibilities, names, and, if possible, telephone numbers). From the first meeting, the field coordinator will be responsible for achieving agreements between the leaders and representatives of each community a redundant network of the information flows from the convocations (for each critical contact two means of delivering information). The redundant network has as its goal providing an alternative to unforeseen events in the flow of information.
   - ii.2. Starting with the assessment that the field coordinator carries out per its description above in i.3, the field coordinator is responsible for updating and/or improving the redundant network of information flows, as described in the previous paragraph.
   - ii.3. Human failings and the errors that lead to deficiencies in the convocations will be recorded in writing by the field coordinator.
   - ii.4. It is the responsibility of the field coordinator to verify that, in the agreements for the selection of direct beneficiaries of the various activities, the verification of convocations for the various Project activities is the responsibility of the community members and that this must be recorded, through specific contacts agreed upon for

each district and through a timetable that will be updated every three months and whose periodic updating will be delivered to the district mayors for their distribution.

ii.5. The effectiveness of the convocations of this level is included in the assessment described above in i.3.

iii. With respect to risk in the consistency of the elaboration of the agreements: the agreements need to be practical and socially viable.

iii.1. An agreement will elaborated for each one of the 18 districts selected as target communities of the Project, in order to decide selection mechanism for the direct beneficiaries of the following Project activities:

a. Shelters for camelids, livestock fencing, water reservoirs, rustic reservoirs, pressurized irrigation modules.
b. Improved housing.
c. Seeds for the cultivation of high elevation forage cereals, seeds for high elevation improved grasses, seeds for planting clover,
d. Tools for adapting rustic canals for improved irrigation, tools for improvement of canals in order to optimize water management.
e. Inputs for animal health campaigns,
f. Training workshops.

iii.2. As the direct beneficiary of some of the activities described or involved above, from a. to b., the head or representative (man or woman) of each productive family unit will be designated, or a grouping of two or up to three heads or representatives (women and/or men) of productive family units (in this last case while these representatives sign a commitment clause in order to share, adding the provisos that they consider pertinents).

iii.3. In order to aspire to being a direct beneficiary of some of the activities described or involved above from a. to e., the candidate requires having attended one or more of the corresponding training workshops.

iii.4. In order to aspire to being a direct beneficiary of some of the activities described or involved above from a. to d. , the candidate must commit to the number of hours or days of labor per candidate to beneficiary and by activity that accords with the signing of each agreement. The beneficiary selected will only be able to access the assigned benefit once he/she has contributed the agreed upon number of hours or days of labor.

iii.5. The Project field coordinator is responsible for distributing, prior to the signing of each agreement, a list, in a signed hard copy, of the resources (quantities and scopes) available for the activities for which direct beneficiaries will be selected under the agreements. In the agreements, the Project imposes an obligatory clause according to which the Project commits to responding even for the resources whose quantities and scopes will be defined in the list provided by the field coordinator prior to the signing of the agreement. The stakeholders in each agreement apart from the responsible parties at COPASA for Project execution can commit to providing additional resources to those specified in the list provided by the field coordinator as has just been described. The representatives of a community can commit additional resources to those specified in the list provided by the field coordinator provided that

they attach to the agreement a copy of the writ in which their representatives have previously agreed upon the additional contribution. Authorities such as the mayors can also contribute additional resources, distinct from those specified in the list provided by the field coordinator, provided that they be legally responsible for the administration or management of the involved resources.

iv. With respect to risk in the consistency of follow-up on the agreements in the decision-making.

iv.1. Each meeting in which at least one decision is made related to the selection of direct beneficiaries, will generate written proof in the meeting minutes, with the signature of the stakeholders participating in the meeting. In order to make a decision of this kind, the meeting will have to have a complete written copy of the proceedings of each meeting in which the agreements are defined for the selection of direct beneficiaries. The meeting proceedings in which at least one decision related to the selection of direct beneficiaries will include a clause according to which the signatories of the minutes affirm having verified the consistency of the content of the minutes that they sign and with the content of the minutes of the signing of the agreement. This consistency includes the stakeholders designated or authorized for the corresponding decision-making. A possible inconsistency between the two aforementioned minutes will annul the effects of the decision-making related to the selection of direct beneficiaries. The corresponding district mayor together with the project's field coordinator has the responsibility to decide unanimously the annulation of the meeting minutes in which at least one decision was made related to the selection of direct beneficiaries.

v. The Section D.3 of this Plan contains the former measures organized to facilitate follow up.

C.3. Measures related to principle AF3: Marginal and vulnerable groups

In consideration of a potential lack of success of some or all of the strengthening activities of the productive activity, the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, identified that it offers the risk of a potential negative moderate impact (M) of medium or long duration on the sustainability of the alpaca raising way of life, due to distrust or negative image that can be generated on the innovations and technical solutions that the Project proposes. In the face of this risk, the assessment took into consideration that the Assessment and Monitoring Plan included in the Project document as foresight for the adequate and sufficient management of the aforementioned risk and as a consequence the Environmental and Social Management Plan does not need to include additional measures for handling it.

In accord with the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, the Project's Environmental and Social Management Plan does not need to include measures related to risk management that has just been written, nor to the management of other negative risks and impacts related to marginal and vulnerable groups. In consequence, this Management Plan does not include management measures for negative risks or impacts referring to principle AF3: Marginal and vulnerable groups.

C.4. Measures related to principle AF4: Human Rights

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, did not identify the need for the Project's Environmental and Social Management Plan to design management risks for human rights. In consequence, this Environmental and Social Management Plan does not include management measures for negative risks or impacts referring to principle AF4: Human Rights.

C.5. Measures related to principle AF5: Gender equality and women's empowerment

C.5.1. The considerations of the report on the Environmental and Social Assessment related to gender equality and women's empowerment

i. The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, reported the modifications in the design of the Project, related to gender equality and women's empowerment, resulting both the transversal gender analysis of the Project, as well as the expectations of women brought together in the consultation process. The report identified the following elements that were incorporated in the matrix of the Project's logical framework:

- Prioritize women leaders of families (heads of household or not) in the selection of beneficiaries of housing improvement.
- Reach a minimum of 25% women's participation in the skills development activities in local management and self-management processes of climate change risk.
- Include at least one woman in the composition of the civil defense platforms at the community level.
- Include at least one woman in the composition of civil defense platforms at the district level.
- Within the packet of support booklets for training, include a booklet referring to the topic of personal and family development (request made women in the consultation activities).
- Reach a minimum of 30% women's participation in skills development activities for improvements in housing processes.

ii. Additionally, the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, included the following recommendations:

- In all the Project's collective participation activities, establish criteria for women's participation: equality in speaking and voting on decisions, equality of accommodation between the two genders (in the environmental assessment it was verified that some few communities preserve the tradition of accommodating, in the meetings, in a differentiated manner, the two genders, with advantages for men).
- Foster openly in all the convocations and meetings related to the Project women's participation under conditions of gender equality.
- Establish in the Project's Environmental and Social Management Plan measures that reinforce the prior provisions.

iii. The aforementioned report on the Project's Environmental and Social Assessment identified the risk of low women's participation, with the moderate potential impact (M), due to the reduced access of women to Project benefits; it has been assessed that this impact entails the secondary moderate potential impact (M) of dissatisfaction, demotivation and distrust toward the Project and similar initiatives, with the perspective that these impacts would involve the loss of the opportunity to set a precedent of recognition and empowerment of women that can contribute to sensitizing the communities toward a revision of some identified relations of inequality.

In order to avoid potential impacts, it was concluded that the Project's Environmental and Social Management Plan requires the design of measures that allow preventing, avoiding and controlling them.

C.5.2. <u>The management measures related to gender equality and women's empowerment</u>

i. Before each cycle of convocations, the Project director is responsible for preparing a convocations strategy that considers the following elements:
   - The future vision of a better life in the Andean highlands of Arequipa.
   - Content written to communicate to mayors and community leaders.
   - Motivating elements for women's participation in the activities to be convoked.
   - Potentializing elements of women's and men's roles in the family and in the way of life.
   - Lessons learned from preceding convocations.
   - Communication networks to be used.
   - Communicative supports in the convocation: slogans, shared emotions, etc.

ii. The Project director will be responsible for assessing and reinforcing the communicative proposals of the field coordinator as refers to the clarity of content, motivating reinforcements (including the Project goals and that of women's participation concerning to the activity) and coherence with the convocation strategy.

iii. In turn, the field coordinator will be responsible for training and reinforcing the proposals and communicative competencies of the local experts (Yachachis), of the manner as described in the previous paragraph.

iv. During the beginning of each cycle of activities, the Project field coordinator will do positive motivational recognition and reinforcement for the efforts of the convocation and for the results obtained in the numeric participation and in women's participation (bolstering the positive aspect). The recognition has to include always the valuing of progress. In its motivational reinforcement, the Project field coordinator will support him/herself in the current convocation strategy.

v. The Project director is invited to seek support, in a timely manner, from gender and communications experts of CAF.

vi. Upon ending each convocation cycle, the Project director is responsible for assessing the convocation strategy that arises from implementing and including the pertinent lessons learned in the report on the assessment.

vii. During the development of the project's activities, the field coordinator will be responsible for remembering ahead of time (for the parties responsible for the activity), the verification

during the execution of the follow-up activities to the following recommendations arising from the transversal gender of the Project:

- In all the activities of collective or group participation of the Project, establish criteria for women's participation: equality in speaking and voting on decisions, equality of accommodation between the two genders.
- Foster openly in all meetings related to the Project women's participation in conditions of gender equality.

NOTE: In light of the fact that the follow-up of the established goals in the matrix of the Project's logical framework will take part in the monitoring activities specific to the Project, to the Management Plan will not include them in their follow-up.

C.6. Measures related to principle AF6: Indigenous Peoples

C.6.1. The considerations of the report on the Project's Environmental and Social Assessment related to indigenous peoples

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, found it necessary that this Environmental and Social Management Plan should include an adequate control measure for the potential light risk of imprecision or low comprehension of the managed information toward the communities in the Project's development, with the low potential social impact (M) of medium or long duration de dissatisfaction, perception of exclusion and demotivation in the face of similar initiatives to those of the project.

The report also stated that, in the event that the verification to be carried out at the beginning of the project, regarding the applicability of the Environmental Management Report (EMR), entails the imposition of additional requirements to the project related to the peasant communities recognized as part of indigenous or native peoples, the Management Plan must contemplate measures to accommodate the requirements in the Environmental and Social Management of the Project.

The report on the Project's Environmental and Social Assessment did not require other control measures related to indigenous peoples to be included in this Environmental and Social Management Plan.

C.6.2. The management measures related to indigenous peoples (in the case of the Project, there are rural communities recognized as part of ancestral or indigenous peoples)

i. Prior to each first Project activity related to each one of the rural communities with which the Project is going to develop activities (does not apply for risk management activities at the institutional level) the Project's field coordinator is responsible for confirming that in this activity participate a person with bilingual competencies (Quechua – Spanish), in order to exercise the role of interpreter/translator.

ii. At the start of the first meeting mentioned in the previous paragraph, the responsible party will communicate to the participating group the option of receiving the information in Quechua or of that the meeting information being translated to Quechua as requested. At the end of this meeting the group will consulted about the need to maintain the mechanism of interpreter/translator in the following meetings or Project activities with the same community. The decision related to the maintenance of the interpreter/translator for the

following meetings or Project activities with the same community will be recorded in writing in meeting minutes.

iii. If the decision related to the maintenance of the interpreter/translator function, mentioned in the previous paragraph, is affirmative, it is the responsibility of the field coordinator to guarantee that in the following meetings or Project activities with the same community a person with bilingual competencies participate (Quechua – Spanish), entrusted with ensuring the clear communication of the information in Quechua each time that within the meeting or activity some participant requests it. For the meetings or Project activities, this mechanism will be maintained as long as the community consider it necessary. In the case of deciding by consensus to end the mechanism, the decision will have to be recorded in writing in the meeting minutes.

C.7. Measures related to principle AF7: Fundamental Labor Rights

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, did not identify the need for the Project's Environmental and Social Management Plan to design risk or negative impact management actions for fundamental labor rights. This Environmental and Social Plan does not include risk or negative impact management measures referring to principle AF7: fundamental labor rights.

C.8. Measures related to principle AF8: Involuntary Resettlement

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, did not identify the need for the Project's Environmental and Social Management Plan to design risk actions for involuntary resettlement. For this reason, the Environmental and Social Management Plan does not include risk or negative impact management measures referring to principle AF8: involuntary resettlement.

C.9. Measures related to principle AF9: Protection of Natural Habitats

According to the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, in case the selection of direct beneficiaries of the project (in accordance with the relevant procedures) includes areas to be intervened by the project within the limits of the Reserve, the Environmental and Social Management Plan of the project shall include adequate measures to notify Sernanp about the decision and to incorporate into the project activities the requirements that Sernanp may request, or, if necessary, to advance the decision-making processes required to select areas to intervene that conform to the requirements or conditions that will be drawn from Sernanp.

In light of the fact that the Project does not entail the unjustified conversion or degradation of critical habitats in this National Reserve, it was not required that the Ayninacuy Project's Environmental and Social Management Plan develop additional risk or negative impact management measures referring to the protection of natural habitats.

C.10. Measures related to principle AF10: Conservation of Biological Diversity

C.10.1. <u>The considerations of the report on the Environmental and Social Assessment related to the conservation of biological diversity</u>

With respect to the conservation of biological diversity, the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, proposed that the Project's Environmental and Social Management Plan include, **as a recommendation**, a measure of verification with the pertinent environmental authority about the ecological adoption of the use of species such as Ryegrass and *dactylis glomerata* and other non-native cultivated grasses as forage alternatives:

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, concluded that the other Project activities do not present the risk of negative effects on the conservation of biological diversity and as such do not generate potential negative impacts that affect biological diversity. In consequence, it did not identify the need for the Project's Environmental and Social Management Plan to design additional risk management actions for biological diversity.

C.10.2. The management measures related to the conservation of biological diversity

i. Starting with the principle of not challenging the sovereignty of the Peruvian State, in its environmental and farm development policies, it is recommended to the Project leadership to verify with the pertinent environmental authority about the ecological adoption of the use of species such as Ryegrass and *dactylis glomerata* (bunchgrass) and other non-native cultivated grasses as forage alternatives.

C.11. Measures related to principle AF11: Climate Change

C.11.1. The considerations of the report on the Environmental and Social Assessment related to climate change

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, identified the risk of increasing greenhouse gas emissions as a consequence of the possible transformation and degradation of the peat deposits that the soil in the bofedales could have accumulated. In order to avoid the risk, the report proposed that the Environmental and Social Management Plan include adequate and sufficient guidelines to control it and to maintain respect for the active flora of the bofedal and for the condition of the soils that sustain that active flora. The corresponding negative impact to the lack of risk control described above would be low (L), due to the impact of the activities in terms of the scale of the areas to be affected (small scale).

C.11.2. Measures foreseen in order to avoid greenhouse gas emissions arising from the degradation-transformation of the possible peat/turf deposits that may be accumulated in the current and active soils of the *bofedales*

With respect to all the activities of: 1. restoration of the *bofedales* that are used for grazing alpacas and that will be addressed by the Project and of 2. Possible expansion of the natural areas of those *bofedales*, the following indications will have to be followed:

i. Before intervening with the aforementioned activities, a photographic registry of the state of the *bofedal* will be done. In this registry, the current borders of the live flora in the *bofedal* will be expressly marked out. To this photographic registry a synthetic description of the state of the *bofedal* will be attached.

ii. The courses defined for the improvement of the existing rustic canals will be authorized by the Project's technical coordinator, prior to its implementation. The Project's technical coordinator will conserve the written record of the authorized courses.

iii. The areas used for the planting of resistant native species proposed by the Project, will be authorized by the Project coordinator, exclusively with regard to the following principles:

iii.1. The parts of the *bofedal* that are found wet will be kept wet and non-intervened.

iii.2. To the extent possible, rehumidifying will be attempted in the parts of the *bofedal* that may be drained.

iii.3. For the parts of the *bofedal* that can not likely be rehumidified, if possible, given the conditions in the terrain, some one of the the following management measures will be implemented.[97]

iii.4. The use of resistant native species (red and white clover) for the recovery/expansión of the *bofedales* will only be implemented in the rehumidified areas of the *bofedal* or in the areas of expanded irrigation obtained through the management of rustic canals.

iv. Prior to the implementation of the recovery and expansión activities of *bofedales*, the Project director will order the execution of at least two samplings of soils in two important *bofedales* in extension that may be located in various areas (a sampling of each *bofedal*) and that may be included among the *bofedales* to be recover. The samplings will be aimed at confirming the quality of the soils of the bofedal as organic soils, in accord with the criteria contained below in numeral C.11.3. If the samplings confirm that the soils of the sampled *bofedales* do not have the quality of organic soils, of the measures described herein (section C. 11.2 of this Environmental and Social Management Plan), only the measures described in subsections i and ii of the aforementioned section C. 11.2 will be implemented.

C.11.3. Measures foreseen to control greenhouse gas emissions from project vehicle movements

Organic soils are soils with a substantial layer of organic matter at or near the surface. According to the 2006 IPCC Guidelines, soils are organic if they satisfy requirements 1 and 2, or 1 and 3 below:[98]

1. The thickness of the organic horizon greater than or equal to 10 cm. A horizon of less than 20 cm must have 12 percent or more organic carbon when mixed to a depth of 20 cm.

[97]As a guiding technical concept, it is recommended to orient the decisions under the concept of "Palidiculture", with the goal of minimizing the degradation of the *bofedal* and of optimizing its sustainable cultivation. See Peatlands - guidance for climate change mitigation through conservation, rehabilitation and sustainable use. FAO, MICCA & Wetlands International. Available at: www.fao.org/3/a-an762e.pdf. Consulted in December 2016.

[98]Peatlands - guidance for climate change mitigation through conservation, rehabilitation and sustainable use. Second edition. FAO & Wetlands International. Available at: http://www.climatefocus.com/sites/default/files/Peatlands.pdf. Consulted in December 2016.

2. Soils that are never saturated with water for more than a few days must contain more than 20 percent organic carbon by weight (i.e., about 35 percent organic matter).
3. Soils are subject to water saturation episodes and have either:
    a. at least 12 percent organic carbon by weight (i.e., about 20 percent organic matter) if the soil has no clay; or
    b. at least 18 percent organic carbon by weight (i.e., about 30 percent organic matter) if the soil has 60 percent or more clay; or
    c. an intermediate proportional amount of organic carbon for intermediate amounts of clay.[99]

C.11.4. Criteria for the identification of organic soils, to be used for the categorization of the soils of the sampled *bofedales* as organic soils

Related to the greenhouse emissions arising from the vehicular movements produced by the Project, the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, proposed that the Project's Environmental and Social Management Plan will design risk management actions for greenhouse gas emissions resulting from vehicular movement. The corresponding measure will consist of controlling the official gases Certificate to each vehicle formally linked with the project (by car rental or contractual services).

C.12. Measures related to principle AF12: Prevention of pollution and efficiency of resources

C.12.1. The considerations of the report on the Environmental and Social Assessment related to the prevention of pollution and efficiency of resources

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, proposed that, in order to manage very low environmental impact on the soil, the Project's Environmental and Social Management Plan must include the documentation of the specific handling actions for solid waste resulting from:

- The waste itself from the logistics of the events related to skills development: paper, packing from food wrapping, organic food waste.
- The specific emissions of solid waste arising from the improvement or construction of shelters for animal protection.

The measure proposed on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, had the simultaneous function of responding to the risk found, and of serving with educational goals the community, in order to sustain or instill sustainable habits that include the documentation of responsible activities.

In accord with the report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, this Project's Environmental and Social Management Plan does not require other risk or negative impact management measures referring to the prevention of pollution and resource efficiency.

[99] Ibid.

C.12.2. The management measures related to the prevention of pollution and resource efficiency

i. Prior to some of the activities of the kind of: 1. events related to the development of skills and 2. activities of improvements or construction of shelters for animal protection, the party responsible for the activity will prepare the elements of containment of solid wastes, considering the classification: organic residue, recyclable inorganic waste and other residues. The containment elements will include plastic bags and/or plastic containers.
ii. At the start of the activity, the party responsible for the activity will instruct the attendees on the classified recollection of solid waste.
iii. At the end of the event, the party responsible for the activity will verify that the classified waste be brought into the local solid waste management system. If the activity is done in a rural area, the party responsible for the activity will verify that the classified waste is disposed in an adequate manner or that it be transported to an urban area to be incorporated into the local solid waste management system.
iv. The party responsible for the activity will document the activities described in this section, including a photographic registry.

C.13. Measures related to principle AF13: Public Health

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, did not identify the need for the Project's Environmental and Social Management Plan to design risk management actions for public health. In this manner, this Environmental and Social Management Plan does not include risk or negative impact management measures referring to principle AF13: Public Health.

C.14. Measures related to principle AF14: Physical and Cultural Patrimony

C.14.1. The considerations of the report on the Environmental and Social Assessment related to physical and cultural patrimony

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, established the need for the Project's Environmental and Social Management Plan to include a procedure for managing the risk of negative cultural impacts on possible finds of physical cultural resources in manner that is coherent with the regulatory procedures of Peru. The report on the Environmental and Social Assessment identified as activities in connection with this risk:

i. The construction of shelters and
ii. The implementation of water reservoirs.

C.14.2. Procedure for risk management of negative cultural impacts arising from possible finds of physical cultural resources

a. Scope of the procedure

This procedure will be of obligatory compliance in relation to the following activities of the Ayninacuy Project:

i. The construction of shelters: for the construction of any of the 270 animal protection shelters foreseen as part of the outputs 1.1 of the Project, provided that the place foreseen for the implementation of the reservoir corresponds to terrain with soil previously non-intervened within the productive activities common to raising alpacas or of other activities.

   NOTE: if the activity corresponds to the intervention, adoption or repair of an existing shelter, this procedure will not be applicable.

ii. The implementation of water reservoirs: for the construction of any of the 36 reservoirs foreseen as part of the outputs 1.2 of the Project, provided that the place planned for the implementation of the reservoir correspond to terrain with soil previously non-intervened within the productive activities common to raising alpacas or other activities.

b. Sequence of the procedure

i. Once, in accord with the procedures established in the Project for the selection of direct beneficiaries, the beneficiary has been determined for the construction of a new animal protection shelter, or for the implementation of a water reservoir, the Project's Field Coordinator will verify, in accord with the direct beneficiary/ies, that the assigned location (for its position or its orientation in the case of a shelter) for the activity be technically adequate; the verification of the Project's Field Coordinator includes the confirmation that, by its location, the work is not going to interfere with a body of water or with a *bofedal*.

ii. Once the field coordinator's verification finished, a labelled photographic registry of the area defined for the activity will be done.

iii. If, in accord with the area defined for the activity, this procedure results applicable, under the responsibility of the field coordinator the required documentary information is gathered for the CIRA request [Certificate for Inexistence of Archeological Remains], pursuant to Circular 1998-2016-DDC-ARE/MC of the Deconcentrated Directorate of Culture of Arequipa of the Ministry of Culture (document included as Annex G of this Environmental and Social Management Plan):
   - Form FP01DGPA, duly filled out
   - Model No 4 Descriptive Statement
   - Model Location Plan
   - Model Geo-located Plan

iv. Once the field coordinator has the previously described information, it is the responsibility of the Project director to execute the corresponding CIRA request (Certificate for Inexistence of Archeological Remains), be it through a request by District, by Province or pursuant to the dispositions of the Ministry of Culture.

v. It is responsibility of the Project Director to carry out the follow-up on the filing of the CIRAs for the project. Once the CIRA corresponding to an activity has been issued by the Ministry of Culture, the Project Director informs the Project Field Coordinator on the viability for the corresponding activity.

vi. It is responsibility of the field coordinator to gather/verify a photographic registry of the activity before and after their complete execution.

vii. If in response to the CIRA request, for any location, the Ministry of Culture were to communicate that the certificate is not applicable, the Project Field Coordinator is

responsible for informing the beneficiary(ies), and for coordinating the definition of new location for the activity, in coherence with the other indications of this procedure. Additionally the field coordinator will report the information to the corresponding district mayor.

c. Actions in the case of an unexpected archeological find

In the case that, during the execution of any of the activities for which this procedure is applicable, possessing or not a current CIRA for the activity, material that potentially could correspond to an archeological find were to be found, it is the responsibility of the Project Field Coordinator:

i. Interrupt the Project activity and mark off in a visible manner the area of the find.
ii. Make a photographic registry.
iii. Report the situation immediately to the Project Director, who in turn, in a documented manner, will report the situation to the Deconcentrated Directorate of Culture of Arequipa of the Ministry of Culture and will act according to its instructions.
iv. Report the situation immediately to the corresponding district mayor.
v. NOTE: It is the responsibility of the Field Coordinator to instruct, in an anticipated way, to all the participants in the Project activities planned for the application of this procedure, regarding that which could be mean an archeological find, and regarding the application of the procedure.

C.15. Measures related to principle AF15: Conservation of Lands and Soils

C.15.1. The considerations of the report on the Environmental and Social Assessment related to the conservation of lands and soils

The report on the Environmental and Social Assessment of the Ayninacuy Project, Version V2, proposed that the Project's Environmental and Social Management Plan include management measures for the low, limited and short term negative impact, on the conservation of lands and soils, identified as resulting from the animal protection shelter construction activities and of the implementation of water reservoirs. The assessment did not identify the need for the Project's Environmental and Social Management Plan to design other risk management actions for the conservation of lands and soils.

C.15.2. The management measures related to the conservation of lands and soils

During and after the execution of the Project activities related to the construction of animal protection shelters and to the implementation of reservoirs, the Project Field Coordinator will be responsible for:

i. Avoiding as much as possible the compaction of the original soil layer in the area surrounding the work.
ii. Removing the soil layer when it is dry or the humidity content is less than 75%.
iii. Conserve the topsoil separate from the excavated inorganic subsoil; locating both piles separate where there is no likelihood of cascading and there are adequate drainage conditions; protecting them with plastic cover in order to avoid loss due to erosion.
iv. In the case of a reservoir, where the storing of topsoil not feasible, to the extent possible, relocate it in the nearby perimeter so that it can be recovered in the case of the later closure of the reservoir.

v. At the end of the activity, leaving the nearby surroundings of the work in better or similar conditions to those found prior to the work.
vi. Gathering, classifying and disposing of the solid waste resulting from the activity, in accord with the area's best practices. If a place for disposal is not found, taking the waste to an appropriate disposal site, within the same district.
vii. Documenting the implemented management measures, including photographic archive.

D. FOLLOW-UP AND DOCUMENTATION FORMATS FOR THE ENVIRONMENTAL AND SOCIAL MANAGEMENT ACTIVITIES

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity _____

D.1. Measures related to principle AF1: Applicable national and international regulatory compliance

Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

Management Measure	Verification	Commentaries
i. At the start of the Project, the Project Director verifies with the regional authority of Arequipa of the Ministry of Agriculture the applicability of the requirement of the presentation of the Project's Environmental Management Report (EMR).		
ii. The Project Director carries out the biweekly follow-up to the response of the regional authority of Arequipa of the Ministry of Agriculture to the consultation about the applicability of the requirement of the presentation of the Environmental Management Report (EMR).		
iii. In the case that the response to the consultation to the regional authority of Arequipa of the Ministry of Agriculture (about the applicability of the requirement of the presentation of the Project's Environmental Management Report (EMR)) entail commitments for the Project to the Ministry of Agriculture, the Project Director responds opportunely to the required commitments.		
iv. The Field coordinator of the project is timely executing the plan to respond to EMR commitments.		
In all project activities that are associated with the use of natural resources (in particular activities related to water management and soil movement), the Project Field Coordinator is responsible for:		
v. Instruct and motivate during the previous activity of capacity development, to sensitize participants to the responsible use of the resources involved.		
vi. Verify that the use of natural resources that produce the project activities and affect the environment are reasonably minimized.		

vii.	Document the control actions carried out and the variables of the natural resources that were considered.		
In the event that the EMR (Environmental Management Report) process is confirmed for the project and, additionally, the result of the process entails additional environmental or social management requirements for the project:			
viii.	The Project Director is responsible for incorporating to this component of the Environmental and Social Management Plan the activities necessary to comply with the requirements.		
ix.	The Field Coordinator is responsible for implementing and documenting the activities corresponding to the fulfillment of the requirements associated with the IGA.		
In the event that project activities are planned to be located in the areas of the San Juan de Tarucani Districts (Province of Arequipa) or San Antonio de Chuca (Caylloma Province) intersecting with the spaces of the Reserve of Salinas and Aguada Blanca:			
x.	Before the implementation of such activities, the Project Director reports to Sernanp the planned activities, as described in Section D.9 of this Plan.		
xi.	The Project Director carries out the biweekly follow-up to the corresponding response of Sernanp, as described in Section D.9 of this Plan.		
xii.	In the case that the response of Sernanp entails environmental and social management obligations for the Project, the Project Director incorporate opportunely into this component of this Environmental and Social Management Plan the activities necessary to comply with the requirements, as described in Section D.9 of this Plan.		
xiii.	The Field Coordinator is responsible for implementing, documenting the activities corresponding to the fulfillment of the requirements associated with the Protected Areas, as described in Section D.9 of this Plan.		
xiv.	The Field Coordinator is responsible for implementing and documenting the activities corresponding to the fulfillment of the requirements defined in sections D.12 and D15 and in other Sections of this Plan that are applicable to activities to be implemented within Protected Areas.		

OTHER COMMENTARIES

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity _____ **D.2. Measures related to principle AF2: Access and Equality**			
Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

Management Measure	Verification	Commentaries
i. Regarding risk in the effectiveness of the convocations (in their contacts and motivation), in the following levels: i. COPASA toward the local authorities;		
i.1. For each cycle of convocation activities, the Project's field coordinator elaborates a synthesized proposal for the convocation with the following components: Objectives, convocation activities, contained to be transmitted in the convocation, a listing (by responsibility) of leaders/representatives or contacts to be convoked, support strategy(ies).	**i.1.**	
i.2. The previous convocation proposal is reviewed, commented and authorized by the Project director, who copies the final proposal to Executive Director of COPASA and to CAF.		
i.3. The Project's field coordinator initiates or implements the convocation proposal authorized by the Project director.		
i.4. Once concluded the cycle of activities for which the convocation has been carried out, the Project field coordinator evaluates synthetically the experience, in terms of the effectiveness of the convocation, including conclusions, recommendations and lessons learned.		
i.5. The assessment report is reported to the Project director, and he/she attaches it to the periodic monitoring and Project assessment reports		
i.6. It is the responsibility of the Project director to verify that each convocation proposal of authorized convocation include pertinent lessons learned that the Project may have generated.		

ii. With respect to the risk in effectiveness of the convocation (in their contacts and motivation), in level ii. The local authorities (district mayors) toward the representatives and spokespeople of the communities, through other figures of the district administrations (lieutenant governors, subprefects, commisaries, others) and through community leaders.		
ii.1. At the beginning of the Project, the field coordinator will elaborate a list of critical contacts for each district (including contacts for each community, responsibilities, names, and, if possible, telephone numbers).		
ii.2. From the first meeting, the field coordinator will be responsible for achieving agreements between the leaders and representatives of each community on a redundant network of the information flows from the convocations (for each critical contact two means of delivering information),		
ii.3. Starting with the assessment that the field coordinator carries out per its description above in ii.2, the field coordinator is responsible for updating and/or improving the redundant network of information flows.		
ii.4. Human failings and the errors that lead to deficiencies in the convocations will be recorded in writing by the field coordinator.		
ii.5. The field coordinator verifies that, in the agreements for the selection of direct beneficiaries of the various activities, the verification of convocations for the various Project activities is the responsibility of the community members and that this must be recorded, through specific contacts agreed upon for each district and through a timetable that will be updated every three months and whose periodic updating will be delivered to the district mayors for their distribution.		
ii.6. The effectiveness of the convocations of this level is included in the assessment described above in i.4.		
iii. With respect to risk in the consistency of the elaboration of the agreements: the agreements need to be practical and socially viable.		
iii.1. An agreement will elaborated for each one of the 18 districts selected as target communities of the Project, in order to decide		

selection mechanism for the direct beneficiaries of the following Project activities:		
a. Shelters for camelids, livestock fencing, water reservoirs, rustic reservoirs, pressurized irrigation modules.		
b. Improved housing.		
c. Seeds for the cultivation of high elevation forage cereals, seeds for high elevation improved grasses, seeds for planting clover,		
d. Tools for adapting rustic canals for improved irrigation, tools for improvement of canals in order to optimize water management.		
e. Inputs for animal health campaigns,		
f. Training workshops.		
iii.2. As the direct beneficiary of some of the activities described or involved above, from a. to b., the head or representative (man or woman) of each productive family unit will be designated, or a grouping of two or up to three heads or representatives (women and/or men) of productive family units (in this last case while these representatives sign a commitment clause in order to share, adding the provisos that they consider pertinent).		
iii.3. In order to aspire to being a direct beneficiary of some of the activities described or involved above from a. to e., the candidate requires having attended one or more of the corresponding training workshops.		
iii.4. In order to aspire to being a direct beneficiary of some of the activities described or involved above from a. to d., the candidate must commit to the number of hours or days of labor per candidate to beneficiary and by activity that accords with the signing of each agreement. The beneficiary selected will only be able to access the assigned benefit once he/she has contributed the agreed upon number of hours or days of labor.		
iii.5. The Project field coordinator is responsible for distributing, prior to the signing of each agreement, a list, in a signed hard copy, of the resources (quantities and scopes) available for the activities for which direct beneficiaries will be selected under the agreements. In the agreements, the Project imposes an obligatory clause according to which the Project commits to responding even for the resources		

whose quantities and scopes will be defined in the list provided by the field coordinator prior to the signing of the agreement. The stakeholders in each agreement apart from the responsible parties at COPASA for Project execution can commit to providing additional resources to those specified in the list provided by the field coordinator as has just been described. The representatives of a community can commit additional resources to those specified in the list provided by the field coordinator provided that they attach to the agreement a copy of the writ in which their representatives have previously agreed upon the additional contribution. Authorities such as the mayors can also contribute additional resources, distinct from those specified in the list provided by the field coordinator, provided that they be legally responsible for the administration or management of the involved resources.		
iv. With respect to risk in the consistency of follow-up on the agreements in the decision-making.		
iv.1. Each meeting in which at least one decision is made related to the selection of direct beneficiaries, will generate written proof in the meeting minutes, with the signature of the stakeholders participating in the meeting.		
iv.2. In order to make a decision of this kind, the meeting will have to have a complete written copy of the proceedings of each meeting in which the agreements are defined for the selection of direct beneficiaries.		
iv.3. The meeting proceedings in which at least one decision related to the selection of direct beneficiaries will include a clause according to which the signatories of the minutes affirm having verified the consistency of the content of the minutes that they sign and with the content of the minutes of the signing of the agreement.		
iv.4. This consistency includes the stakeholders designated or authorized for the corresponding decision-making.		
iv.5. ANNULATION OF DECISION: A possible inconsistency between the two aforementioned minutes will annul the effects of the decision-making related to the selection of direct beneficiaries. The corresponding district mayor together with the project's field coordinator has the responsibility to decide unanimously the		

annulation of the meeting minutes in which at least one decision was made related to the selection of direct beneficiaries.		
OTHER COMMENTARIES		

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity D.5. Measures related to principle AF5: Gender Equality and Women's Empowerment			
Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

	Management Measure	**Verification**	**Commentaries**
i.	Before each cycle of convocations, the Project director is responsible for preparing a convocations strategy that considers the following elements:		
o	The future vision of a better life in the Andean highlands of Arequipa.		
o	Content written to communicate to mayors and community leaders.		
o	Motivating elements for women's participation in the activities to be convoked.		
o	Potentializing elements of women's and men's roles in the family and in the way of life.		
o	Lessons learned from preceding convocations.		
o	Communication networks to be used.		
o	Communicative supports in the convocation: slogans, shared emotions, etc.		
ii.	The Project director will be responsible for assessing and reinforcing the communicative proposals of the field coordinator as refers to the clarity of content, motivating reinforcements (including the Project goals and that of women's participation concerning to the activity) and coherence with the convocation strategy.		
iii.	The Project Field Coordinator will be responsible for training and reinforcing the proposals and communicative competencies of the local experts (Yachachis), of the manner as described in the previous paragraph.		
iv.	At the start of each cycle of activities, the Project Field Coordinator will do positive motivational recognition and reinforcement for the efforts of the convocation and for the results obtained in the numeric		

	participation and in women's participation (bolstering the positive aspect). The recognition has to include always the valuing of progress. In its motivational reinforcement, the Project field coordinator will support him/herself in the current convocation strategy.		
v.	The Project director is invited to seek support, in a timely manner, from gender and communications experts of CAF (not obligatory).		
vi.	Upon ending each convocation cycle, the Project director is responsible for assessing the convocation strategy that arises from implementing and including the pertinent lessons learned in the report on the assessment.		
vii.	During the development of the project's activities, the field coordinator will be responsible for remembering ahead of time (for the parties responsible for the activity), the verification during the execution of the follow-up activities to the following recommendations:		
o	In all the activities of collective or group participation of the Project, establish criteria for women's participation: equality in speaking and voting on decisions, equality of location between the two genders.		
o	Foster openly in all meetings related to the Project women's participation in conditions of gender equality.		
OTHER COMMENTARIES			

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity **D.6. Measures related to principle AF6: Indigenous Peoples – Community _____**			
Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

	Management Measure	**Verification**	**Commentaries**
i.	Prior to each first Project activity related to each one of the rural communities with which the Project is going to develop activities (does not apply for risk management activities at the institutional level) the Project's field coordinator is responsible for confirming the participation of the Quechua-Spanish translator.		
ii.	At the start of the first meeting mentioned in the previous paragraph, the responsible party will communicate to the participating group the option of receiving the information in Quechua or of that the meeting information being translated to Quechua as requested.		
iii.	At the end of this meeting the group will consulted about the need to maintain the mechanism of interpreter/translator in the following meetings or Project activities with the same community.		
iv.	The decision related to the maintenance of the interpreter/translator for the following meetings or Project activities with the same community will be recorded in writing in meeting minutes.		
v.	If it was decided to keep the translator,		
	the coordinator convoked the translator, prior to the following meeting/activity dated_____		
	The translator participated in the meeting dated _____ Translator's signature _____		
	the coordinator convoked the translator, prior to the following meeting/activity dated _____		
	The translator participated in the meeting dated _____ Translator's signature _____		

	the coordinator convoked the translator, prior to the following meeting/activity dated _____		
	The translator participated in the meeting dated _____ Translator's signature _____		
	the coordinator convoked the translator, prior to the following meeting/activity dated _____		
	The translator participated in the meeting dated _____ Translator's signature _____		
	the coordinator convoked the translator, prior to the following meeting/activity dated _____		
	The translator participated in the meeting dated _____ Translator's signature _____		
	the coordinator convoked the translator, prior to the following meeting/activity dated _____		
	The translator participated in the meeting dated _____ Translator's signature _____		
	the coordinator convoked the translator, prior to the following meeting/activity dated_____		
	The translator participated in the meeting dated _____ Translator's signature _____		
	the coordinator convoked the translator, prior to the following meeting/activity dated _____		
	The translator participated in the meeting dated _____ Translator's signature _____		
	the coordinator convoked the translator, prior to the following meeting/activity dated _____		
	The translator participated in the meeting dated _____ Translator's signature _____		
vi.	In the case of a consensus decision to finalize the translator's mechanism, the decision is recorded in the minutes of the meeting.		
In the event that the applicability of the Environmental Management Report (EMR), entails the imposition of additional requirements to the			

project related to the peasant communities recognized as part of indigenous or native peoples:		
vii. The Project Director updated the Environmental and Social Management Plan in order to accomplish the requirements by planning, implementing and documenting the corresponding actions.		
viii. The Field Coordinator implemented and documented the actions above mentioned (in vii).		
OTHER COMMENTARIES		

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity

D.9. Measures related to principle AF 9: Protection of natural habitats

Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

Management Measure	Verification	Commentaries
In case the selection of direct beneficiaries of the project (in accordance with the relevant procedures) includes areas to be intervened by the project within the limits of the Reserve:		
i. The project Director notifies Sernanp about the situation, and includes in the communication a summary of the project objectives, activities and development.		
ii. The project manager monitors Sernanp's response monthly.		
iii. In the event that Sernanp's response imposes environmental and / or social requirements on the project, the Project Director incorporates the measures required for the fulfillment of the requirements into this component of the Environmental and Social Management Plan.		
iv. The Field Coordinator verifies and documents the fulfillment of the requirements of Sernanp.		
v. According to Sernanp's response, in case of a required change in the location of implementation of some project activity in the Salinas and Aguada Blanca National Reserve area, the Field Coordinator implements the necessary actions to update decision-making (preserving The procedures and agreements established within the project) regarding the beneficiaries and / or the location of the activity.		
OTHER COMMENTARIES		

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity

D.10. Measures related to principle AF10: Conservation of Biological Diversity

Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

Management Measure	Verification	Commentaries
i. It is within the purview of the Project Director to verify with the pertinent environmental authority about the ecological adoption of the use of species such as Ryegrass and *dactylis glomerata* (bunchgrass) and other non-native cultivated grasses as forage alternatives.		
ii. In case the eventual response of the authority involves decisions that affect the scheduling of activities planned for the project in relation to the cultivated pastures, the project manager will agree with CAF an alternative plan for the activities that could be affected.		
iii. If an alternative plan has been defined for the relative activities for the project in relation to cultivated pastures, the project manager implements the plan accordingly.		
OTHER COMMENTARIES		

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity D.11. Measures related to principle AF11: Climate Change			
Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

Management Measure	**Verification**	**Commentaries**
D.11.1. With respect to all the activities of: 1. restoration of the *bofedales*… and of 2. Possible expansion of the natural areas of those *bofedales*:		
i. Before intervening with the aforementioned activities, a photographic registry of the state of the bofedal will be done. In this registry, the current borders of the live flora in the bofedal will be expressly marked out. To this photographic registry a synthetic description of the state of the bofedal will be attached.		
ii. The courses defined for the improvement of the existing rustic canals will be authorized by the Project's technical coordinator, prior to its implementation. The Project's technical coordinator will conserve the written record of the authorized courses.		
iii. The areas used for the planting of resistant native species proposed by the Project, will be authorized by the Project coordinator, exclusively with regard to the following principles:		
iii.1. The parts of the bofedal that are found wet will be kept wet and non-intervened.		
iii.2. To the extent possible, rehumidifying will be attempted in the parts of the bofedal that may be drained.		

iii.3. For the parts of the bofedal that can not likely be rehumidified, if possible, given the conditions in the terrain, some one of the the following management measures will be implemented.[100]		
iii.4. The use of resistant native species (red and white clover) for the recovery/expansión of the bofedales will only be implemented in the rehumidified areas of the bofedal or in the areas of expanded irrigation obtained through the management of rustic canals.		
iv. Prior to the implementation of the recovery and expansión activities of bofedales, the Project director will order the execution of at least two samplings of soils in two important bofedales in extension that may be located in various areas (a sampling of each bofedal) and that may be included among the bofedales to be recover. The samplings will be aimed at confirming the quality of the soils of the bofedal as organic soils, in accord with the criteria contained below in numeral D.11.2. If the samplings confirm that the soils of the sampled bofedales do not have the quality of organic soils, of the measures described herein (section D.11.1 of this Format), only the measures described in subsections i and ii.		
D.11.2. Organic soils are soils with a substantial layer of organic matter at or near the surface. According to the 2006 IPCC Guidelines, soils are organic if they satisfy requirements 1 and 2, or 1 and 3 below:		
1. The thickness of the organic horizon greater than or equal to 10 cm. A horizon of less than 20 cm must have 12 percent or more organic carbon when mixed to a depth of 20 cm.		
2. Soils that are never saturated with water for more than a few days must contain more than 20 percent organic carbon by weight (i.e., about 35 percent organic matter).		
3. Soils are subject to water saturation episodes and have either:		
a. at least 12 percent organic carbon by weight (i.e., about 20 percent organic matter) if the soil has no clay; or		

[100] As a guiding technical concept, it is recommended to orient the decisions under the concept of "Palidiculture", with the goal of minimizing the degradation of the *bofedal* and of optimizing its sustainable cultivation. See Peatlands - guidance for climate change mitigation through conservation, rehabilitation and sustainable use. FAO, MICCA & Wetlands International. Available at: www.fao.org/3/a-an762e.pdf. Consulted in December 2016.

b. at least 18 percent organic carbon by weight (i.e., about 30 percent organic matter) if the soil has 60 percent or more clay; or		
c. an intermediate proportional amount of organic carbon for intermediate amounts of clay.		
Controlling greenhouse gas emissions resulting from vehicular movements of the project.		
v. The Field Coordinator is responsible to keep updated a record of every vehicle formally related with project activities and depending of the project (by car rental or contractual services).		
vi. The Field Coordinator is responsible to keep in his record of vehicles formally related with project activities and depending of the project, an updated copy of the official gases Certificate for each vehicle.		
vii. The Field Coordinator is responsible to authorize the entrance to project activities only to vehicles formally related with project activities and depending of the project from which he has filed the updated copy of the official gases Certificate.		
OTHER COMMENTARIES		

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity D.12. Measures related to principle AF12: Prevention of Pollution and Resource Efficiency			
Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

	Management Measure	**Verification**	**Commentaries**
i.	Prior to some of the activities of the kind of: 1. events related to the development of skills and 2. activities of improvements or construction of shelters for animal protection, the party responsible for the activity will prepare the elements of containment of solid wastes, considering the classification: organic residue, recyclable inorganic waste and other residues. The containment elements will include plastic bags and/or plastic containers.		
ii.	At the start of the activity, the party responsible for the activity will instruct the attendees on the classified recollection of solid waste.		
iii.	At the end of the event, the party responsible for the activity will verify that the classified waste be brought into the local solid waste management system. If the activity is done in a rural area, the party responsible for the activity will verify that the classified waste is disposed in an adequate manner or that it be transported to an urban area to be incorporated into the local solid waste management system.		
iv.	The party responsible for the activity will document the activities described in this section, including a photographic registry.		
OTHER COMMENTARIES			

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity D.14. Measures related to principle AF14: Physical and Cultural Patrimony			
Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

	Management Measure	**Verification**	**Commentaries**
i.	If the activity (improvement or construction of shed or implementation of water reservoir) is done on land already intervened and the CIRA process does not apply.		
ii.	Field Coordinator verifies that the assigned location is technically adequate; the Field Coordinator confirms that, by its location, the work is not going to interfere with a body of water or with a bofedal.		
iii.	A labelled photographic registry of the area defined for the activity will be done.		
iv.	Field Coordinator gathers information for the CIRA request [Certificate for Inexistence of Archeological Remains], pursuant to Circular 1998-2016-DDC-ARE/MC of the Dec. Dir. of Culture - Arequipa		
v.	Project Director requests the corresponding CIRA.		
	Type of request: by District, by Province, other (explain).		
vi.	Project Director reports issuance of CIRA (Detail date) to the Project Field Coordinator.		
vii.	Field Coordinator gathers/verifies photographic registry of the activity before and after its complete execution.		
viii.	CIRA will not be issued?, for any location, the Ministry of Culture were to communicate that the certificate will not be issued, the Project Field Coordinator is responsible for informing the beneficiary(ies), and for coordinating the definition of new location for the activity, in coherence with the other indications of this procedure. Additionally the field coordinator will report the information to the corresponding district mayor.		

ix.	Field Coordinator coordinated new location for the activity. Specify new location.		
x.	Field Coordinator reported no issuance of CIRA to the corresponding district mayor.		
Actions in the case of an unexpected archeological find			
i.	Interrupt the Project activity and mark off in a visible manner the area of the find.		
ii.	Make a photographic registry.		
iii.	Report the situation immediately to the Project Director, who in turn, in a documented manner, will report the situation to the Deconcentrated Directorate of Culture of Arequipa of the Ministry of Culture and will act according to its instructions.		
iv.	Report the situation immediately to the corresponding district mayor.		
v.	NOTE: It is the responsibility of the Field Coordinator to instruct, in an anticipated way, to all the participants in the Project activities planned for the application of this procedure, regarding that which could be mean an archeological find, and regarding the application of the procedure.		
OTHER COMMENTARIES			

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

AYNINACUY PROJECT- DOCUMENTATION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN – Activity D.15. Measures related to principle AF15: Conservation of Lands and Soils			
Province _____	District _____	Start Date _____	Closing Date _____
Authorize start:	Project Field Coordinator	Beneficiary 1	Beneficiary 2
Name			
Signature and date			

Management Measure	**Verification**	**Commentaries**
i. Avoid as much as possible the compaction of the original soil layer in the area surrounding the work.		
ii. Remove the soil layer when it is dry or the humidity content is less than 75%.		
iii. Conserve the topsoil separate from the excavated inorganic subsoil; locating both piles separate where there is no likelihood of cascading and there are adequate drainage conditions; protecting them with plastic cover in order to avoid loss due to erosion.		
iv. In the case of a reservoir, where the storing of topsoil is not feasible, to the extent possible, relocate it in the nearby perimeter so that it can be recovered in the case of the later closure of the reservoir.		
v. At the end of the activity, leave the nearby surroundings of the work in better or similar conditions to those found prior to the work.		
vi. Gather, classify and dispose of the solid waste resulting from the activity, in accord with the area's best practices. If a place for disposal is not found, take the waste to an appropriate disposal site, within the same district.		
vii. Document the implemented management measures, including photographic archive.		
OTHER COMMENTARIES		

Responsible Party: Name _____ **Position:** _____ **Start Date**_____ **Closing Date**_____ **Signature** _____
(Verification: (OK) done; (X) not done; (NA) Does not apply; (OT) other, explain.)

E. ROLES AND RESPONSIBILITIES

Executive Director of COPASA:

- Responsible for monitoring and quarterly reporting on the monitoring of the Environmental and Social Management Plan.
- Responsible for the review and updating (if necessary) of the Environmental and Social Management Plan. Any modification or updating of the Environmental and Social Management Plan will require competent professional support and approval from the implementing entity (CAF).

E.1. Project Director:

- Responsible for the planning and supervisión of the implementation of the Environmental and Social Management Plan and for the supervision of the quarterly reporting on the implementation of the Plan.
- Responsible for the execution of some of the Project's activities.

E.2. Project Field Coordinator:

- Responsible for the implementation of the Environmental and Social Management Plan through the Project's activities.
- Responsible for the documentation and quarterly reporting on the implementation of the Environmental and Social Management Plan.

E.3. Review and updating of roles and responsibilities

- The assignation and distribution of roles and responsibilities related to the implementation of this Environmental and Social Management Plan will be reviewed and updated during the Project's initial workshop, with the approval of the implementing entity (CAF).
- During the execution of the project, the assignation and distribution of roles and responsibilities related to the implementation of this Environmental and Social Management Plan could be reviewed and updated, under the initiative of the Project Director, with authorization of the implementing entity (CAF), in response to the needs for improvement of the management or to the unforeseen negative situations, risks or impacts.

F. FOLLOW-UP, MONITORING AND REPORTING

F.1. Documentation of the activities of the Project's Environmental and Social Management Plan:

i. The documentation of the implementation of the activities of this Environmental and Social Management Plan will be done through the use of formats or forms of followup and documentation contained in section D of this report. These formats group together the activities of this Management Plan in accord with each one of the environmental and social principles of the environmental policy of the AF for which activities have been designed in the document.

ii. The content and parameters of the follow-up of the aforementioned forms can be updated by the Project director, under the approval of CAF.

iii. Each form is designed for registering the implementation of the environmental and social management measures during the complete execution cycle of the activity, in particular, in relation to the conclusion of the product or of the products associated with the activity. The verification registry will use the initials indicated in the form, associated with each date of registry (for example: 16.06.2017 OK).

iv. For the same type of activity, an independent form will be assigned to each block of activities with the following organization sequence: activity – Related Product / Province / District / other(s) applicable level(s) (community, beneficiary). The same organization sequence will be used in order to organize the physical and electronic archive of the registry of activities of this Management Plan.

v. Clarity and conciseness are recommended in the registry, to facilitate follow-up, given that the same activity or the same sesión of an activity can entail the registering of various forms.

F.2. Reporting on the implementation of the Environmental and Social Management Plan

i. The Project Field Coordinator is responsible for Quarterly Reporting on the Implementation of the Environmental and Social Management Plan. The Project Director reviews the report and presents it to the Satisfaction of the implementing entity (CAF).

ii. The Quarterly Report on the implementation of the Environment and Social Management Plan will include, for each group of activities included in each form, two global assessment indicators, one corresponding to the grading of the implementation of the group of activities and other to the qualification of the adequacy of the group of activities. This report will also include in the annex copy the status of all the followup forms of the Environmental and Social Management Plan.

iii. The grading of the implementation and adaptation of the environmental and social management measures will be defined in accord with the following criteria:

Implementation of the measure		**Adequacy of the measure**	
Criterion	Indicator	Criterion	Indicator
Very satisfactory, excellent	3	Very adequate	3
Barely satisfactory	2	Acceptably adequate, improbable	2
Not satisfactory	1	Little adequate or incomplete	1
Not implemented	0	Not pertinent	0

iv. The grading for the indicators, assigned by the Project Field Coordinator, on the basis of the review of the follow-up registry, can be assigned for each district or each block of activities within each district. Below an example of the form is included for reporting in the aforementioned indicators:

	Code / Product or Activity Name	Orig. Goal	Modif. Goal	Quart. Prog.	Goal achieved	D1		D2		D5		D6		D10		D11		D12		D14	
	2.3.4.1Irrigation techniques workshop	72	72	31	45	Im	Ad	Im	Ad	Im	Ad	Im	Ad	Im	Ad	Im	Ad	Im	Ad	Im	Ad
1	**Province of Arequipa**	**20**	**20**	**10**	**14**																
1	San Juan de Tarucani	4	4	2	3			3	3	2	2	3	3					2	3		
2	Chiguata	4	4	2	3			3	3	3	2	3	3					3	3		
3	Pocsi	4	4	2	3			3	3	3	2	3	3					3	3		
4	Quequeña	4	4	2	3			3	3	2	2	3	3					2	3		
5	Polobaya	4	4	2	2			2	3	3	2	3	3					3	3		
2	**Province of Caylloma**	**16**	**16**	**6**	**10**																
6	San Antonio de Chuca	4	4	2	3			3	3	3	2	3	3					2	3		
7	Sibayo	4	4	2	2			3	3	2	2	3	3					3	3		
8	Tuti	4	4	1	3			3	3	2	2	3	3					2	3		
9	Callalli	4	4	1	2			2	3	3	2	3	3					3	3		
3	**Province of Castilla**	**12**	**12**	**4**	**8**																
10	Chachas	4	4	2	3			3	3	2	2	3	3					2	3		
11	Andagua	4	4	1	2			3	3	2	2	3	3					2	3		
12	Orcopampa	4	4	1	3			2	3	3	2	3	3					3	3		
4	**Province of Condesuyos**	**12**	**12**	**6**	**8**																
13	Chuquibamba	4	4	2	2			3	3	2	2	3	3					2	3		
4	Andaray	4	4	2	3			3	3	2	2	3	3					2	3		
15	Yanaquihua	4	4	2	3			2	3	3	2	3	3					3	3		
5	**Province of La Union**	**12**	**12**	**5**	**7**																
16	Pampamarca	4	4	2	3			3	3	2	2	3	3					2	3		
17	Huaynacotas	4	4	1	2			3	3	2	2	3	3					2	3		
18	Puika	4	4	2	2			2	3	3	2	3	3					3	3		

v. The implementation indicators have the function of orienting, at the end of each quarter, the eventual decision-making on the adjustments in the implementation, decision-making which is the responsibility of the Project Director.

vi. The adequacy indicators have the function of orienting, at the end of each quarter, the eventual decision-making on the adjustments in measures that make up the Management Plan. In this decision-making process, it is the responsibility of the Project Director to propose modifications to the satisfaction of the implementing entity (CAF).

vii. Under the responsibility of the Project Field Coordinator, the Quarterly Report on the Implementation of the Environmental and Social Management Plan will include the information gathered during the period about commentaries, suggestions, recommendations, requests, complaints, claims from the members of the participating rural communities, from their leaders or representatives, from the local authorities, from others (clarify whom, their role in relation to the Project), regarding:

- the environmental and social management measures,
- other possible environmental and social management measures that could be included in the Environmental and Social Management Plan,
- unforeseen environmental and social risks or impacts,
- opportunities for improvement in the environmental and social management of the Project,
- opportunities for improvement in the positive environmental and social impacts of the Project.

NOTE: this information will be considered in the decision-making processes referred to in the previous paragraphs (v. and vi.)

F.3. Monitoring of the Environmental and Social Management Plan

i. The Executive Director of COPASA is responsible for carrying out, directly, the monitoring activities for the Environmental and Social Management Plan, or for delegating its execution, to a competent professional distinct from the Project Director or the Project Field Coordinator.

ii. The monitoring activities will be carried out on a quarterly basis and will produce a Quarterly Monitoring Report for the Environmental and Social Management Plan, distinct from the Quarterly Implementation Report for the Environmental and Social Management Plan. This report will preferably have to be concise.

iii. These monitoring activities have as their objective:
   a. Visit to a sample of activities, in the quality of an audit, in order to witness and assess directly the quality of the execution of the activities of the Environmental and Social Management Plan.
   b. Verify the adequate documentation and reporting on the execution of the activities of the Environmental and Social Management Plan.
   c. Verify and assess adequacy of the activities of the Management Plan for managing risks and the environmental and social impacts identified in the Report on the Project's Environmental and Social Assessment, V2. For this verification, the Executive Director of COPASA can rely on CAF for professional orientation on environmental and social management, or of other stakeholders (under the consideration of the Executive Director of COPASA) expressed in lists of verification, orienting criteria, recommendations and other resources opportunely managed.
   d. Synthesize the results of the quarterly verification of monitoring in conclusions and recommendations that could be used for the planning and execution of the following quarterly of activities of the Environmental and Social Management Plan and for eventual adjustments to this Plan, pending approval of the implementing entity (CAF).

iv. These monitoring activities, without being limited to them, include:
   a. Visit to a sample of activities, in the quality of an audit.
   b. Document review of Project archives related to planning, execution and documentation of the activities of the Environmental and Social Management Plan and of the Project activities.
   c. Interviews with the Project Director, with the Project Field Coordinator and with other stakeholders related to the Project, under consideration of the responsible for Monitoring of the Environmental and Social Management Plan.
   d. Other activities that the Executive Director of COPASA considers pertinent.

v. The Executive Director of COPASA is responsible for the presentation of the Quarterly Monitoring Report for the Environmental and Social Management Plan to the implementing entity (CAF), to its satisfaction.

vi. Responsible for the review and updating (if necessary) of the Environmental and Social Management Plan. Any modification or updating of the Environmental and Social Management Plan will require competent professional support and the approval from the implementing entity (CAF).

vii. The Project Field Coordinator is responsible for the Quarterly Report on the implementation of the Environmental and Social Management Plan. The Project Director reviews the report and presents it to the satisfaction of the implementing entity (CAF).

F.4. Adjustments to the Environmental and Social Management Plan, to its planning, to the report on its implementation and the criteria for its monitoring

i. In consideration of the effectiveness and adaptation of the environmental and social management of the Project, both in relation to the environmental and social policy of the AF as well as the environmental and social policy of CAF, CAF may propose and agree upon, with the Executive Director of COPASA and with the Project Director, adjustments to the Environmental and Social Management Plan, and its planning, to the report on its implementation and the criteria for its monitoring. These adjustments can be defined during the preliminary workshop of the Project, or in response to:

- some Quarterly Report on the implementation of the Environmental and Social Management Plan,
- some Quarterly Report on the Monitoring of the Environmental Management Plan,
- some CAF initiative for the verification of Project activities, of implementation activities for the Environmental and Social Management Plan, or of reports or documentation of the Project. For these CAF initiatives, as implementing entity retains the right, pending an agreement with the Project Director.
- some registry of complaints, claims, or other communication or situation related to the environmental and social management of the Project, to which CAF, as the implementing entity, considers its actions adequate.

G. ANNEX (of the ESMP): Response of the Decentralized Culture Directorate of Arequipa (December 2106) concerning the procedure of the Certificate of Non Existence of Archaeological Remains (CIRA)

PERU | Ministerio de Cultura | Dirección Desconcentrada de Cultura de Arequipa

"Año de la Consolidación del Mar de Grau"

Arequipa, 13 de diciembre del 2016

Oficio N° 1998 - 2016-DDC-ARE/MC

Señora
CPC BERTHA N. ZEGARRA MATTOS
Directora Ejecutiva
Proyecto Especial COPASA
Gobierno Regional de Arequipa
Urb. La Marina D-21, Cayma
Ciudad.-

Referencia: Oficio N° 0188-2016-GRA/COPASA/DE (Reg. 6155-2016).

De mi consideración:

Es grato saludarla muy cordialmente y en atención al documento de la referencia, por el presente brindamos la información requerida.

1. El Certificado de Inexistencia de Restos Arqueológicos (CIRA) establecido en el Reglamento de Intervenciones Arqueológicas (RIA), aprobado mediante Decreto Supremo N° 003-2014-MC, Artículo 54°: *"El Certificado de Inexistencia de Restos Arqueológicos (CIRA) es el documento mediante el cual el Ministerio de Cultura certifica que en un área determinada no existen vestigios arqueológicos en superficie* (...)." con lo cual queda especificado que es el Ministerio de Cultura el único ente que certifica la existencia o inexistencia de vestigios arqueológicos en un área determinada sustentado en un Informe Técnico que es el producto de una inspección ocular *in situ*. **Dicho documento se gestiona previo al inicio de cualquier obra que implique remoción de suelos.**

De acuerdo al Decreto Supremo N° 054-2013-PCM, Resolución Viceministerial N°037-2013-VMPCIC/MC Normas y Procedimientos para la emisión del Certificado de Inexistencia de Restos Arqueológicos (CIRA), los requisitos para el trámite de CIRA son los siguientes:

- Formulario FP01DGPA
- Modelo N° 4 Memoria Descriptiva
- Modelo Plano de Ubicación.
- Modelo Plano Georeferenciado.
- Pago por derecho de trámite, el que debe ser depositado a la Cuenta Corriente N° 0068233844 del Banco de la Nación a nombre del Ministerio de Cultura, de acuerdo a la escala establecida.

Cabe señalar que los planos y memoria descriptiva deberán ser presentados por duplicado, adjuntando un CD conteniendo los mismos.

Adjunto al presente se le hace llegar el Formato y modelo de documentos que deberá presentar en el Expediente correspondiente.

Sin otro particular, hago propicia la ocasión para reiterarle los sentimientos de mi especial estima y consideración personal.

Atentamente,

Ministerio de Cultura
Dirección Desconcentrada de Cultura de Arequipa
Franz Grupp Castelo
DIRECTOR

FGC/DDC-ARE/MC
mchl/CAD

Avenida Ramón Castilla N° 745, Cayma, Arequipa – Perú. Telef.: (054) 340387 – 212171 www.cultura.gob.pe

ANNEX C (to Main document) - CONSULTATIVE PROCESS DOCUMENTATION

C.1. First phase of the consultation

C.3.1. **Attendance Lists of the first cycle of Project Dissemination** (original documents, with signatures, in COPASA's archives)

Ayninacuy Project Presentation Workshop, Caylloma Province, March 2015

N°	NAME	REPRESENTATIVE	SIGNATURE
1	Fredy Apaza Llasa	Public School 40127 "S.E.S"	
2	Oscar Moscoso Llasa	Resident	
3	Filomena vilca de Calisaya	Governor	
4	Adela Flores Cayo	Nurse in Health Center	
5	Mateo Macedo	President of the Housing Association	
6	Rogelio Lagos C.	Community President	
7	Mario Quispe S.	President of the Cari Cari Sector	
8	José Ushiñahua	Representative of the Municipal Office of Public Works	
9	Oscar Cayro Suaña	Municipal Councilman	
10	Yoselin Bernal Coaquira	Educational Assistant	
11	Gregorio Corrales D.	Representative of the Mayor's Office	
12	Juan Talavera R.	Irrigation Committee	
13	Arturo Tomas Rivera Vigil	COPASA	

Ayninacuy Project Presentation Workshop, Castilla Province, April 2015

N°	NAME	REPRESENTATIVE	SIGNATURE
1	Gladis Molina Huaman	School Principal	
2	Mayra Delgado Rivera	District Governor	
3	Pedro Pablo Steven Neyra	Parish Priest	
4	Morelia Perez Vargas	Representative Health Post	
5	Leonor Acuña Yucra	School Professor. 40209	
6	Anny Fiorela Loayza Paredes	Resident	
7	Kelly Coaguila Tarija	Resident	
8	Milagros Coaguila Centeno	Resident	
9	Karol QuequezanaLopez	Resident	
10	Moifel Codori Olazabal	Resident	
11	Humberto Romani V.	Municipal Worker	

12	Alexander Sosa	Municipal Worker
13	Esther Cruz Málaga	Resident
17	Arturo Tomas Rivera Vigil	COPASA

Ayninacuy Project Presentation Workshop, La Union Province, March 2015

N°	NAME	REPRESENTATIVE	SIGNATURE
1	Lilith Alvarez Sueros	Municipal Worker	
2	Karol N. Quequezana López	Intern	
3	Manuela Vilma Sarmiento Choque	Municipal Worker	
4	Walter Gil Quispe Ancalle	Community member	
5	Edgar Florea A.	Worker	
6	Kelly Luz Coaguila Tarifa	Medical Post	
7	Angel Bautista Rambo	School Employee	
8	Arturo Tomas Rivera Vigil	COPASA	

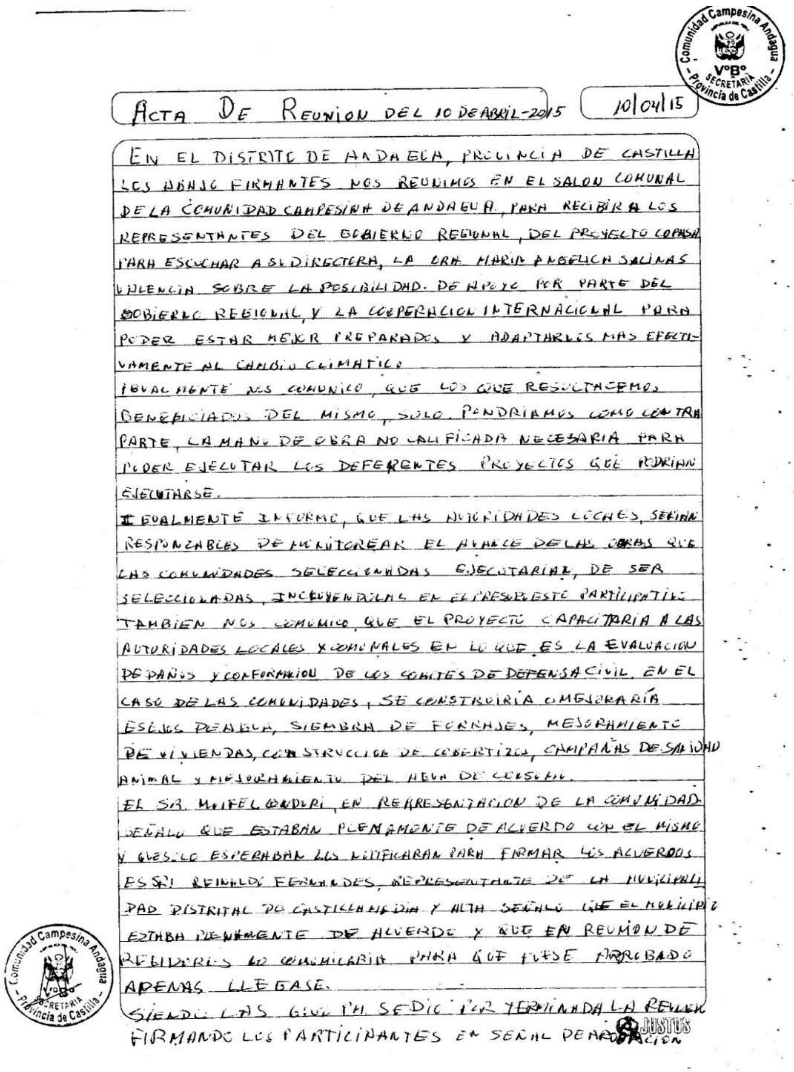
Ayninacuy Project Presentation Workshop, Condesuyos Province, April 2015

N°	NAME	REPRESENTATIVE	SIGNATURE
1	Juan Jose Calizaya Marin	Representative - Provincial Council	
2	Hamilton Barionuevo Cordoba	Irrigation Committee	
3	Romulo Nuñez Salar	Municipal Manager	
4	Adelina Becerra Valdivia	Social Worker	
5	Eduardo Julio Huamani Rodolfo	Health Post	
6	Vilma Belido Téllez	Public School 40190	
7	Jorge Rivaldo Gallegos Condori	Councilman	
8	Rodolfo Quispe Paucara	President - Villa Florida	
9	Evaristo Fernández Rojas R	Resident	
10	Melisa Mendoza Puma	Local technician	
11	Ximena A. Marroquin P.	A.S.P.E.Q.M.	
12	Jesús Esteban Neyra Castillo	Priest	
13	Arturo Tomas Rivera Vigil	COPASA	

Ayninacuy Project Presentation Workshop, Arequipa Province, April 2015

N°	NAME	REPRESENTATIVE	SIGNATURE
1	JoséAntonioPalominoAguilar	Municipality	
2	Ing Matilde García Godos Peñaloza	Municipality	
3	Enf.Nelly Angélica Pacheco Romero	Health Post - Quequeña	
4	Ober Salvatierra Kume	Commissary - Yarabamba	
5	Yeni Hermosina Cabrera de Portugal	Governor's office - Quequeña	
6	Hamilton Córdoba	President Irrigation Committee	
7	Silvana Bellido Telles	School Principal	
8	Rafael Quinto Paucara	President DD.CC. Committee	
9	Cecilia Pantoja Rojas	Audit Committee	
10	Raul Medina Cayo	President - Valle Grande	
11	Amanda Marroquin Portugal	Resident	
12	Candi Parra Olazabal	Neighborhood President	
13	Augusto Santilla Tiro	Legal Advisor	
17	Ana Maria Quispe Zalas	Neighborhood President	
18	Arturo Tomas Rivera Vigil	COPASA	

C.3.2. **Two (2) samples of the meeting minutes and their translation to English**: Andagua District, Castilla Province, April 10th, 2015, and Huaynacotas District, La Union Province, May 27th, 2015.



ACTA DE REUNION DEL 10 DE ABRIL-2015 10/04/15

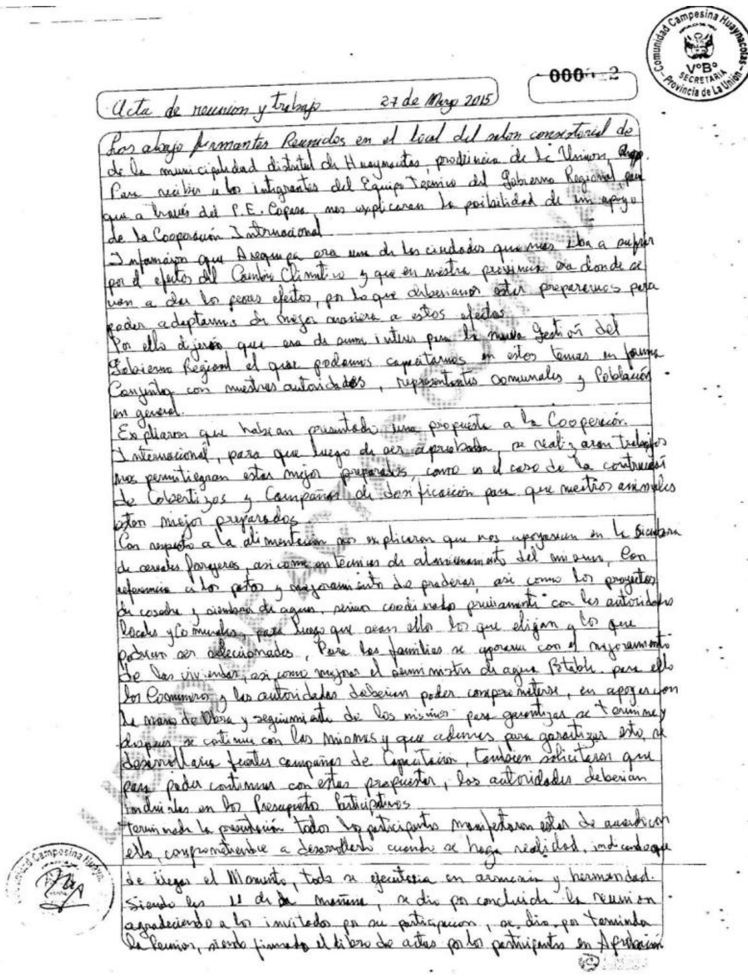
EN EL DISTRITO DE ANDAGUA, PROVINCIA DE CASTILLA LOS ABAJO FIRMANTES NOS REUNIMOS EN EL SALON COMUNAL DE LA COMUNIDAD CAMPESINA DE ANDAGUA, PARA RECIBIR A LOS REPRESENTANTES DEL GOBIERNO REGIONAL, DEL PROYECTO COPASA PARA ESCUCHAR A SU DIRECTORA, LA DRA. MARIA ANGELICA SALINAS VALENCIA SOBRE LA POSIBILIDAD DE APOYO POR PARTE DEL GOBIERNO REGIONAL Y LA COOPERACION INTERNACIONAL PARA PODER ESTAR MEJOR PREPARADOS Y ADAPTARLOS MAS EFECTIVAMENTE AL CAMBIO CLIMATICO.

IGUALMENTE NOS COMUNICO, QUE LOS QUE RESULTAREMOS BENEFICIADOS DEL MISMO, SOLO PONDRIAMOS COMO CONTRAPARTE, LA MANO DE OBRA NO CALIFICADA NECESARIA PARA PODER EJECUTAR LOS DIFERENTES PROYECTOS QUE PODRIAN EJECUTARSE.

IGUALMENTE INFORMO, QUE LAS AUTORIDADES LOCALES, SERIAN RESPONSABLES DE MONITOREAR EL AVANCE DE LAS OBRAS QUE LAS COMUNIDADES SELECCIONADAS EJECUTARIAN, DE SER SELECCIONADAS, INCLUYENDOLAS EN EL PRESUPUESTO PARTICIPATIVO. TAMBIEN NOS COMUNICO, QUE EL PROYECTO CAPACITARIA A LAS AUTORIDADES LOCALES Y COMUNALES EN LO QUE ES LA EVALUACION DE DAÑOS Y CONFORMACION DE LOS COMITES DE DEFENSA CIVIL. EN EL CASO DE LAS COMUNIDADES, SE CONSTRUIRIA O MEJORARIA ESTABLOS DE ALPACA, SIEMBRA DE FORRAJES, MEJORAMIENTO DE VIVIENDAS, CONSTRUCCION DE COBERTIZOS, CAMPAÑAS DE SANIDAD ANIMAL Y MEJORAMIENTO DEL AGUA DE CONSUMO.

EL SR. MOISES CONDORI, EN REPRESENTACION DE LA COMUNIDAD SEÑALO QUE ESTABAN PLENAMENTE DE ACUERDO CON EL MISMO Y QUE SOLO ESPERABAN LES NOTIFICARAN PARA FIRMAR LOS ACUERDOS. ES SR. REINALDO FERNANDES, REPRESENTANTE DE LA MUNICIPALIDAD DISTRITAL DE CASTILLA MEDIA Y ALTA SEÑALO QUE EL MUNICIPIO ESTABA PLENAMENTE DE ACUERDO Y QUE EN REUNION DE REGIDORES LO COMUNICARIA PARA QUE FUESE APROBADO APENAS LLEGASE.

SIENDO LAS 6:00 PM SE DIO POR TERMINADA LA REUNION FIRMANDO LOS PARTICIPANTES EN SEÑAL DE APROBACION



Acta de reunion y trabajo 27 de Mayo 2015 000..2

Los abajo firmantes Reunidos en el local del salon consistorial de de la municipalidad distrital de Huaynacotas, provincia de La Union, Arequipa. Para recibir a los integrantes del Equipo Tecnico del Gobierno Regional para que a través del P.E. Copasa, nos explicaran la posibilidad de un apoyo de la Cooperación Internacional.

Informaron que Arequipa era una de las ciudades que mas iba a sufrir por el efectos del Cambio Climatico y que en nuestra provincia era donde se van a dar los peores efectos, por lo que debemos estar preparados para poder adaptarnos de mejor manera a estos efectos.

Por ello dijeron que era de suma interes para la nueva Gestion del Gobierno Regional el que podamos capacitarnos en estos temas en forma Conjunta con nuestras autoridades, representantes comunales y Población en general.

Explicaron que habian presentado una propuesta a la Cooperación Internacional, para que luego de ser aprobada, se realizaran trabajos nos permitieran estar mejor preparados, como en el caso de la construcción de Cobertizos y Campañas de dosificación para que nuestros animales esten mejor preparados.

Con respecto a la alimentación nos explicaron que nos apoyarian en la siembra de cereales forrajeros, asi como en tecnicas de almacenamiento del mismo. Con referencia a los pastos y mejoramiento de praderas, asi como los proyectos de cosecha y siembra de agua, serian coordinados previamente con las autoridades locales y Comunales, para luego que sean ellos los que elijan y los que podrian ser seleccionados. Para las familias se apoyaria con el mejoramiento de las viviendas, asi como mejorar el suministro de agua Potable. para ello los Comuneros y las autoridades deberian poder comprometerse, en apoyar con la mano de Obra y seguimiento de los mismos para garantizar se terminen y despues se continue con los mismos y que ademas para garantizar esto, se desarrollarian fuertes campañas de Capacitacion, tambien solicitaron que para poder continuar con estas propuestas, las autoridades deberian incluirlas en los Presupuestos Participativos.

Terminada la presentación todos los participantes manifestaron estar de acuerdo con ello, comprometiendose a desarrollarlo cuando se haga realidad, indicando que de llegar el Momento, todo se ejecutaria en armonia y hermandad.

Siendo las 11 de la mañana, se dio por concluida la reunion agradeciendo a los invitados por su participacion, se dio por terminada la Reunion, siendo firmado el libro de actas por los participantes en Aprobación

C.3.3. **English translation of the former minutes**:

Meeting Minutes 10 April 2015

In the district of Andagua, Province of Castilla, we, the undersigned, have met in the community room of the Rural Community of Andagua in order to receive the representatives of the Regional Government of Arequipa, from the COPASA Project in order to listen to their director, Dr. Maria Angelica Salinas Valencia about the possibility of support from the Regional Government and International Cooperation in order to be better prepared and to adapt ourselves more effectively to climate change.

Likewise, it was communicated to us that those of us who end up benefitted by project would provide as a counterpart the necessary unskilled labor in order to be able to carry out the various projects that may be done.

Likewise, it was informed that the local authorities would be responsible for monitoring the progress of the works that the selected communities would execute if selected, including them in the participative budget. Also, it was communicated to us that the project would train the local and community authorities in the assessment of damages, the conformation of the civil defense committees in the case of the communities, water ponds would be built or improved, planting of forage, housing improvement, construction of animal shelters, animal health campaign and improvement of [...].

Mr. Rafael Condori, in representation of the community, noted that they were in full agreement with the project and that they only hoped that they would notify them in order to sign the agreements. Mr. Reinaldo Fernandes, representative of the District Municipality of Castilla Media y Alta pointed out that the municipality was fully in agreement and that in the council members meeting, he would communicate it so that it could be approved as soon as he arrived. Being 6:00PM, the meeting was adjourned, with the participants signing in a sign of approval.

Meeting Minutes and work 27 May 2015

The undersigned meeting in the assembly room of the **District Municipality of Huaynacotas**, Province of La Union. In order to receive the members of the technical team of the Regional Government so that through the COPASA SP, they explained to us the possibility of support from International Cooperation.

They reported that Arequipa was one of the cities that was going to suffer the most from the effects of climate change and that in our provinces the worst effects are going to happen, for which we should be prepared in order to be able to adapt ourselves in the best way to these effects.

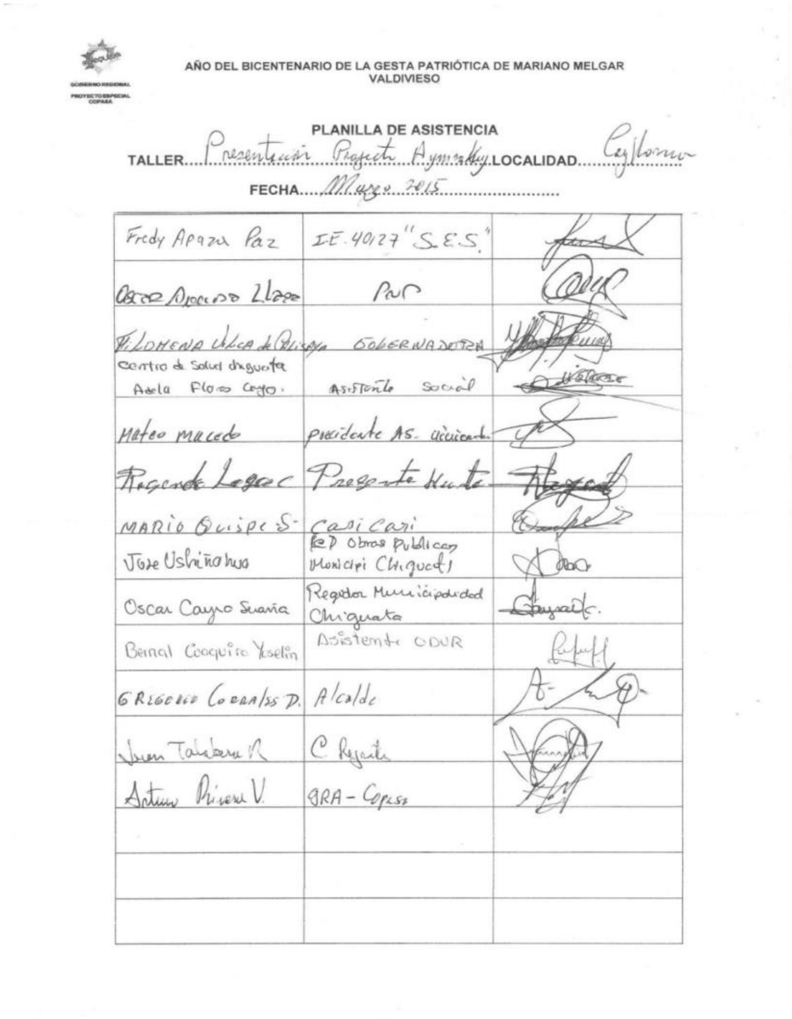
For this reason, they said that it was a great interest to us for the new management of the Regional Government which we can get trained in these topics together with our authorities, community representatives, and the population in general.

They explained that they had presented a proposal to International Cooperation so that once approved they carried out actions that would allow us to be better prepared as is the case of the construction of shelters and campaigns of [...] so that our animals are better prepared. With respect to animal diet they explained to us that they would help us

in the planting of forage cereals as well as in terms of their storage. With reference to grasses and improvement of pastures as well as the projects of harvest and use of water would be coordinated previously with the local and community authorities, so that later it can be they who choose those that could be selected. For the families, the support would come in improving housing as well as improving the supply of drinking water. For this, the community members and the authorities should be able to commit themselves to supporting with labor, their follow-up in order to guarantee this, strong training campaigns would be developed; they also requested that in order to continue with these proposals, the authorities must include them in the participative budgets.

Once the presentation was finished, all the participants manifested their agreement with it, committing themselves to develop it when it becomes reality, indicating that if the moment came, everything would be done in harmony and brotherhood. It being 11AM, the meeting was adjourned, thanking the invitees for their participation, being signed the minutes by the participants in approval.

C.3.4. **Two (2) samples of attendance lists for Ayninacuy** Project consultation: Various Districts, Caylloma and Castilla Provinces, March 2015; Arabamba District, Arequipa Province, May 22nd, 2015.



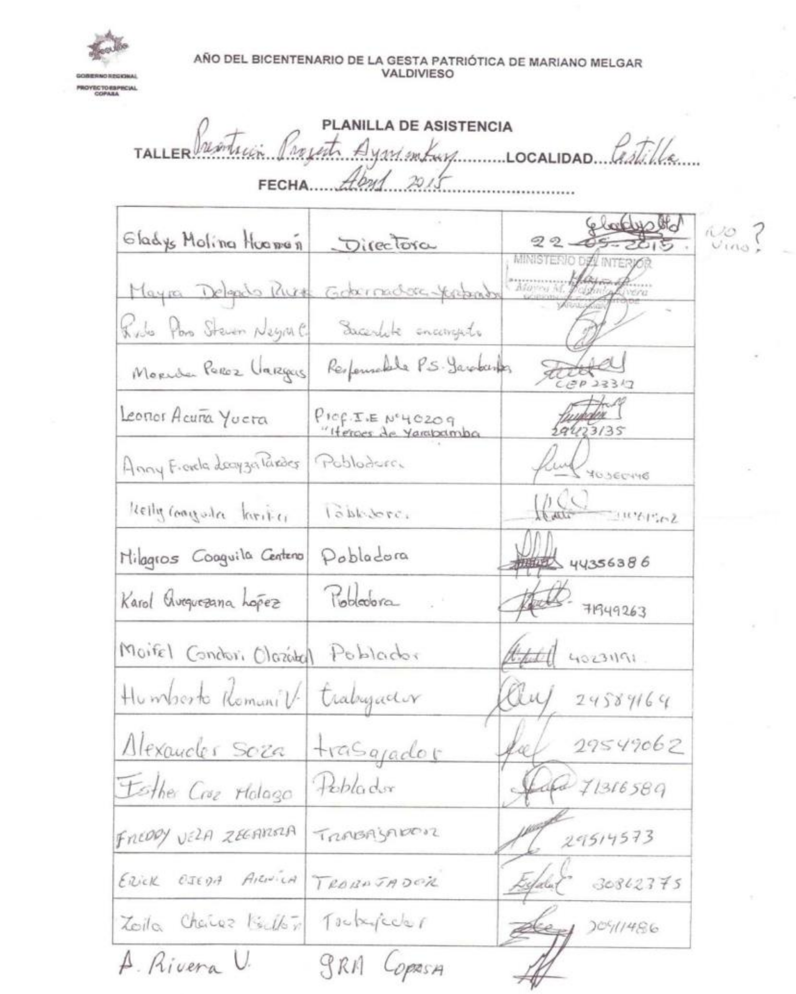
AÑO DEL BICENTENARIO DE LA GESTA PATRIÓTICA DE MARIANO MELGAR VALDIVIESO

PLANILLA DE ASISTENCIA

TALLER Presentación Proyecto Ayninacuy LOCALIDAD Caylloma

FECHA Marzo 2015

Fredy Apaza Paz	I.E. 40127 "S.E.S."	
Oscar Apaza Llave	PNP	
Filomena Chica de Quispe	Gobernadora	
Centro de Salud Chiguata Adela Flores Coyo	Asistente Social	
Mateo Macedo	Presidente As. Ácuicola	
Rosendo Lazo	Presidente Huito	
Mario Quispe S.	Casi Cari	
Jose Ushiñahua	Rep Obras Publicas Municipi Chiguata	
Oscar Cayo Suaña	Regidor Municipalidad Chiguata	
Bernal Coaquira Yoselin	Asistente ODUR	
Gregorio Corrales D.	Alcalde	
Juan Talavera R.	C. Regidor	
Arturo Rivera V.	GRA – Copasa	



AÑO DEL BICENTENARIO DE LA GESTA PATRIÓTICA DE MARIANO MELGAR VALDIVIESO

PLANILLA DE ASISTENCIA

TALLER Presentación Proyecto Ayninacuy LOCALIDAD Castilla

FECHA Abril 2015

Gladys Molina Huamán	Directora	22-05-2015
Mayra Delgado Rivera	Gobernadora Yarabamba	
Rudo Paz Steven Negrón C.	Docente encargado	
Marisa Pérez Vargas	Responsable P.S. Yarabamba	CEP 23317
Leonor Acuña Yucra	Prof. I.E. N° 40209 "Héroes de Yarabamba"	29423135
Anny Fiorela Loayza Paredes	Pobladora	
Kelly Coaguila Ariñez	Pobladora	
Milagros Coaguila Centeno	Pobladora	44356386
Karol Quequezana López	Pobladora	71949263
Moifel Condori Olazábal	Poblador	
Humberto Romaní V.	trabajador	24584164
Alexander Soza	trabajador	29549062
Esther Cruz Málaga	Poblador	71316589
Freddy Vera Zegarra	Trabajador	29514573
Erick Ojeda Arenas	Trabajador	30862375
Zoila Chávez Bustillos	Trabajador	30511486
A. Rivera V.	GRA Copasa	

C.3.5. **Two (2) samples of photographic records of meetings for the Ayninacuy Project consultation**:

	
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)

C.3.6. **Photographs of the women consultation surveys** (February 2015):

C.3.7. Women consultation survey questionnaire

QUESTIONNAIRE USED IN INTERVIEWS WITH WOMEN IN PROVINCES OF THE AREQUIPA REGION DURING THE MONTHS OF JANUARY AND FEBRUARY OF 2015

SOCIOECONOMIC ACTIVITY

Socio-familiar situation
Types of family
Total of benefitting families
Family leadership
Population graph according to gender and age group of heads of households
Parents' educational level
Population by gender and age group of children
School Attendance
Educational level of children

FAMILY ECONOMIC SITUATION

Principal and secondary family income
Family Economic Income

ANIMAL HEALTH IMPROVEMENT

Livestock Aspect
Livestock Population existing in the area:
Epidemiological Data: Animal Health according species
Animal mortality due to COLD
Animal Miscarriages due to COLD
Need for remedies
Composition of livestock herd

GENERAL CENSUS OF COMMUNITY POPULATION AND ANIMALS

Breeding style
Characterization of breeding style
Herd's Health Situation:
Situation of natural pastures
Families' Agricultural Knowledge of Forage Crops
Families' Knowledge of Techniques for Expanding Highland Wetlands

IMPROVEMENT OF ANIMAL NUTRITION

RISK MANAGEMENT

Knows how to identify dangers existing in his/her community
Categorize the dangers that affect his/her community in order of importance
Knows how to identify vulnerabilities that affect his/her community
Knows how to minimize the vulnerabilities of his/her community

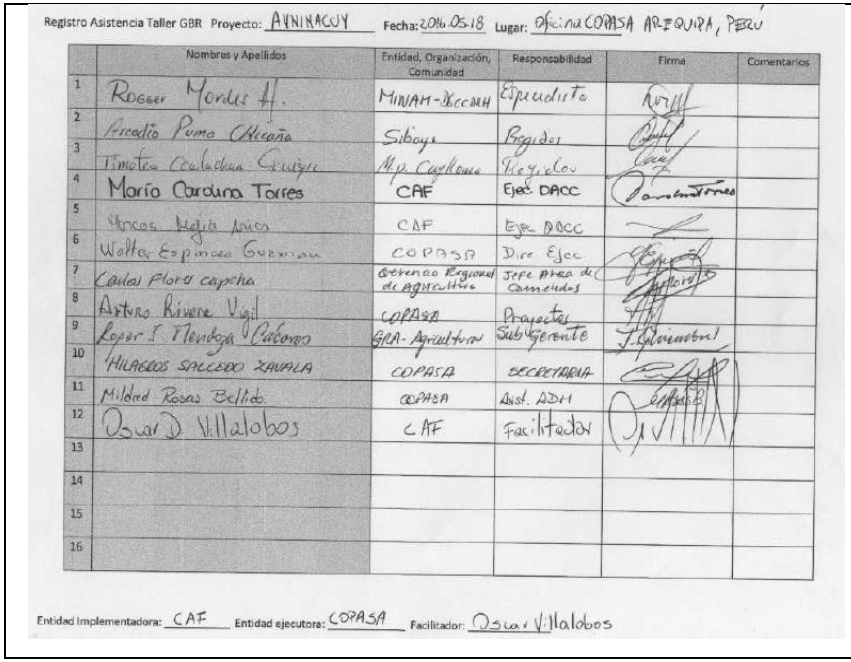
How he/she would reduce his/her communitv's risks

C.2. **Second phase of the consultation**

C.2.1. Consultation Meetings in the communities of Janansaya and Condorcuyo, May 16th and 17th, 2016.

Consultation Meeting in the community of Janansaya, May 16th, 2016 Consultation Meeting in the community of Condorcuyo, May 17th, 2016

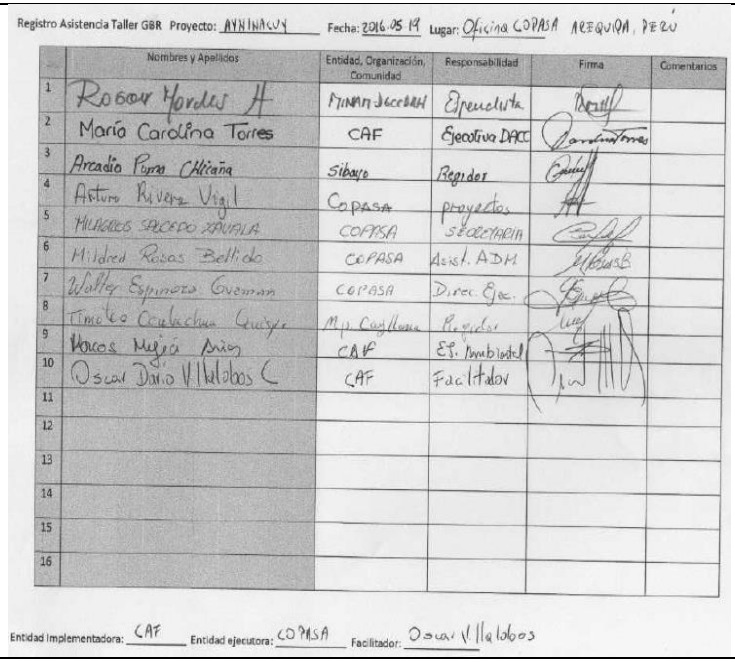
C.2.2. Attendance Lists for the Results Framework Workshop for the project, COPASA offices in the city of Arequipa, on the 18th and 19th of May, 2016.



Registro Asistencia Taller GBR Proyecto: AYNINACUY Fecha: 2016.05.18 Lugar: Oficina COPASA AREQUIPA, PERU

	Nombres y Apellidos	Entidad, Organización, Comunidad	Responsabilidad	Firma	Comentarios
1	Roger Morales H.	MINAM-DGCCBRH	Especialista		
2	Arcadio Puma Chiriaña	Sibaya	Regidor		
3	Timoteo Ccahuchua Quispe	Mp. Caylloma	Regidor		
4	María Carolina Torres	CAF	Ejec. DACC		
5	Marcos Mejía Dios	CAF	Eje. DACC		
6	Walter Espinoza Guzman	COPASA	Dire Ejec		
7	Carlos Flores Capcha	Gobierno Regional de Agricultura	Jefe Area de Camelidos		
8	Arturo Rivera Vigil	COPASA	Proyectos		
9	Lopez S. Mendoza Cáceres	GRA- Agricultura	Sub Gerente		
10	MILAGROS SALCEDO ZAVALA	COPASA	SECRETARIA		
11	Mildred Rosas Bellido	COPASA	Asst. ADM		
12	Oscar D. Villalobos	CAF	Facilitador		
13					
14					
15					
16					

Entidad Implementadora: CAF Entidad ejecutora: COPASA Facilitador: Oscar Villalobos

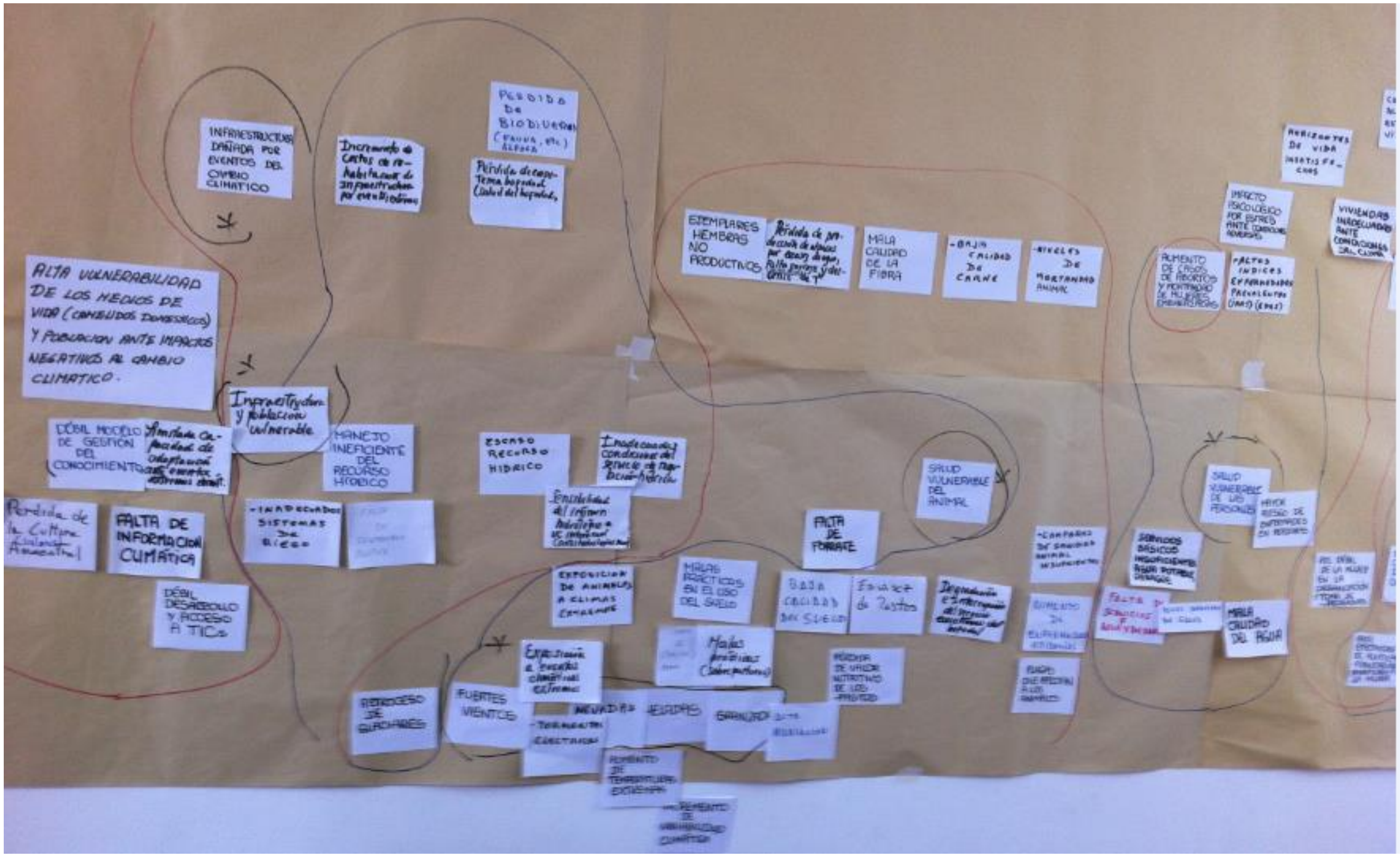


Registro Asistencia Taller GBR Proyecto: AYNINACUY Fecha: 2016.05.19 Lugar: Oficina COPASA AREQUIPA, PERU

	Nombres y Apellidos	Entidad, Organización, Comunidad	Responsabilidad	Firma	Comentarios
1	Roger Morales H	MINAM-DGCCBRH	Especialista		
2	María Carolina Torres	CAF	Ejecutiva DACC		
3	Arcadio Puma Chiriaña	Sibaya	Regidor		
4	Arturo Rivera Vigil	COPASA	proyectos		
5	MILAGROS SALCEDO ZAVALA	COPASA	SECRETARIA		
6	Mildred Rosas Bellido	COPASA	Asist. ADM		
7	Walter Espinoza Guzman	COPASA	Direc. Ejec.		
8	Timoteo Ccahuchua Quispe	Mp. Caylloma	Regidor		
9	Marcos Mejía Dios	CAF	Es. Ambiental		
10	Oscar Dario Villalobos C	CAF	Facilitador		
11					
12					
13					
14					
15					
16					

Entidad Implementadora: CAF Entidad ejecutora: COPASA Facilitador: Oscar Villalobos

C.2.3. Workshop Process for developing the project's Results Framework, image of the problem analysis process.



C.2.4. **Validation Workshop for the project's Results Framework Development Workshop**: transcript of the attendance lists, workshop minutes, and event photographs.

AYNINACUY PROJECT PRESENTATION MEETING DATE: 16TH OF JUNE, 2016

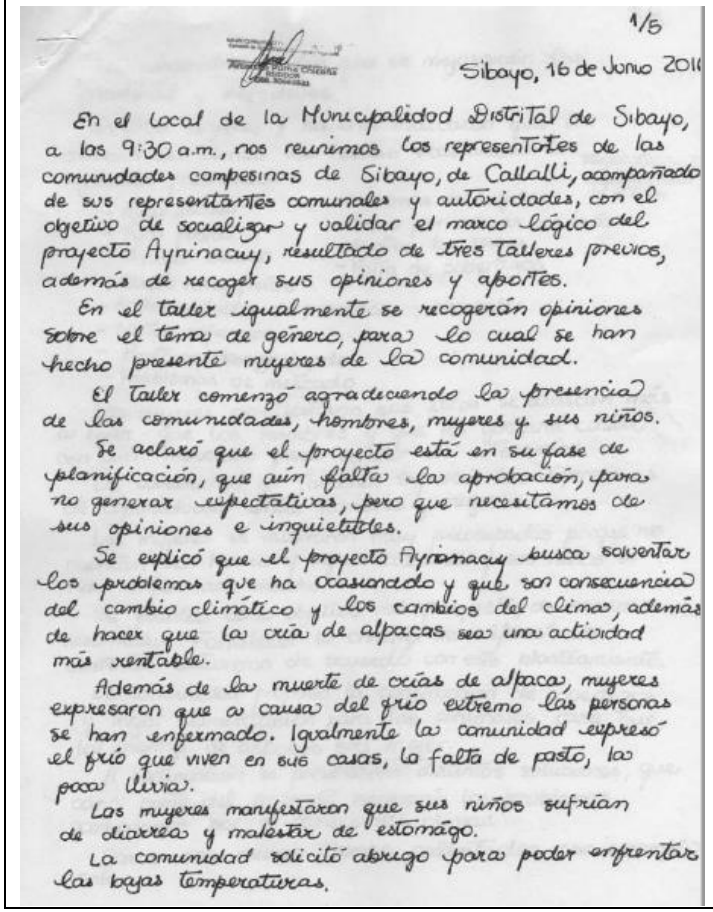
DISTRICT MUNICIPALITY OF SIBAYO/AREQUIPA REGIONAL GOVERNMENT/COPASA

No.	Surnames and Names	ID	Position	Signature
1	Mamani Puma Nely Alfonsa	44424683	ASETUR	
2	Valdivia Valdivia Ruth	45259424		
3	Ramos Panibra Silvia Nancy	30647540		
4	Santusa Zaco Mamani	30646716		
5	Fernanda Churata Calcine	30647717		
6	Agrepina Hancco Suico	24867906		
7	Gloria Aneo Taco	43497663		
8	Milagros Fanny Calla Martinez	47412324	M.O.S	
9	Cay Nahua Tauo Joel	46670232		
10	Benavides Sulla Melchor	41668465	Ascad Calladi	
11	Supo Sawayani Domingo León	30663100	District Asst. Prefect	
12	Picha Picha Margarita	30662974	Participant	
13	Arturo Rivera Vigil	29220364	Copasa	
14	Cutipa Mamani Gloria	42050712	Participant	
15	Marcelina Puma Samayani	30663480	Participant	
16	Sofía Samayani Puma	40566163	Participant	
17	Resina Vilca Pacsi	30663086	Participant	
18	Rosa Mercedes Quiño	44633615	Participant	
19	Vilcazan Supo Fortunata	43048598	Participant	
20	Noa Yanqui Gumercinda	30663502	Participant	
21	Benigna Mamani Calachua	30642508	Participant	
22	Lorenza Picha Puma	30663173	Participant	
23	Supo Cutipa Eufemia	40289901	Participant	
24	Noa Picha Julia Victoria	30663271	Participant	
25	Chuctaya Yampi Regina	41562856	Participant	
26	Juliana Margarita Huarca Quico	42961583	Participant	
27	Delia Capira Cutipa	30663494	Participant	
28	Eufemia Picha Supo	30662885	Participant ay	
29	Adelayda Picha Puma	43248510	Sumac Pallay	
30	Elodia Samayani Picha	30663456	Participant	
31	Rodendo Begazo Picha	30663198	Justice of the Peace	
32	Glemendano Supo Chiceña	30662962	Participant	
33	Picha Chicaña Julia	30663027	Alpaca Herder	
34	Gladis Supo Cutipa	44341435	Sumac Pallay	
35	Silvia F. Alhuirca Sarayasi	46877403	Participant	

36	Fransisca Condo Huasta	30647109	Participant Callalli
37	Alejandrina Mamani Churata	30646833	Participant Callalli
38	Ruth Supo Machaca	30663195	(…) ASETUR
39	Faustina Julia Churcta	41821399	Councilman M.D. Callalli
40	Picha Supo Nila	41212384	Council woman
41	Puma Chicaña Arcadio	30663521	Councilman
42	(¿?) Sarayusi Supo	30662996	Participant
43	Federico Picha Chicaña	30663260	Participant
44	Margarita Picha Picha	30662974	Participant
45	Delia Supo Mecheca (¿?)	30663499	Participant
46	Gloria Cutipa Mamani	42050712	Participant
47	Toribia Llacho Panibra	80160648	Participant
48	Victoria Supo Noa	30663459	
49	Marleni Condori Supo	30663509	
50	Clementena Supo Chicaña	30662962	(¿?)
51	Sulma Arias Picha	44095204	Sumac Pallay
52	Walter Espinoza Guzmán	29394400	COPASA

C.2.5. **Results Validation Workshop of the project's Results Framework workshop**: event photographs

C.2.6. **Results Validation Workshop of the project's Results Framework workshop**: Sample of the encounter minutes and of the attendance list.



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Sibayo, 16 de Junio 2016

En el local de la Municipalidad Distrital de Sibayo, a las 9:30 a.m., nos reunimos los representantes de las comunidades campesinas de Sibayo, de Callalli, acompañado de sus representantes comunales y autoridades, con el objetivo de socializar y validar el marco lógico del proyecto Ayninacuy, resultado de tres talleres previos, además de recoger sus opiniones y aportes.

En el taller igualmente se recogerán opiniones sobre el tema de género, para lo cual se han hecho presente mujeres de la comunidad.

El taller comenzó agradeciendo la presencia de las comunidades, hombres, mujeres y sus niños.

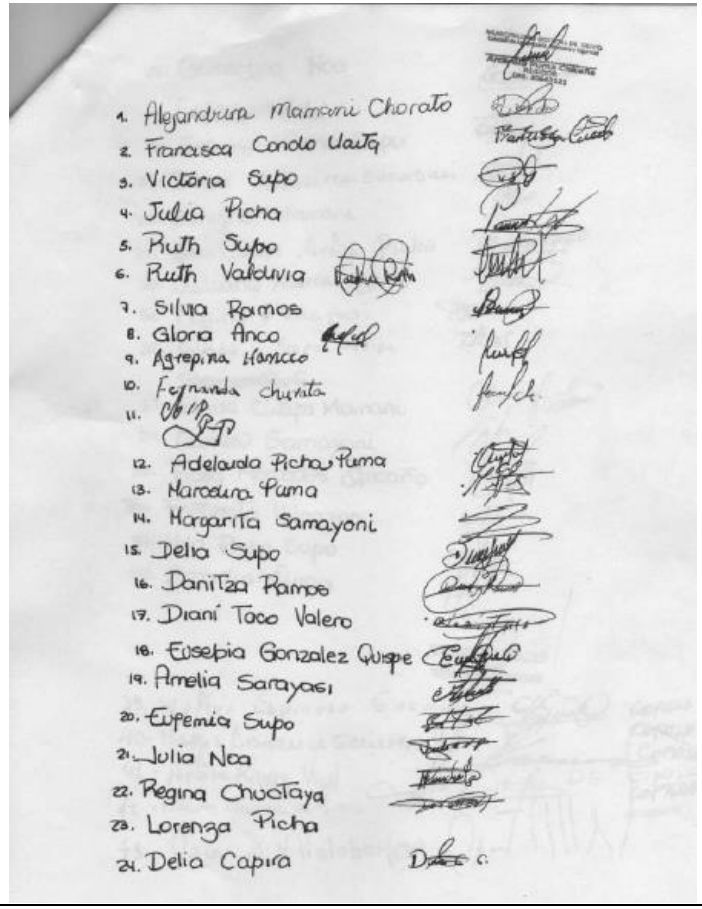
Se aclaró que el proyecto está en su fase de planificación, que aún falta la aprobación, para no generar expectativas, pero que necesitamos de sus opiniones e inquietudes.

Se explicó que el proyecto Ayninacuy busca solventar los problemas que ha ocasionado y que son consecuencia del cambio climático y los cambios del clima, además de hacer que la cría de alpacas sea una actividad más rentable.

Además de la muerte de crías de alpaca, mujeres expresaron que a causa del frío extremo las personas se han enfermado. Igualmente la comunidad expresó el frío que viven en sus casas, la falta de pasto, las pocas lluvias.

Las mujeres manifestaron que sus niños sufrían de diarreas y malestar de estómago.

La comunidad solicitó abrigo para poder enfrentar las bajas temperaturas.



1. Alejandrina Mamani Chorato
2. Francisca Condo Uauta
3. Victoria Supo
4. Julia Picha
5. Ruth Supo
6. Ruth Valduvia
7. Silvia Ramos
8. Glora Anco
9. Agrepina Honcco
10. Fernanda Chunita
11.
12. Adelaida Picha Puma
13. Narcdira Puma
14. Margarita Samayoni
15. Delia Supo
16. Danitza Pampa
17. Diani Toco Valero
18. Eusebia Gonzalez Quispe
19. Amelia Sarayasi
20. Eufemia Supo
21. Julia Noa
22. Regina Chuctaya
23. Lorenza Picha
24. Delia Capira

C.3. Third phase of the consultation

C.3.1. Pictures: Consultation Meetings in the districts of Andahua, Dec. 13th; Puika, Dec 14th; Yanaquihua, Dec. 15th; San Juan de Tarucani, Dec. 16. 2016.

District of Andahua, Dec. 13th 2016

District of Puika, Dec. 14th 2016. Seated (L to R): representative of SERNANP and mayors of Yanahuara, Pampamarca and Alca.

District of Puika, Dec. 14th 2016

District of Puika, Dec. 14th 2016. Participants returning to their community.

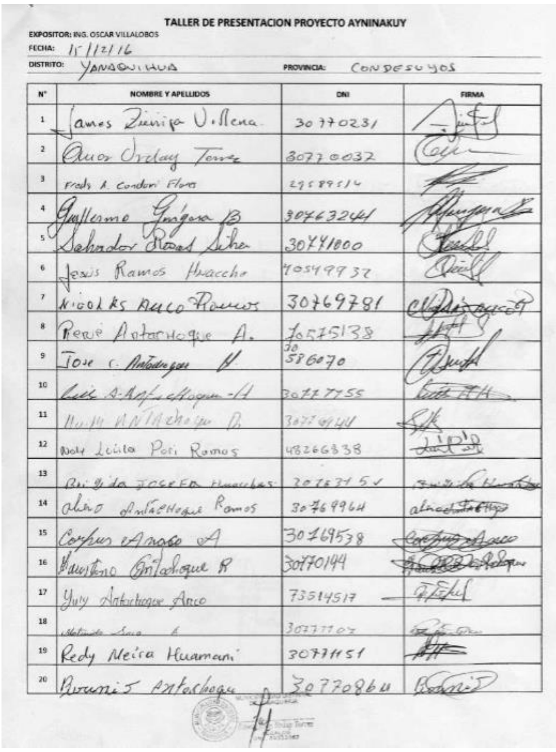
District of Andahua, Dec. 15th 2016. Mayor of the district.

District of Andahua, Dec. 15th 2016

District of San Juan de Tarucani, Dec. 16th 2016

District of San Juan de Tarucani, Dec. 16th 2016

C.3.2. **Attendance Lists of the project design validation workshops** (all the original documents, with signatures, in COPASA's archives). Sample: Yanaquihua district, 16.12.2016.



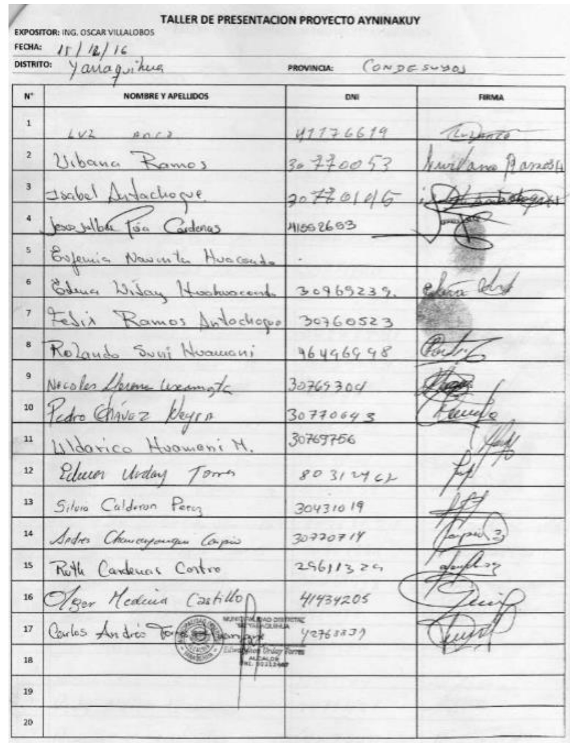
TALLER DE PRESENTACION PROYECTO AYNINAKUY

EXPOSITOR: ING. OSCAR VILLALOBOS

FECHA: 15/12/16

DISTRITO: YANAQUIHUA PROVINCIA: CONDESUYOS

N°	NOMBRE Y APELLIDOS	DNI	FIRMA
1	James Zuniga Villena	30770231	
2	Amos Orday Torres	30770037	
3	Fredy A. Condori Flores	29589514	
4	Guillermo Gongora B	30763244	
5	Salvador Rosas Silva	30741000	
6	Jesus Ramos Huaccho	40549937	
7	Nicolas Arco Ramos	30769781	
8	René Antachoque A.	40575138	
9	Jose C. Antachoque H	30 586070	
10	[illegible]	30777755	
11	[illegible] Antachoque B.	[illegible]	
12	Noly Lolita Pari Ramos	48266838	
13	Brigida Josefa Huacchas	[illegible]	
14	Alino Antachoque Ramos	30769964	
15	Corpus Anaco A	30769538	
16	Faustino Antachoque R	30770144	
17	Yuly Antachoque Arco	73514517	
18	[illegible]	[illegible]	
19	Redy Neira Huamani	30771151	
20	Brunis Antachoque	30770864	



TALLER DE PRESENTACION PROYECTO AYNINAKUY

EXPOSITOR: ING. OSCAR VILLALOBOS

FECHA: 15/12/16

DISTRITO: Yanaquihua PROVINCIA: CONDESUYOS

N°	NOMBRE Y APELLIDOS	DNI	FIRMA
1	LUZ ARCA	41176619	
2	Vibana Ramos	30770053	
3	Isabel Antachoque	30770146	
4	Jose Wilber Roa Cardenas	41592603	
5	Eufemia Navinta Huacanda		
6	Edna Wilay Huahuacanda	30969239	
7	Felix Ramos Antachoque	30760523	
8	Rolando Suni Huamani	46446948	
9	Nicolas [illegible]	30765304	
10	Pedro Chávez Neyra	30770643	
11	Uldarico Huamani H.	30769756	
12	Edwin Urday Torres	80312462	
13	Silvio Calderon Perez	30431019	
14	Andres Chancayauri Carpio	30770714	
15	Ruth Cardenas Castro	29611329	
16	Olger Medina Castillo	41434205	
17	Carlos Andrés Torres [illegible]	42768839	
18			
19			
20			

C.3.3. Transcript of the attendance lists

AYNINAKUY PROJECT PRESENTATION WORKSHOP

PRESENTER: ING. OSCAR VILLALOBOS DATE: **13 December 2016**

DISTRICT: **ANDAGUA** PROVINCE: AREQUIPA

N°	NAME	DNI	SIGNATURE
1	Jesus Purguayo Sanchez	30564983	
2	Eugenio Lozano Alvarez	30565070	
3	Lucio Tintaya H.	24731614	
4	Jacoba Huamani Huamani	TRAMITE	
5	Henry Quispe Taco	42917988	
6	Maria Ranilla Vda De Huamani	30565265	
7	Noelia Huamani Ramos	48614758	
8	Eleuteria Ale Lipe	30565068	
9	Pablo Davila Cana	42553011	
10	Jose Arturo Apaza Lozano	42251572	
11	John Maquito Lazaro	40483703	
12	Juan Huamani Aguilar	30564870	
13	Liliana Apaza Ranilla	43885407	

14	Pedro Guillen Quicaña	30564776
15	Laura Ranilla Toro	30565350
16	Lily Cervantes De Ranilla	29376748
17	Ateresa Chacon Revilla	40444000
18	Felicitas Iquiapaza	
19	Cuzman Castro Quispe	30565302
20	Delfin Atencio Puma	29708222
21	Ernestina Vasquez De Riveros	30586000
22	Segundo Iquiapaza Leon	30564832
23	Carmelo Apaza Maquito	29266014
24	Ros Barrionuevo Cancapa	47158584
25	Abraham Caceres Quispe	43853781
26	Clarita Ranilla Lazaro	48147216
27	Maribel Terra Espinoza	44945862
28	Ricardo Caceres Quispe	29410113
29	Wanerly Barrios Fernandez	30766479
30	Juana Ramon Quispe	30585982
31	Juan Cayllahuir Lazaro	30564914
32	Juan Isihuquicaña Alvarez	30564929
33	Julian Ranilla V.	30574264

AYNINAKUY PROJECT PRESENTATION WORKSHOP

PRESENTER: ING. OSCAR VILLALOBOS DATE: **14 December 2016**
DISTRICT: **PUYCA** PROVINCE: AREQUIPA

N°	**NAME**	**DNI**	**SIGNATURE**
1	Rocio Quispe Quispe	47484270	
2	Ines Quispe Medina	80361273	
3	Agapito Ccallme Simon	07064306	
4	Julian Uscata Uscata	41915805	
5	Moises Ticlla Usita	30947640	
6	Dayrba Espinal Zanabria	47708020	
7	Yoni Jumenez Quille	43464640	
8	Guillermina Totocayo Totocayo	42107189	
9	Sergio Yanqui Totocayo	42674223	
10	Hernan Totocano Pacheco	42489966	
11	Ruben Machaca Portilla	29723679	
12	Anthony Vásquez Narallo	44312300	
13	Francisco Ccallo Jara	41292665	

14	Juan Pepe Agmara Ancalle	80357943
15	Eliaslaya Harado	30944168
16	Oscar Flores Vasquez	41567152
17	Busolayo Quispe Quispe	30950059
18	Joel Torres Aymara	76724423
19	Victor Reynel Quispe Jara	44560996
20	Adolfo Cosme Quille Torres	44294328
21	Ruben Alcahuamani Jimenes	30950065
22	Odilon Ccasa Aymara	80364565
23	Alex R. Quispe Peralta	62399056
24	Marcial Quispe Peralta	30950146
25	Jayme Huamani H.	60304338
26	Olger Machaca F.	30950197
27	Victor Jimenez Machaca	40405533
28	Alfonso Chipana Niñuri	05989399
29	Edgar Zanabria Huamani	30441791
30	Fabrizzio Perlata Cornejo	44483817
31	Domingo Yucra Roa	24709880

AYNINAKUY PROJECT PRESENTATION WORKSHOP

PRESENTER: ING. OSCAR VILLALOBOS DATE: **15 December 2016**

DISTRICT: **YANAQUIHUA** PROVINCE: AREQUIPA

N°	NAME	DNI	SIGNATURE
1	James Zuñiga Villena	30770231	
2	Amor Urday Torres	30770037	
3	Freds A. Condori Flores	29589516	
4	Guillermo Gongora B.	30763244	
5	Salvador Rosas Siha	30771000	
6	Jesus Ramos Huaccha	40549932	
7	Nicolas Anco Ramos	30769781	
8	Rene Antachoque A.	70575138	
9	Jose Antadiogori V.	30586070	
10	Luis Antachoque H.	30771155	
11	Huily Antachoque R.	30776444	
12	Naty Lucila Parai Ramos	48266838	
13	Brigida Josefa Huacchas	30763151	
14	Alipio Antachoque Ramos	30769964	
15	Corpus Anco A.	30769538	
16	Faustino Antachoque R.	30770144	

17	Yuly Antachoque Anco	73514517
18	Natividad Saco A.	30771151
19	Redy Neira Huamani	30771151
20	Brinio Antachoque	30770864
21	Luz Anco	41176619
22	Urbana Ramos	30770053
23	Isabel Antachoque	30770145
24	Jesus J. Pua Cardenas	41552653
25	Eufemia Navinta Huacondo	
26	Elena Urday Huahuacondo	30969239
27	Feliz Ramos Antachoque	30760523
28	Rolando Suni Huamani	46496998
29	Nicolas Llerena Useamata	30769304
30	Pedro Chavez Neyra	30770643
31	Uldarico Huamani M.	30769756
32	Eduar Urday Torres	80312467
33	Silvia Calderon Perez	30431019
34	Andres Chancayanqui Carpio	30770714
35	Ruth Cardenas Castro	29611329
36	Olger Medina Castillo	41434205
37	Carlos Andres Torres Huanqui	42768831

AYNINAKUY PROJECT PRESENTATION WORKSHOP

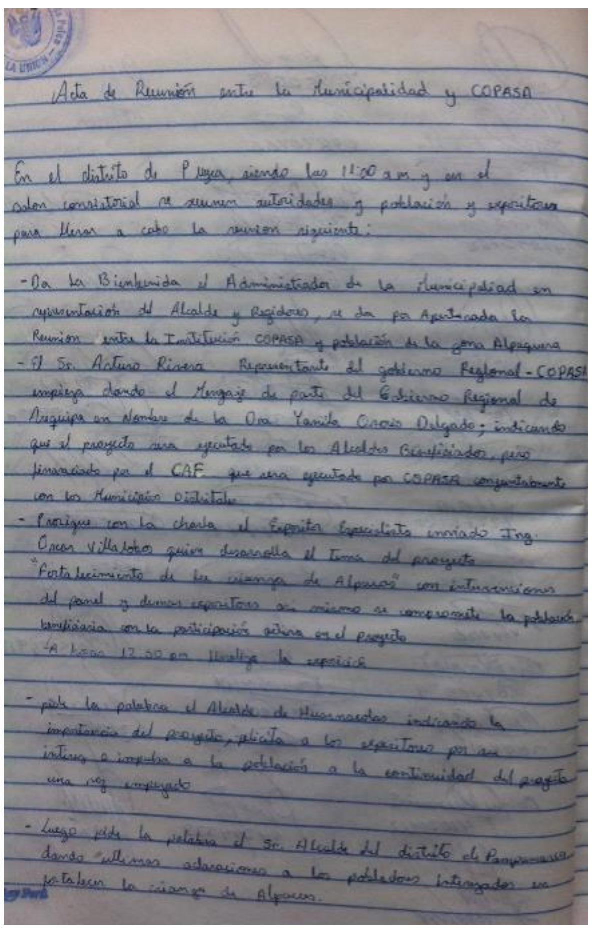
PRESENTER: ING. OSCAR VILLALOBOS DATE: **16 December 2016**

DISTRICT: **SAN JUAN DE TARUCANI** PROVINCE: AREQUIPA

N°	**NAME**	**DNI**	**SIGNATURE**
1	Teodora Chancolla Ch.	29482222	
2	Eusebio Chura Flores	29483009	
3	Fredy Castro Flores	42561149	
4	Florentino Quispe Chancolla	29482922	
5	Nestor Quispe Rodriguez	42315338	
6	Magdalena Chancolla Flores	29482981	
7	Claudio Flores Chancolla	30675748	
8	Juan Quispe Choque	29483115	
9	Pilar Mollepaza Mamani	29482967	
10	Fidel Quispe Vilca	29482024	

11	Alesio Choque Apaza	29482670
12	Juan Zapana Choque	29482331
13	Santos Anco Quispe	29482202
14	Elvira Chancolla Flores	29482856
15	Aurelio Chancalla Zapana	29483085
16	Elias Flores Larico	42871163
17	Sabino Flores Quispe	29482926
18	Sulca Choque Sulca	46964525
19	Edgar Choque Rodriguez	29483030
20	Eustaquio Valero Valero	29483161

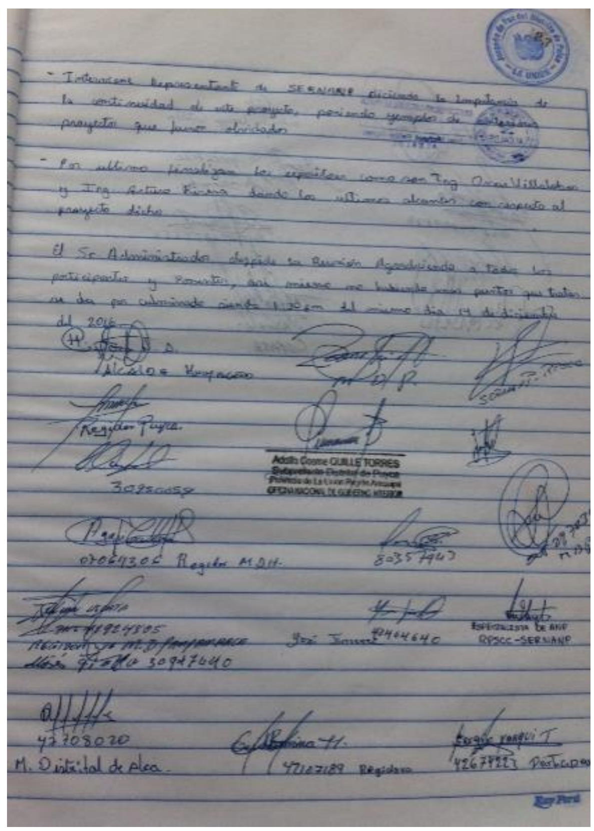
C.3.4. **Sample of the encounter minutes**: Ayninacuy Project Presentation Workshop, District of Puyca, 14th December 2016.



Acta de Reunión entre la Municipalidad y COPASA

En el distrito de Puyca, siendo las 11:00 a.m. y en el salon consistorial se reunen autoridades y población y expositores para llevar a cabo la reunion siguiente:

- Da la Bienvenida el Administrador de la Municipalidad en representación del Alcalde y Regidores, se da por Aperturada la Reunion entre la Institución COPASA y población de la zona Alpaquera
- El Sr. Arturo Rivera Representante del gobierno Regional - COPASA empieza dando el Mensaje de parte del Gobierno Regional de Arequipa en Nombre de la Dra. Yamila Osorio Delgado; indicando que el proyecto sera ejecutado por los Alcaldes Beneficiados, pero financiado por el CAF que sera ejecutado por COPASA conjuntamente con los Municipios Distritales
- Prosigue con la charla el Expositor Especialista enviado Ing. Oscar Villalobos quien desarrolla el Tema del proyecto "Fortalecimiento de la crianza de Alpacas" con intervenciones del panel y demas expositores así mismo se compromete la población beneficiaria con la participación activa en el proyecto
  A horas 12:30 pm finaliza la exposición
- pide la palabra el Alcalde de Huaynacotas indicando la importancia del proyecto, felicita a los expositores por su interes e impulso a la población a la continuidad del proyecto una vez empezado
- Luego pide la palabra el Sr. Alcalde del distrito de Pampamarca dando ultimas aclaraciones a los pobladores interesados en fortalecer la crianza de Alpacas.



- Interviene Representante de SERNANP diciendo la importancia de la continuidad de este proyecto, poniendo ejemplos de proyectos que fueron olvidados
- Por ultimo finalizan los expositores como son Ing. Oscar Villalobos y Ing. Arturo Rivera dando los ultimos alcances con respecto al proyecto dicho

El Sr. Administrador despide la Reunión Agradeciendo a todos los participantes y Ponentes, así mismo no habiendo más puntos que tratar se da por culminado siendo 1:30 pm del mismo día 14 de diciembre del 2016.

Alcalde Huaynacotas

Regidor Puyca

30920055

Adolfo Cosme GUILLE TORRES

07064306 Regidor M.D.H.

80357467

29404640

Especialista de ANP RPSCC-SERNANP

30947640

42708020

M. Distrital de Alca

47127189 Regidora

C.3.5. **Sample of the minutes transcription and translation**: Ayninacuy Project Presentation Workshop, District of Andahua, 13th December 2016.

MEETING MINUTES IN THE MUNICIPALITY OF THE ANDAHUA DISTRICT, PROVINCE OF CASTILLA, AREQUIPA REGION

In the district of Andahua, province of Castilla, Arequipa Region, at ten thirty in the morning on the thirteenth of the month of December, in the year two thousand sixteen, a meeting was held in the presence of the mayor of the district, Mister Jesús Purguaya Sánchez, engineer Arturo Rivera Vigil, representative of the Regional Government of Arequipa, PE. COPASA, engineer Oscar Villalobos, representative of the CAF, as well as the council members, representatives of the district organizations, and the general population, as well as the various district authorities.

Representatives of the Orcopampa district were also present, which may also participate in the Project.

The mayor opened with a welcome to those present, thanking them for their participation in this meeting, afterwards passing to Arturo Rivera, who gave a lot of information on the Ayninakuy Project, asking the population to choose the participants from among the residents who known for their hard work, in order to participate in this Project, later passing to Oscar Villalobos, representative of the CAF, who gave an explanation about what the CAF is, Andean Corporation for Foment, which is now denominated as a bank, recalling what Climate Change is, as well as indicating the current state of the Project.

The residents reported that they raise camelid livestock, and that some have one or two local breed cows, and that their herds are made up of llamas, alpacas and llamas in approximate quantities of forty heads per family, and that they affected by the cold spells, both the people as well as the camelids, and that since they are in smaller numbers it is not enough to live on.

Engineer Oscar Villalobos indicated that the Project has five components, of which that of training is extended to all the participants, later noted that the Project would be oriented to the improvement in the raising of camelids, beginning with the improvement of the supply of water through water harvesting activities, with the improvement of reservoirs and rustic ponds, repair of irrigation canals of the *bofedales*, improvement in planting of grasses and with the implementation of pressurized irrigation systems, in addition to training all the participants in that work.

Next he indicated that the other component consists of the planting of high elevation forage cereals, planting of cultivated grasses and the improvement of *bofedales* with the replanting of clover, additionally that fencing will be installed for teaching pasture management, this forage will be stored in silos and hay bales for periods of scarcity.

With reference to animal health he indicated that animal health campaigns would be carried out and repair and improvement of some shelters for protecting the weaker animals.

With reference to human health, he noted that in the face of stomach illness and respiration, the Project in the pilot form will improve some dwellings, providing them with heating with solar walls, photovoltaic panels also will be installed to provide them with electricity, improved stoves will be provided, in order to reduce the consumption of firewood and to avoid having people with eye problems due to smoke which happens now when food is prepared, and with reference to the latrines that they have, these would be improved using to this end, modern latrines that allows one to transform feces into compost for plants, and finally they will be provided with purified water systems, which is safe so they do not get sick to their stomach.

With reference to the training sessions, he said that these were of an obligatory carácter and that would be so for each one of the Project activities, those which would be developed in each community or selected annex.

In reference to the training of authorities, he indicated that they would be oriented to teaching to elaborate their strategic plans, such as strengthening their Civil Defense Platforms, needing to arrive at the level of the Communities and the district annexes.

Arturo Rivera returned to the fore clarifying the manner in which the different activities would developed, indicating that these same ones had a conjoined carácter, that is to say that if one of the components did not get carried out, the various components would end up suspended until everything was brought up to date, to the contrary the Project could be cancelled.

Likewise he noted that the responsibility for the same would be under the mayor from the election of the prioritized annexes to the list of the participants, that same ones that would be selected in coordination with the community authorities and their representatives, likewise he indicated that the work of supervisión and assessment of the same would be under the authorities, headed by the mayor, and that the Project would have a technician called a *yachachi*, who would accompany the municipal technicians for its execution.

The mayor then spoke, and said that the proposal seemed very appropriate for their area, and that they would place at the project's service up to two spaces as offices and shelter for the Project representatives.

Oscar Villalobos developed an organizational chart that he called the problem tree, where he placed the problems that the Project had in the upper part and placed the different activities that were proposed.

The different participants spoke, indicating their problems, and that this proposal really would help them to be able to resolve their problems, and that they already had experience for having worked before with COPASA, and that they had fulfilled both parts of the commitments.

The mayor spoke again and informed the participants in the work that currently the municipality has been developing to the benefits of the residents, and that the problems that they had had the previous year due to the handling of the Participative Budget, with the presence of the Project would diminish.

He showed how one should work firstly with the water harvesting projects, then having the water, they should work with the planting of forage for animal feed, and that storing them in their houses would allow them to have feed for scarce periods, all these Works would be supported through training, and that the people that have fulfilled all the activities and training sessions, could participate in the election of the housing improvement modules, and as such all the projects would have to be worked on by the whole population.

Arturo Rivera gave a demonstration of how the presented work with the organizational chart would help them to improve their incomes, to which the participants showed their aggreement, indicating that if the Project were approved, would be willing to participate in a massive way in its development.

Arturo Rivera, indicated to the participants, that those responsible for the realization of the activities would be under the municipality in conjunction with their representatives.

After these explanations, the people were asked if they would be in agreement with the execution of this Project, to which they answered that if it were approved, they would be very happy to be able to participate in it.

The mayor spoke, thanking the informational workshop presenters, given by COPASA and the CAF, indicating that it would be very important for the development of our [their] district, and that he ratified again that in district the provincial liaison office for the Project would be installed, that it would be a good way to motivate and to be able to report to the population on its progress, likewise Oscar Villalobos thanked the participants that were there during the whole workshop.

Oscar Villalobos asked the participants if the workshop had been understood by all the participants, or had the presence of the translator been necessary, likewise he asked the women present if the Project seemed as though it would help them or if it would be more work for them, to which they said that they did similar things, and that with the Project they would have better results.

Oscar Villalobos in the name of the CAF, invited all the participants to lunch, which they thanked with hearty applause.

There being no more points to cover, and being two in the afternoon the mayor adjourned the meeting, signing the council's book of minutes.

Signatures below.

ANNEX D (Main document) – PROFILES OF THE PROJECT TEAM

PROFILE OF DIRECTOR OF THE AYNINACUY PROJECT

Project duration: 30 MONTHS

Requisites:

- Experience in Project Leadership and Management.
- Experience Project Management in Andean highland areas.
- Experience in similar work with a minimum of 10 years
- Experience minimum of 8 years in Public Administration.
- Experience minimum of 10 years in Project Administration.
- Experience in elaboration of Studies and Projects in Rural Areas.
- Experience in Direction, Tracking and Control of Projects under international and national norms.
- Basic knowledge of computerized systems.
- Competencies: Capacity for leadership, Initiative, Results Orientation, Trustworthiness, Proactivity, Flexibility, Teamwork and Organization, Work under pressure, Planning and management
- Academic Formation: academic degree and/or levels of studies
- Professional Title in Social Science and/or similar.
- Knowledge for the position and/or role: minimum indispensable and desirable (10) years.
- CHARACTERISTICS OF POSITION AND/OR ROLE
- Integrate the Special Committees for the Selection of Proposals for the Contracting of Services.
- Evaluate the necessary documents for undersigning of works contracts and supervision. Evaluate approve programmed and executed activities.
- Evaluation and declaration of the reports (monthly, quarterly, special, etc) presented by the project supervisor.
- Evaluation, declaration and additional filings.
- Evaluate and file conformity with service orders.
- Elaborate monthly status reports on the progress of programmed activities, recommending actions to be taken in each case.
- Elaborate and propose the Terms of Reference of the contracting of consultants. Serve as technical liaison between EI and COPASA.

- Supervise and control compliance with the instructions given to staff under this role.
-
-

PROFILE OF FIELD SUPERVISOR OF THE AYNINACUY PROJECT

Project duration: 30 months

Requisites:

- Engineer, with specialization in natural sciences: Geologist, Agronomist, Zootechnician (animal husbandry)
- Accredited experience of at least five (5) years in the development of Adaptation to climate change projects.
- Know perfectly the project's area.
- Accredited Experience in rural training which must be accredited through certificate provided by a private or public entity.
- Experience in the design, elaboration and startup of adaptation to climate change projects.
- Specific experience of at least five (5) years managing technology related to adaptation projects, which must be accredited through certificate provided by a private or public entity.
- Not be present in the database of observed professionals kept by the Regional Bureau of Agriculture.
- Possess Fluency in the native language used in the project area.
- Hold a current driver's license which qualifies for the use of project vehicles: pickups and motorcycles.
- Experience with projects financed by International Cooperation.
- Experience in the development of adaptation to climate change projects.
- Experience in handling pressurized irrigation equipment.
- Experience in the installation of high altitude grasses and forage.
- Experience in the construction rustic ponds in rural areas.
- Facility in relating to institutional representatives from the area.
- Proactive, collaborative and with a great interest in developing an adaptation experience.

PROFILE OF YACHACHIQ (FIELD SPECIALIST) OF THE AYNINACUY PROJECT

Project duration: 30 months

Requisites:

- Specific experience of at least 12 months in rural training, which must be accredited through certificate provided by a private or public entity.

- Specific experience of at least 12 months in handling the productive technologies related to the projects, which must be accredited through certificate provided by a private or public entity.
- Must be a leading producer recognized within the communities, while also being a livestock technician in the area.
- Not be included in the database of observed technicians kept by the Regional Bureau of Agriculture.
- Possess Fluency in the native language used in the project area.
- Know the project's area.
- Hold a valid driver's license that permits the use of motorcycles.
- Reside within the project area.
- Have experience with projects financed by International Cooperation..
- Have experience in the development of adaptation to climate change projects.
- Have experience in handling pressurized irrigation equipment.
- Have Experience in the installation of high altitude grasses and forage.
- Have Experience in the production and handling of organic fertilizer.
- Improvement of Andean crops (grains and tubers).
- Camelids handling.
    - Management of natural resources (soil, water, crops and animal husbandry within the community).

PROFILE OF ADMINISTRATIVE ASSISTANT OF AYNINACUY PROJECT

Project duration: 30 months

Requisites:

- Administrator and/or Certified Public Accountant.
- Have a valid driver's license.
- Computer skills, (Office and PowerPoint).
- Work Experience
- Work Experience of no fewer than 5 years, in project execution with funds from international cooperation.
- Functions:
    - Analysis of project accounting.
    - Manage the technical field team's logistics for the project.
    - Coordinate the execution of internal and external audits and inspections of accounting, finance, and administration.
    - 178
    - Prepare and present for consideration to the project director financial and accounting information in a timely and periodic manner within the framework of the requirements established by funding sources.
    - Archive all the project's accounting documentation.

- Maintain in working order the computer programs, processing on a monthly basis, and distributing the accounting and budget information to the different levels that may require it.
- Administration of the institution's petty cash, in the respective area office, carrying out authorized expenditures.
- Administer efficiently the project's financial and economic resources.
- Maintain the physical inventory of the local office updated and watch over them.
- Control budgetary execution in the area office and where pertinent submit proposals for budget reviews, with the approval of the Project Director.
- Coordinate the execution of internal and external audits and inspections of accounting, finance, and administration.
- Open joint bank account.
- Issue checks.
- Pay Providers.
- Do monthly bank balances.
- Gather quotes in inputs, materials for project activities.
- Present updated quotes table.
- Support and assist Project Director in entrusted actions.

-

ANNEX E – DISTRIBUTION OF CAF FEE BUDGET FOR THE AYNINACUY PROJECT

Stage	CAF Services	CAF Fee 8.0% = USD 217,885
Identification, Sourcing and Screening of Ideas	Provide information on key issues of a potential adaptation project from the perspective of the Adaptation Fund's (FA) goals. Engage in a preliminary dialogue about policies related to potential application to the AF. Verify the consistency and potential eligibility for the FA of the identified idea.	2% = USD 4,358
Feasibility Assessment / Due Diligence Review	Orientation in the transformation of a practical experience into a feasible project. Supply technical experience in relation to the scope and possibilities of the project. Supply meticulous evaluation of technical, social, and risk criteria, and orient with respect to the possibilities of eligibility in the face the Fund's requirements. Review technical reports. Revise and accompany the conceptual structuring of the project. Orient in the understanding of the guidelines framework and approval processes for a project. Orient in the selection of and search for pertinent information. Obtain clarifications and authorizations from the AF.	15% = USD 32,683
Development & Preparation	Provide technical support and accompaniment in problem solving in order to convert the idea into a technically feasible and operationally viable project. Supply technical experience in relation to the demands and needs of the project. Review the technical reports. Revise and accompany the conceptual structuring of the project.. Orient about the expectations and requirements of the AF. Verify the technical consistency, the quality of the elaboration and alignment with respect to the expectations of the AF.	23% = USD 50,113

	Respond to information requirements, organize revisions, control responses with respect to deadlines.	
Implementa-tion	Technical support in the preparation of the terms of reference and verification of requirements for technical positions. Orient, train and accompany the project team in the design of the operating plan for the project's execution during the initial stage of the approved project. Verification of the technical validity of the initial workshop report and of its alignment with respect to the expectations of the AF. Provide technical information as necessary in order to facilitate the implementation of the project's activities. As necessary, provide: advisory services; technical support and participation during the project's activities; support for problem-solving. Provide as a minimum technically support, and hold on supervisory visit per year, as well as support and additional supervisory trips as necessary. Provide technical supervision, progress monitoring, validation and quality control for the entire length of the project. Assign and control limits of annual expenditure on the basis of agreed upon work plans. Return unspent resources to the AF. Visits to the areas and project activities	42% = USD 91,512
Evaluation and Reporting	Technical support in the preparation of the terms of reference and verification of requirements for technical positions related to the evaluation and the presentation of reports. Participate in informational and synthesis activities. Verification of the technical validity of all evaluation and reporting and their alignment with the expectations of the AF. Carry out technical analysis, validate results, and compile lessons learned. Disseminate the technical results. Financial Auditing. Systematization of the project.	18% = USD 39,219