



ADAPTATION FUND

FULLY DEVELOPED PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Building a program for adaptation and resilience to climate change of Andean local communities and ecosystems in Peru

Country: Perú

Thematic Focal Area: Adaptation to climate change

Type of Implementing Entity: National Implementing Entity

Implementing Entity: PROFONANPE

Executing Entities: HELVETAS Swiss Intercooperation

Amount of Financing Requested: 4,746,620.00 (in U.S Dollars)

Letter of Endorsement (LOE) signed: Yes No

NOTE: The LOE should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: <https://www.adaptation-fund.org/apply-funding/designated-authorities>

Stage of Submission:

This proposal has been submitted before including at a different stage (**concept**, fully-developed proposal)

This is the first submission ever of the proposal at any stage

In case of a resubmission, please indicate the last submission date: Click or tap to enter a date.

Please note that fully-developed proposal documents should not exceed 100 pages for the main document, and 100 pages for the annexes.

Project/Programme Background and Context:

The mountain ecosystems in Perú

The mountain ecosystems in Peru are in both sides of the Andes Mountains (Figure 1) covering 48 million hectares distributed in 19 departments¹, and they are part of the Hotspot of biodiversity Tropical Andes considered as the most biodiverse of the planet and that offers important ecosystem services such as the hydrological regulation (CEPF, 2021)². Species of fauna that indicate the state of preservation of these ecosystems are the spectacled bear (*Tremarctus ornatus*), the mountain tapir (*Tapirus pinchaque*), the Andean condor (*Vultur gryphus*) and the suri (*Rea pennata*). The Andean ecosystems are also a source of forest genetic resources (*Polylepis* o *Podocarpus*, for example) and a great agrobiodiversity represented by grains, legumes, roots and tubers, vegetables, herbs, and fruits (CIP, 2021)³. The protected areas (PA) have an important role in ecosystem conservation and the adaptation to climate change. The target ecosystems of this proposal are located in the western slope of Andes Mountain called “Andean ecosystems”. They cover an extension of 32.9 million hectares¹ and the Ministry of Environment in Peru (MINAM for its initials in Spanish) estimated an area of 316,566.49 hectares of damaged Andean ecosystems in 2020⁴, considering the negative tendency of the net primary productivity or the change in the plant cover⁵, although there is not a specific monitoring system for these ecosystems in Peru.

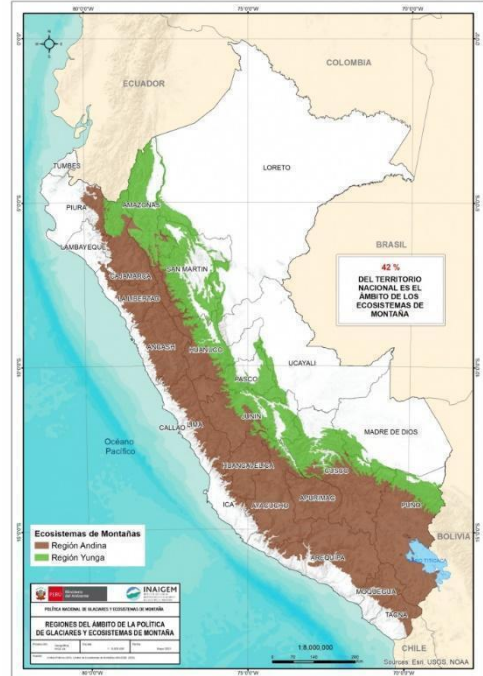


Figure 1. Location of mountain ecosystem in Perú

In chart 1, a type of Andean ecosystem is shown, as well as its extension and damaged surface in 2020.

Table 1. Andean ecosystems of Perú

Ecosystem	Area in 2018 (hectares)	PA Areas in 2020 (hectares)	Degraded areas in 2022 (hectares)	Threats
Dry puna grassland	4,887,184.29	560,379.40	22,747.86	<ul style="list-style-type: none"> ● Agricultural expansion ● Livestock overgrazing ● Illegal extraction
Wet puna grassland	11,981,918.13	517,838.03	112,977.54	
Jalca	1,340,320.57	177,392.62	14,733.18	
Bofedal	548,176.14	43,188.56	16,180.38	
Páramo	82,948.54	21,643.02	1,691.10	
Andean scrubland	10,304,035.93	232,718.67	86,768.19	
High-Andean relict forest (Queñoal trees and others)	156,972.02	19,265.83	640.98	

1 Ministry of Environment, 2018. Map of Ecosystems of Perú (Ministerial Resolution 440-2018-MINAM).
 2 Critical Ecosystem Partnership Fund, 2021. Tropical Andes Biodiversity Hotspot: Ecosystem Profile Update 2021. <https://www.cepf.net/sites/default/files/tropical-andes-ecosystem-profile-2021-english.pdf>
 3 International Potato Center. 2021. The Andean and the food for the future.
 4 <https://geoservidor.minam.gob.pe/monitoreo-y-evaluacion/restauracion-de-areas-degradadas/>
 5 Ministry of Environment, 2019. National Map of Degraded Areas in Terrestrial Ecosystems: Descriptive Memory. <https://geoservidor.minam.gob.pe/wp-content/uploads/2020/02/Mapa-Nacional-de-%c3%81reas-Degradadas-Terrestres.pdf>

Ecosystem	Area in 2018 (hectares)	PA Areas in 2020 (hectares)	Degraded areas in 2022 (hectares)	Threats
Western slope montane relict forest	90,703.86	13,674.80	4,805.91	<ul style="list-style-type: none"> ● Groundwater drainage (in wetlands) ● Infrastructure ● Mining ● Fire
Meso-Andean relict forest	24,964.55	18,838.72	85.32	
Inter-Andean seasonally dry forest (Marañón, Mantaro, Pampas y Apurímac)	535,867.36	8,906.79	41,078.88	
Periglacial and Glacial Landscape	2,959,578.37	676,985.37	19,410.75	
Total	32,912,669.76	2,290,831.81	321,120.09	

Source: National Map of Ecosystems (MINAM; 2018)¹; MINAM Map Server (2021)²; SERNANP (2020); MINAM (2021)⁶.

The importance of these Andean ecosystems in Peru is reflected on the provision of the hydrological regulation service: the Pacific slope gets the waters from the western side of the Andes mountains, and though it only concentrates 2.18% of the water volume of the country, it is the home of 65.98% of the population of the country (more than 16.3 million people) and it is the area where 80.4% of the national GDP is produced (INAIGEM, 2021)⁷. 80% of the river basins of the country are located in the Protected Areas (PA), and the protection of the main headwaters of the basins is an important task performed by the Peruvian government. In the country, at least 16 PA provide water of good quality to 12 service provider companies (EPS for his initial in Spanish) who offer potable water to more than 4 million people, and about 61% of the hydroelectric energy is produced with water coming from the PA; for example, that situation occurs in Junín national reserve who supports the Mantaro interconnected system (Leon, 2007)⁸. In the ideal 2050 scenario of the prospective study of the biodiversity of Peru (DGDB-MINAM, 2020), mentioned that the effective management of PAs is a way of contributing to reducing the deterioration of the ecosystems.

Locally, people benefit from these ecosystems through economic activities (commercial productive chains, as well as crops and breeding for self-consumption) linked to forest products (wood and non-wood), agrobiodiversity, raising of Andean camelid animals and tourism. The local population are mainly organized in rural communities, formally recognized by the Government⁹, of which 96.6% are located in mountain ecosystems (INAIGEM, 2021)⁴, and are in the medium and high poverty levels, according to the National Institute of Statistics and Informatics (INEI for its acronyms in Spanish)¹⁰.

Climate risk to Andean ecosystems of Peru

In America, the climate change is affecting the biodiversity at genetic, species and ecosystem level and it will continue to do so, therefore it is important to broaden the monitoring systems to increase the knowledge about these trends (IPBES, 2018)¹¹ and get to know the limits of the adaptive capacity of the ecosystems and the socio-ecological systems in the mountains, especially under conditions of glacial retreat. On the other side, the regional climatic situation in South America shows the increase in the frequency of fires, especially in the south of Peru, as well as the reduction of the flow of the rivers due to

⁶ Ministry of Environment. 2021. National Plan of Climate Change Adaptation of Peru: <https://www.gob.pe/institucion/minam/normas-legales/1955977-096-2021-minam>

⁷ National Institute of Research on Glaciers and Mountain Ecosystem (INAIGEM), 2021. Design of the National Policy of Glaciers and Mountain Ecosystem: <https://inaigem.gob.pe/web2/politicas-importancia/>

⁸ León, F. 2007. The Contribution of the Natural Protected Areas to the National Economy. National Institute of Natural Resources. Lima. Lima

⁹ Government of Perú. 1992. Law N° 24656. General Law of Rural Communities. Lima, Perú

¹⁰ National Institute of Statistics and Informatics. 2021. Evolution of monetary poverty 2009-2020. Technical Report. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/pobreza2020/Pobreza2020.pdf

¹¹ IPBES (2018): The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services IPBES regional assessment report on biodiversity and ecosystem services for the Americas. Rice, J., Seixas, C. S., Zaccagnini, M. E., Bedoya-Gaitán, M., and Valderrama N. (eds.). Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany. 656 pages.

the glacier loss (IPCC, 2021)¹². The main challenges for the sustainable management of mountain ecosystems include land-use changes caused by intensive agriculture and mining, the growing threat of water scarcity due to glacial retreat (IPBES, 2021)¹³, and the need to generate and strengthen effective mechanisms of social participation and institutionalization of relevant local knowledge for adaptation (Dupuits, 2021)¹⁴. One of the main reasons of the vulnerability of mountain ecosystems to climate change is the richness in biodiversity and endemism in the Andes (Botero, 2015)¹⁵, with more risk of extinction in higher latitudes and on tops of the mountains (Herzog, S.K. et al, 2010¹⁶; Martínez, Jørgensen, P. M., & Tiessen, 2012¹⁷), where a vertical migration of the species is expected and it is imperative to preserve microclimate refuges to attenuate this tendency (Cuesta et al, 2017)¹⁸.

Concerns regarding the Andean ecosystems in Peru linked to the climate change include: (i) increased flow variability and significant reductions in watershed regulation capacity and water yield due to human intervention regardless of the hydrological conditions of the original biome in the case of Andean moor, Andean wetlands and Andean grassland (Ochoa-Tocachi et al, 2016¹⁹; Planas-Clarke et al, 2020²⁰; Cervantes et al, 2021²¹), (ii) the increase risk of disasters due to mass movements of mass caused by the deglaciation and the erosion that affects the hydraulic, hydroenergetic and potable water infrastructure (MINAM, 2021⁵; López Gonzales et al, 2020²²), and the generation of natural sources of polluting effluents such as the Acid Rock Drainage due to loss of glaciers (INAIGEM, 2021)⁶.

According to the National Plan of Adaptation to the Climate Change of Peru (MINAM, 2021)⁵, the climate scenarios for 2030 and 2050, show a higher increase of low and high temperatures in the andes, and regarding the total rainfall show that for the horizon 2030, in the andes, it is reduced up to 30% in the western, central and southern slope; however, the rest of the mountains shows an increase up to 30% and for the horizon 2050, part of the central and southern andes register a higher reduction in the rainfall up to 45%. Figure 2 shows a percentage change of the maximum temperature (above) and minimum temperature (below) for 2030 (left) and 2050 (right), and in figure 3, the maps of variation of the total annual rainfall in 2030 (left) and 2050 (right).

¹² Arias, P.A. et al. 2021. Technical Summary. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. <https://www.ipcc.ch/report/ar6/wg1/#TS>

¹³ Pörtner, H.O. et al. 2021. IPBES-IPCC co-sponsored workshop report on biodiversity and climate change; IPBES and IPCC. DOI:10.5281/zenodo.4782538

¹⁴ Dupuits É. 2021. Status of the policies about climate change and the adaptation strategies in the Andes: a multisectoral look from the mountains. Quito: CONDESAN-COSUDE.

¹⁵ Uribe Botero, E. (2015). The climate change and its effects on biodiversity in Latin America. <https://www.cepal.org/es/publicaciones/39855-cambio-climatico-sus-efectos-la-biodiversidad-america-latina>

¹⁶ Herzog, S.K., P.M. Jørgensen, R. Martínez Güingla, C. Martius, E.P. Anderson, D.G. Hole, T.H. Larsen, J.A. Marengo, D. Ruiz Carrascal, H. Tiessen (2010). Effects of the climate change on the biodiversity of the tropical Andes: the status of the scientific knowledge. Summary for decision makers and responsible for the formulation of public policies. Instituto Interamericano para la Investigación del Cambio Global (IAI), São José dos Campos, Brasil

¹⁷ Martínez, R., Jørgensen, P. M., & Tiessen, H. (2012). *Climate Change and biodiversity in the Tropical Andes*. S. K. Herzog (Ed.). MacArthur Foundation.

¹⁸ Cuesta, F., Muriel, P., Llambí, L. D., Halloy, S., Aguirre, N., Beck, S., ... & Gosling, W. D. (2017). Latitudinal and altitudinal patterns of plant community diversity on mountain summits across the tropical Andes. *Ecography*, 40(12), 1381-1394.

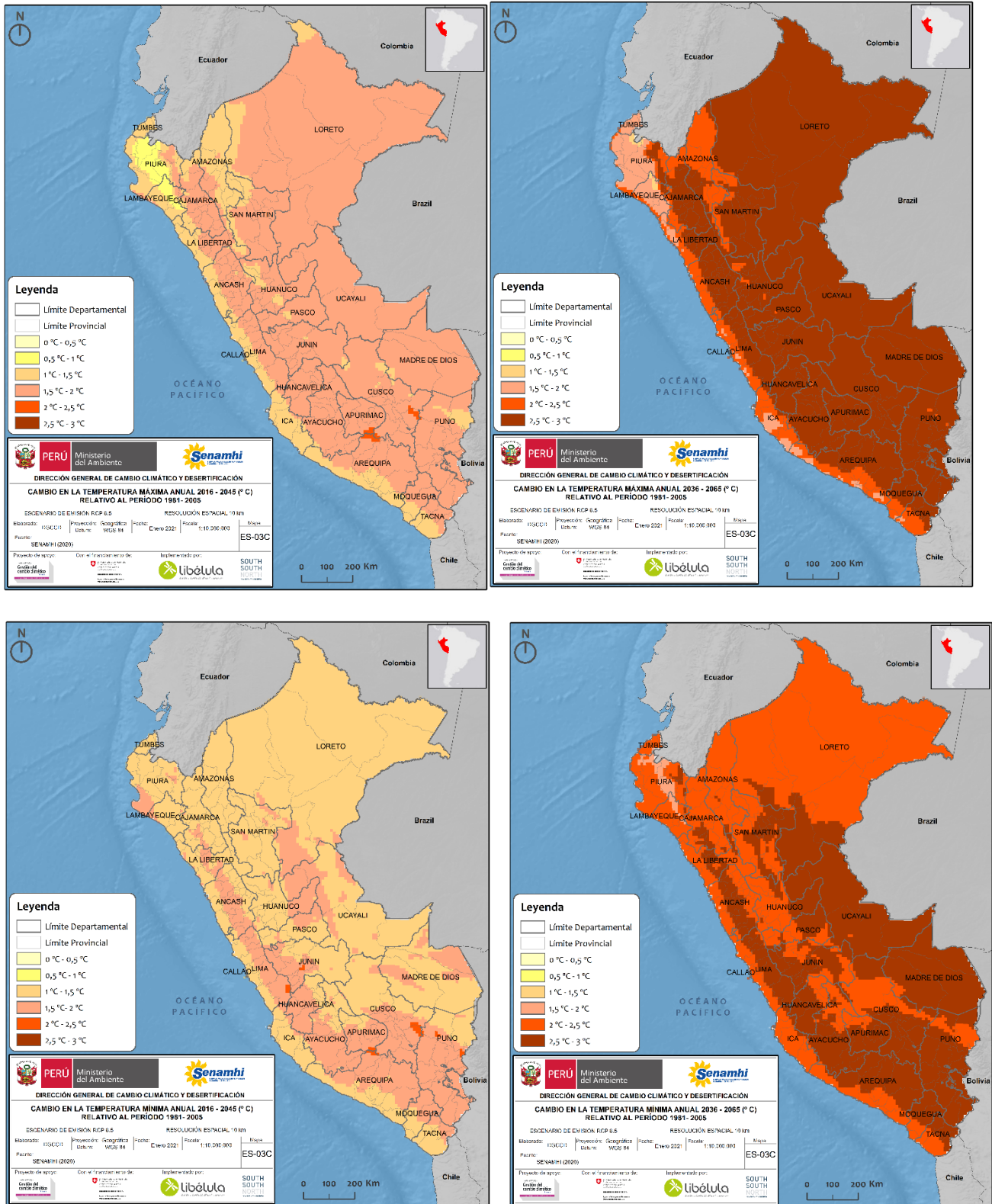
¹⁹ Ochoa-Tocachi, B. F., Buytaert, W., De Bievre, B., Célleri, R., Crespo, P., Villacís, M., ... & Arias, S. (2016). Impacts of land use on the hydrological response of tropical Andean catchments. *Hydrological Processes*, 30(22), 4074-4089.

²⁰ Planas-Clarke, A.M., Chimner, R.A., Hribljan, J.A. et al. The effect of water table levels and short-term ditch restoration on mountain peatland carbon cycling in the Cordillera Blanca, Peru. *Wetlands Ecol Manage* 28, 51–69 (2020). <https://doi.org/10.1007/s11273-019-09694-z>

²¹ Cervantes, R., Sánchez, J.M., Alegre, J., Rendon, E., Baiker, J.R., Locatelli, B., & Bonnesoeur, V. (2021). Contribution of the high-Andean ecosystems of the hydric regulation ecosystem service. *Ecología Aplicada*, 20(2).

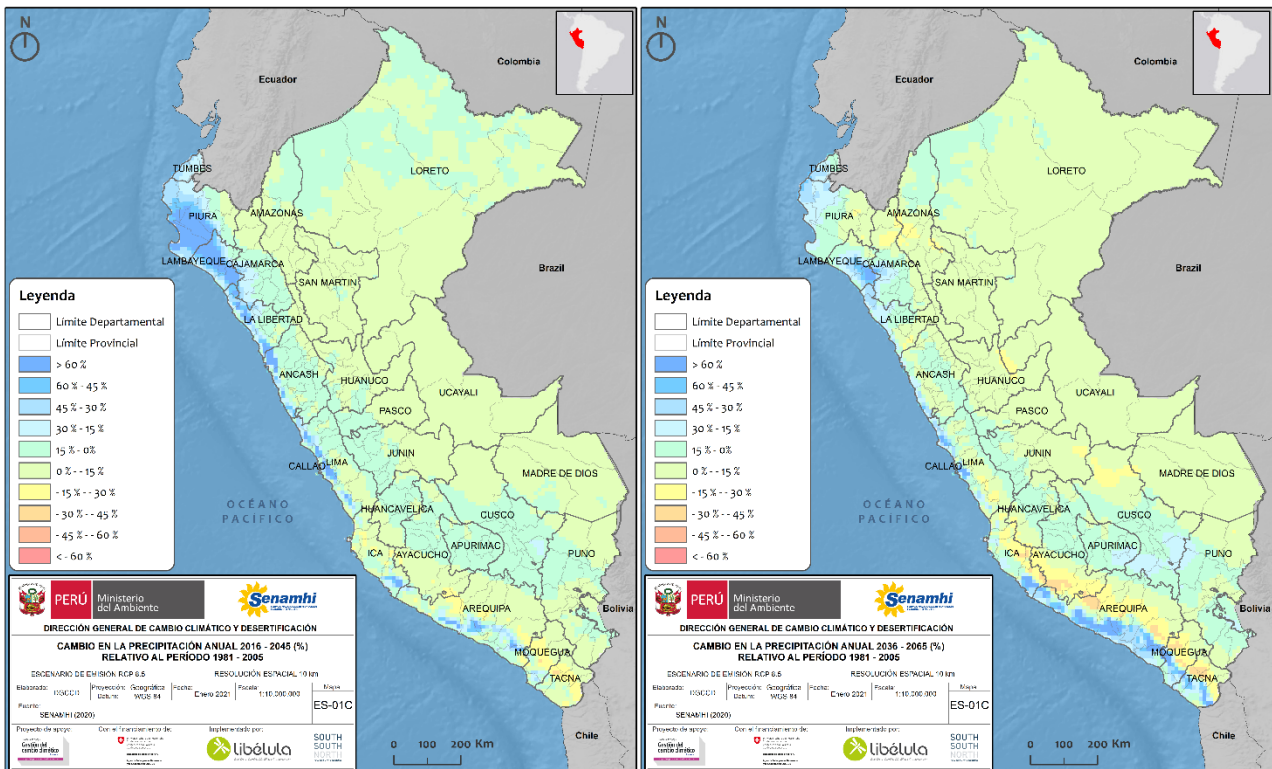
²² López Gonzales M, Hergoualc'h K, Angulo Núñez Ó, Baker T, Chimner R, del Águila Pasquel J, del Castillo Torres D, Freitas Alvarado L, Fuentealba Durand B, García Gonzales E et al. 2020. What do we know about Peruvian peatlands? Occasional Paper 210. Bogor, Indonesia: CIFOR

Figure 2. Percentage change of the maximum and minimum temperature for 2030 and 2050.



Source: National Plan of Climate Change Adaptation of Peru (MINAM; 2021)

Figure 3. Maps of total annual precipitation variation in Perú for 2030 and 2050.



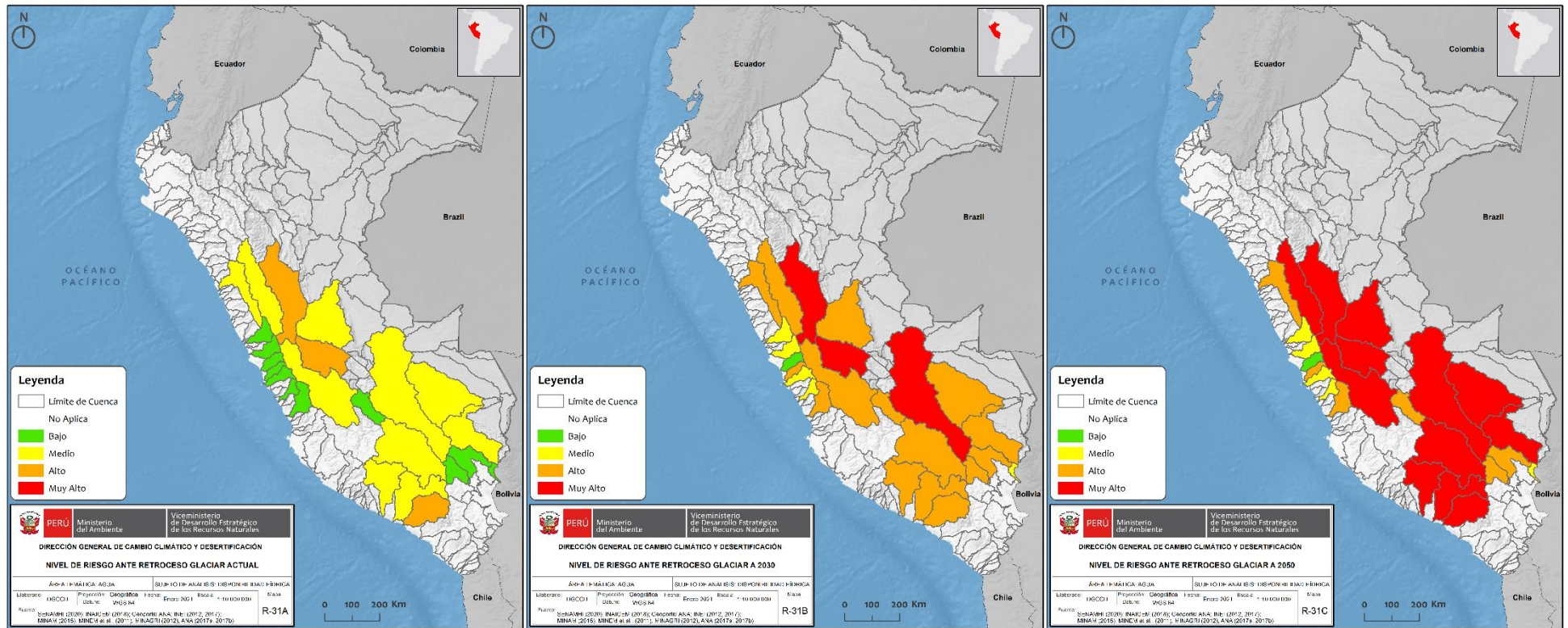
Source: National Plan of Climate Change Adaptation of Peru (MINAM; 2021)

Changes in climate averages and climate variability generate a series of hazards, of which Peru have focused on four: mass movements, floods, change in the aridity conditions and glacial retreat. This prioritization reflects the conceptual framework of the National Adaptation Plan (NAP)⁵, which is based on the risk management of the impact of climate change on the socioeconomic and ecological systems in five thematic areas: Water, Agriculture, Forests, Fishing and Aquaculture and Health.

These hazards were quantitatively characterized in the risk analysis considering the climatic scenarios developed by the National Service of Meteorology and Hydrology of Peru (SENAMHI by its acronyms in Spanish) under the RCP 8.5 emissions scenario and considering as a main climate agent the average total rainfall. An adaptation of this methodology proposed by the IPCC was used in its fifth report of evaluation (AR5) aligned with the Regulation of the Framework Law on Climate Change of Peru, considering 1981-2005 as a reference period and 2006-2065 as the future period. The correction of the systematic mistake was made to the results of the climate modeling of 12 km and 16 km, taking into consideration the data provided by Peruvian Interpolated Data of SENAMHI's Climatological and Hydrological Observations (PISCO), and after that, an average of the three simulations was estimated getting the climate situations to 10 km for Peru.

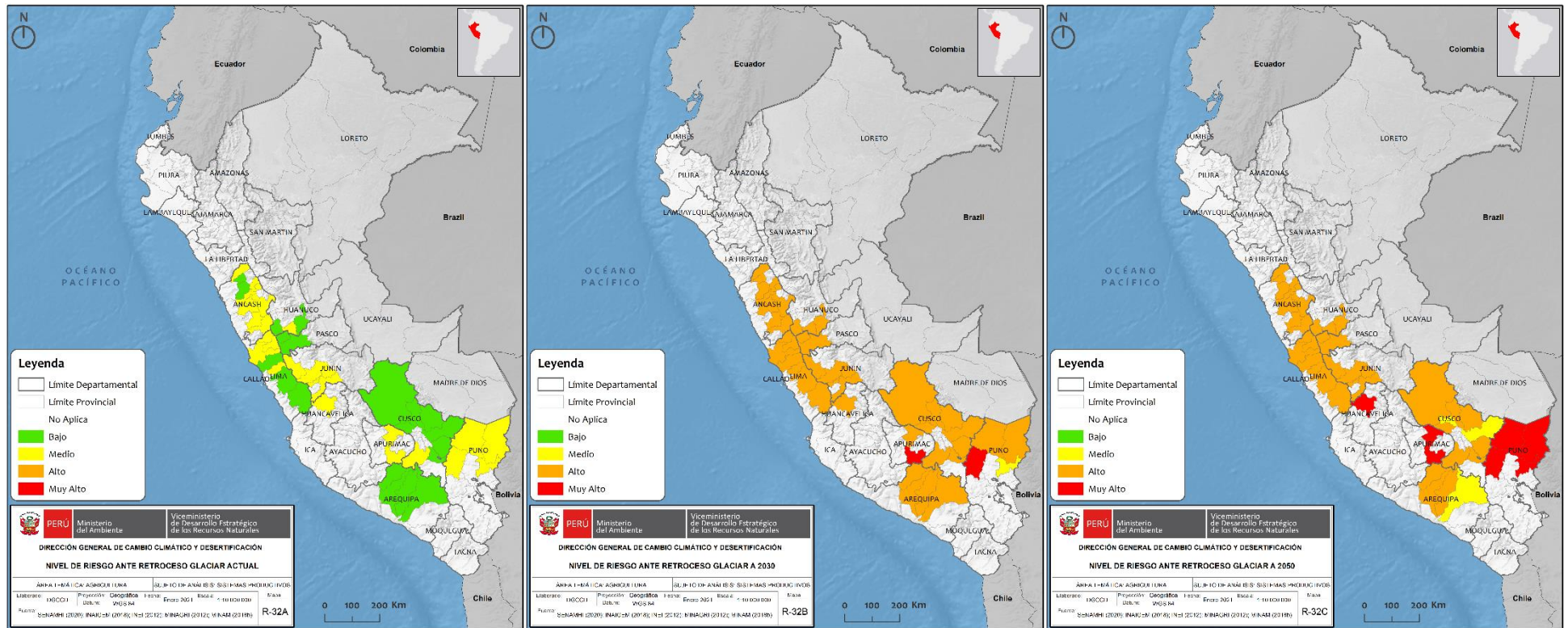
The results of this climate risk analysis for the thematic areas prioritized by the project (water, forests, and agriculture) and for the major hazards for the Andean ecosystems (mass movements, change in aridity conditions or glacial retreat) are shown in the Figures 4 to 7.

Figure 4. Probable trend in the level of risk for water availability, by glacial retreat and by basin: currently, 2030 and 2050.



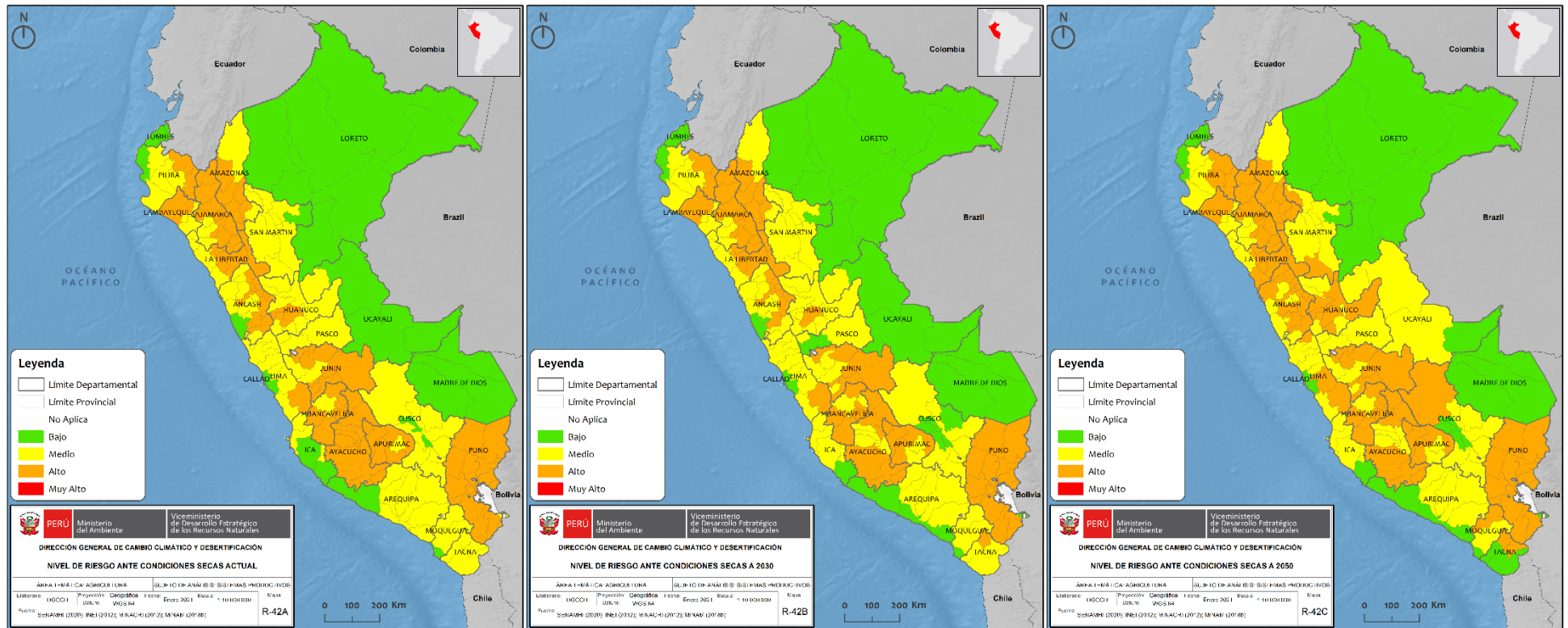
Source: National Plan of Climate Change Adaptation of Peru (MINAM; 2021)

Figure 5. Probable trend in the level of risk to agriculture systems, by glacial retreat and by department: currently, 2030 and 2050.



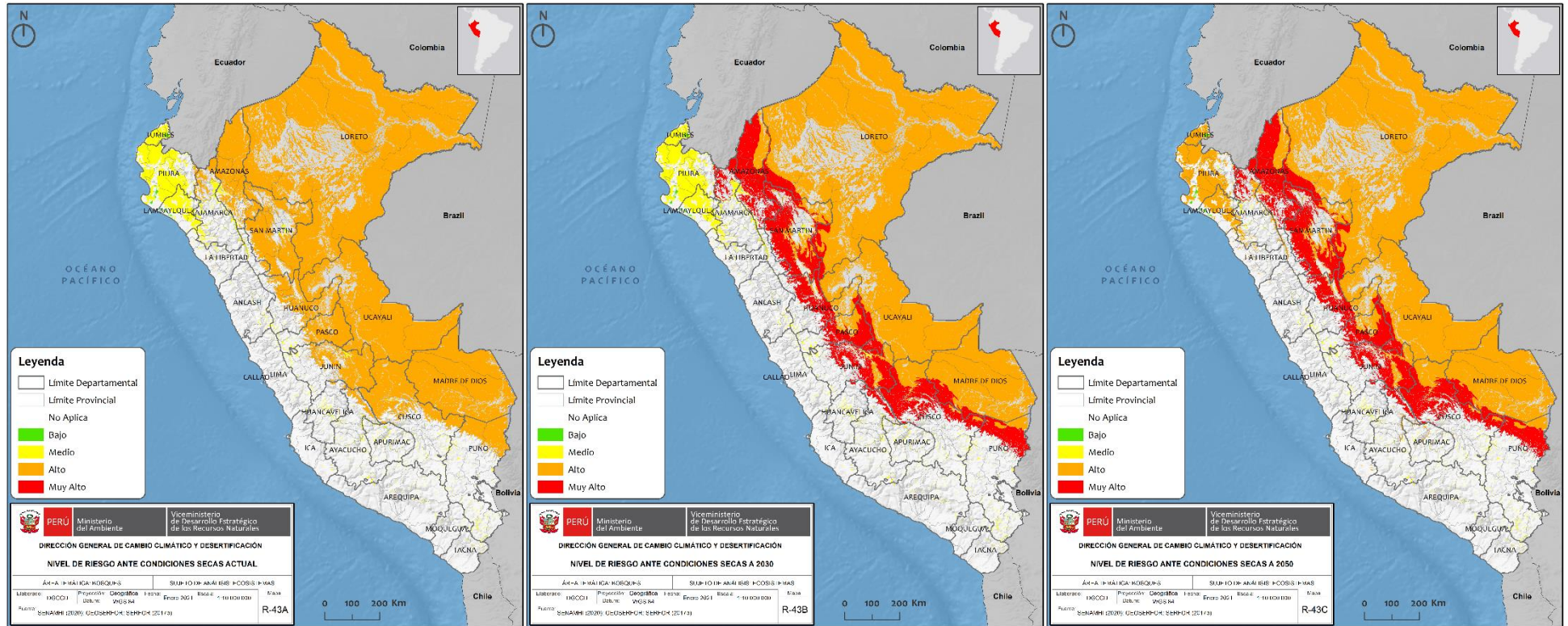
Source: National Plan of Climate Change Adaptation of Peru (MINAM; 2021)

Figure 6. Probable trend in the level of risk to agriculture systems, by change of aridity conditions and by department: currently, 2030 and 2050.



Source: National Plan of Climate Change Adaptation of Peru (MINAM; 2021)

Figura 7. Probable trend in the level of risk for forest ecosystems (seasonally dry and amazonian), by aridity conditions and by department: currently, 2030 and 2050.



Source: National Plan of Climate Change Adaptation of Peru (MINAM; 2021)

Mountain populations and climate change

The analysis in the NAP doesn't specifically include Andean forests or other Andean ecosystems of interest for the project (Andean moor, Andean wetlands and grasslands), only mountain forests of the western slope (Andean Amazonian), however; those located in the northern extreme of Peru are essential for the crops of agro-export in the coastal area of Piura and Lambayeque and they are of interest to the project. In the central Andes and, specially, the southern Andes are significantly less humid than the northern Andes, and a long history of wildfire and increasing drought periods are reported.

In this scenario, the main people affected are the rural Andean communities and their productive systems (mainly rainfed agriculture and livestock grazing) that depend directly on changes in climate, which, together with environmental damage and land-use change (affecting the biophysical component on which they depend), increase the risk of food insecurity and the reduction of the current and potential economic livelihoods of vulnerable populations. For this reason, it is necessary to consider the local population as the main axis for the design of adaptation actions in Andean ecosystems.

The current condition of preservation of the Peruvian Andean ecosystems is the result of a long process of transformation of the landscape by occupation and productive use (agriculture, sustainable livestock, mining, fires) and by the biophysical and climate characteristics typical to these ecosystems (Postigo, 2019)²³.

The capacity of adaptation and resilience before the pressure and threats to these ecosystems depends on its integrity as well as the capacity of the local population to reduce the effects of the climate change (Vasquez Jara, et al., 2017)²⁴. The Andean ecosystems offer contributions to the people especially those referred to the service of hydric regulation, and they will be affected by the variations on the climate: its dynamic, composition and distribution will change with the rise of the temperature which will have an effect on the use of soil (migration of crops to proper agroclimatic areas) and the priorities of conservation (migration of species to higher latitudes, changes in the phenology, prioritization of environmental services). Also, in the last decades, droughts have been registered more frequently and with more intensity, which would worsen the intensity of fires, though these ones directly depend on the bad agricultural practices that are implemented in the dry season of the Andes. Therefore, it is necessary not just to improve the early alert systems, but also strengthen the local equipment and capacity for the early and timely answer.

At the national level, 28.1% of the population lives in the Andean zone (INEI, 2017), where there is a negative average annual growth rate of -0.6%. On the other hand, 20.7% of the national population lives in rural areas, however, in the area of intervention of the project this percentage is similar or higher: Cajamarca (64.6%), Apurímac (54.2%), Cusco (39.3%), Ancash (36.6%), La Libertad (21.1%) and Piura (20.7%). On the other hand, according to the Census of Peasant Communities (INEI, 2017) there are differences in relation to the percentage of men and women in the three intervention sites of the project: in the north and south the percentages between both groups are similar (50%) and in the center the percentage of men is higher (53%). In the case of the population under 18 and over 65, in the center and south they represent between 40% and 45% and in the north about 60%.

The INEI (2022)²⁵ established that the gender inequality index at the national level in 2021 stood at 0.364 (the value closest to zero indicates a higher level of inequality). This index is calculated based on the combined loss in reproductive health, empowerment and labor force participation achievements. The figures show the persistence of inequalities between men and women in the access to services essential for their autonomy. For example, the illiteracy rate in persons over 15 years of age in women reached 28.5% in rural areas (versus 8.1% in men). Another important indicator is economic independence: in rural areas this figure reaches 43.1% for women and 12.2% for men. These patterns are repeated in other aspects such as the digital divide (access to the internet) and gaps in access to agricultural credit. On the other hand, statistics indicate that 28.6% of Peruvian women of childbearing age and rural areas

²³ Postigo, J. 2019. Diagnosis of mountain ecosystems as a supply for the formulation of the national policy of glaciers and mountain ecosystems – Final Report. Andean Forests Programme

²⁴ Vásquez Jara, R., Tovar Narváez, A., Palma Pecho, A., Mercado Curi, W. y Gómez Moncada, H., (2017). Vulnerability of forests and other Andean ecosystems of Saywite–Choquequirao–Ampay to the climate change and the human-induced pressures. Lima: HELVETAS Swiss Intercooperation y el Consorcio para el Desarrollo Sostenible de la Ecorregión Andina (CONDESAN).

²⁵ National Institute of Statistics and Informatics. 2022. Peru: Gender Gaps 2022. Progress towards equality between women and men. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1879/libro.pdf

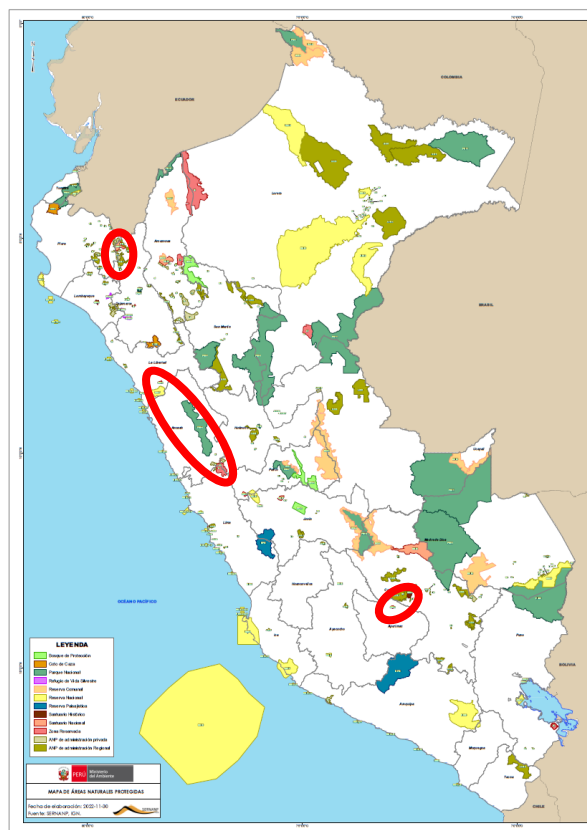
have suffered physical violence by their partner at some point in their lives. Likewise, the representation of women in decision-making spaces also shows a historical inequality.

Area of intervention of the project

The project intervention zone, three landscape mosaics of Andean ecosystems that include protected areas and their buffer zones, was identified based on the maps of probable risk level for the thematic areas of water, forest, and agriculture of the NAP Peru. These maps are based on the climate risk scenarios at the national level.

The three conservation mosaics are located in the north, central and south of Perú (Figure 8, based on the map of Protected Areas of Perú):

Figure 8. Location of project interventions areas



1. The first one in the north between the departments of Piura and Cajamarca. The Tabaconas Namballe National Sanctuary (31,143.08 hectares) is the core area for the intervention of the project. Around of this National Protected Area (NPA) three Private Conservation Areas (PCA) and two Regional Conservation Areas (RCA) have been established: PCA “Chicuate Chinguelas” (27,107.45 hectares), PCA “Páramos Bosques Montanos de San Miguel de Tabaconas”, PCA “Bosques Montanos and Páramos de Huaricancha”, RCA “Páramos y Bosques Montanos de Jaén y Tabaconas” and RCA “Bosques El Chaupe, Cunía y Chinchiquilla”.
2. The second one in the central Andes between the departments of La Libertad, Ancash, Huanuco and Lima. It includes four protected areas: The Calipuy National Sanctuary (4,500 hectares), The Calipuy National Reserve (64,000 hectares), the Huascarán National Park (339,231.91 hectares), nucleus area of the Biosphere Reserve of the same name, and the Reserved Zone Cordillera Huayhuash (67,579.7 hectares).
3. The third one is in the south of Peru between the Apurimac and Cuzco regions. It includes three protected areas: The Ampay National Sanctuary (3,181.76 hectares), the Regional Conservation Area Choquequirao (103,814.39 hectares) and the Machupicchu Historic Sanctuary (28,943.15 hectares).

The progress and achievements of the project will contribute to the fulfillment of the PA Peru targets and will be reflected in the monitoring and evaluation system of Peru's NDC indicators. Section III.E shows the project goals, which will contribute directly to the NDCs shown in Table 2. At the beginning of the project, additional contributions to other NDCs in the forest sector will be identified in coordination with the National Forest and Wildlife Service (SERFOR).

Table 2. Project contributions to the adaptation measures of the PA Peru.

Thematic Area	Adaptation measures	Indicator	National Target to 2030
Water	Conservation and recovery of the natural infrastructure for the provision of hydrological ecosystem service in basins that are vulnerable to climate change (AGU24).	Area (ha) of conserved and recovered ecosystems that provide hydrological regulation and provisioning services, in watersheds vulnerable to climate change.	97,842.8 ha
Forests	Restoration of the ecosystems	Number of hectares of Sinanpe's	19,630.0 ha

Thematic Area	Adaptation measures	Indicator	National Target to 2030
	within the National System of Natural Protected Areas (SINANPE for its initials in English) to maintain landscape connectivity and reduce the impacts of climate change (BOS.2).	PAs with forest under restoration process reduces the impacts of extreme climate events.	
	Implementation of sustainable practices for the conservation of ecosystems in watersheds of Protected Areas vulnerable to extreme climate events (BOS.4)	Number of hectares of ecosystems in watersheds within the scope of the PAs with sustainable conservation practices to reduce vulnerability to extreme climate events.	312,000.0 ha
Agriculture	Management of natural grasslands to ensure sustainable livestock feed and reduce their vulnerability to climate change (AGRI.7).	Number of hectares of natural grasslands managed in areas vulnerable to climate change.	5,873,638.0 ha
	Implementation of adaptive technological innovation services for climate change in agricultural value chains (AGRI.15).	Number of agricultural producers with technical assistance for technological innovation adaptive to climate change in agricultural value chains.	10,978 local producers
	Implementation of business strategies that incorporate risk and opportunity management in the face of climate change (AGRI.17).	Number of agricultural producers with business plans incorporating climate change risk and opportunity management in value chains.	32,248 local producers

Source: National Plan of Climate Change Adaptation of Peru (MINAM; 2021)

The NAP⁵, in agreement with Framework Law on Climate Change²⁶, aims at anticipating and/or reducing the current risk and/or avoid the generation of future risks before the effects of the climate change, to reduce or avoid the potential damage, loss or alterations in the ecosystems, basin, territories, livelihoods, population, infrastructure, goods and services, as well as take advantage of the opportunities that offers the adaptation to the climate change for the sustainable development. In this way, the NAP has identified 92 regulations grouped in five thematic areas prioritized to focus on four specific problems.

The project will focus on two of these specific problems: low adaptive capacity of the population and high vulnerability of the ecosystems before the dangers associated with climate change. In this context, the project will contribute to 6 of the adaptation measures identified by NAP Peru in the thematic areas of Water, Forests and Agriculture. Also, contributing to the generation of enabling conditions will be supported to continue with the implementation of these adaptation measures, especially those referred to the interinstitutional articulation and the financing. One of the financing options identified by the NAP is the submission of proposals to the Adaptation Fund, which will serve as a basis for mobilizing public and private resources for its implementation.

²⁶

in particular with the principle of prevention established in article 2 of the Law 30754

Project/Programme Objectives:

Overall Project Objective

The project will contribute to increase the adaptive capacity of the socioecological and productive systems of the Andean rural communities and to reduce the vulnerability of the Peruvian Andean ecosystems (Andean forests, Andean moor and Andean wetlands) under an inclusive approach.

Specific Project Objectives

1. Development and implementation of a monitoring system for Andean ecosystems to determine relevant information about water and deforestation that will be used for decision making at a national and sub national level (regional governments).
2. Enhance resilience capacity of the Andean ecosystems in three conservation mosaics.
3. Enhance resilience capacity of productive activities in Andean rural communities of three conservation mosaics.

Project/Programme Components and Financing:

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
1. Development and implementation of monitoring system for Andean ecosystems	1.1. Monitoring tools to measure hydrological ecosystem services on Andean ecosystem implemented. 1.2. Monitoring system of degradation and deforestation of Andean forests designed and piloted	Expected Outcome 1 Mapping and monitoring Andean ecosystems to provide information about the water and climate and support decision making at a national and subnational level.	693,000.0
2. Implementation of best practices for landscape protection and restoration of Andean ecosystems in conservation mosaics.	2.1. Rural communities implement conservation and restoration practices in degraded areas inside and outside (buffer zones) of prioritized protected areas. 2.2. Incorporation of the climate change adaptation and disaster risk reduction approach in planning instruments of protected areas and regional and local governments of three conservation mosaics of Andean ecosystems. 2.3. Preliminary conditions prepared for the start of the "Natural Heritage Initiative of Peru – Andes", based on previously agreed upon conditions	Expected Outcome 2 Enhancing the resilience capacity of Andean ecosystems in three prioritized conservation mosaics.	1,614,084.0
3. Increasing resilience and sustainability of local productive systems in rural communities in Andean ecosystem landscapes.	3.1. Rural communities with technical productive capacities to reduce vulnerability of value chains inside and outside (buffer zone) prioritized protected areas. 3.2. Design, evaluation, and implementation of adaptation measures of productive chains	Expected Outcome 3 Enhancing the resilience capacity of productive activities in rural communities of the three prioritized conservation mosaics.	1,715,500.0

	linked to the market.		
4. Project/Programme Execution cost			382,116.0
5. Total Project/Programme Cost			4,404,700.0
6. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			341,920.0
Amount of Financing Requested			4,746,620.0

Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	August 2024
Mid-term Review (if planned)	August 2026
Project/Programme Closing	January 2028
Terminal Evaluation	May 2028

PART II: PROJECT/PROGRAMME JUSTIFICATION

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

The project will focus on addressing two of the main problems identified by the NAP of Peru: (1) the low adaptive capacity of the population and (2) the high vulnerability of ecosystems to threats associated with climate change. The intervention will be developed around the protected areas of three conservation mosaics located in the north, center and south of Peru mentioned at the beginning of the project. The project will contribute to the following adaptation measures establish in the National Adaptation Plan:

- Conservation and recovery of the natural infrastructure for the provision of hydrological ecosystem service in basins that are vulnerable to climate change (AGU24).
- Restoration of the ecosystems within the National System of Natural Protected Areas (SINANPE for its initials in Spanish) to maintain landscape connectivity and reduce the impacts of climate change (BOS.2).
- Implementation of sustainable practices for the conservation of ecosystems in watersheds of Protected Areas vulnerable to extreme climate events (BOS.4)
- Management of natural grasslands to ensure livestock feed and reduce their vulnerability to climate change (AGRI.7).
- Implementation of adaptive technological innovation services for climate change in agricultural value chains (AGRI.15).
- Implementation of business strategies that incorporate risk and opportunity management in the face of climate change (AGRI.17).

It is important to mention that these protected areas have been prioritized because, according to the information shown in the project background and context section, it is vital to protect and recover the Andean ecosystems located in these areas in order to help communities and nature to face and adapt to climate change in the Andean region of Peru. These areas can buffer the impacts of extreme climate events and guarantee the provision of ecosystem services fundamental to human well-being, such as drinking water and food that cover part of basic needs. In this context, it is necessary to ensure their future conservation and integrate them into local development processes in coordination with local populations, municipalities and subnational governments.

Climate change and unsustainable management of production practices are degrading the ecosystems of the Peruvian Andes (moorlands, wetlands, and grasslands) and the services they provide (provision and regulation of water; provision of forage, food and fiber; regulation of nutrients and carbon). In addition, the enormous carbon stocks stored in these ecosystems could be released into the atmosphere as they are increasingly degraded and lost through fires.

In general terms, the project will contribute with (i) strengthening of response, management and decision-making capacities of national institutions by providing support for the design and implementation of hydrological and degradation monitoring of mountain ecosystems, and in three prioritized mosaics (ii) increase the resilience of Andean ecosystems and their related population through the implementation of good practices for the conservation and restoration of mountain ecosystems involving the local population and the private sector, as well as (iii) enhance the resilience and sustainability of local productive activities by focusing on capacity building of local populations to increase the resilience of their productive activities under a market-based approach.

According to Ostrom's framework of analysis for the sustainability of social-ecological systems (2009), positive or negative impacts of people on natural and non-natural resources (over exploitation or sustainable use) can increase or reduce local development opportunities. Under this approach, the project proposes interventions on ecosystems and people (who develop activities in them) to develop an intervention model for the conservation (protection, restoration and sustainable use) of high mountain ecosystems in Peru, which at the same time facilitates the articulation of the environment, agriculture and forestry sectors with this common objective.

The technical selection of restoration and conservation practices has considered the result of the consultation process, in which the ecological and economic importance of the proposed practices has been socialized and explained. For example, the endorsement of the population with sylvopastoral and sustainable livestock practices, the preference in the diversity of native forest species for forest restoration practices, participatory monitoring and the concern of the population for the care and management of water sources have been recorded.

Under this approach, the project will promote the implementation of Ecosystem-based Adaptation (EbA) measures (also considering the measures for the recovery of Andean ecosystems approved by the Peruvian government by ministerial resolution RM N°178-2019-MINAM) and the Nature-based Practices (NbP). The NbP refer to actions that contribute to protecting and managing ecosystems sustainably while recovering some ecosystem services using elements of the natural environment favorably. Conversely to the EbA measures, the NbP slightly modified the ecological or biophysical conditions of the area in which it is implemented to improve natural processes (United Nations University and CONDESAN, 2023).

Component 1. Development and implementation of monitoring system in Andean ecosystems

Outcome 1. Mapping and monitoring Andean ecosystems to support decision making at a national and subnational level

Peru has protocols for monitoring biomass and carbon, species biodiversity, climate, water and glacier dynamics, as well as changes in land use and socio-environmental dynamics that have been implemented in the various ecosystems of Peru and have managed to contribute to the measurement of the impact of these variables in the country, however, it is necessary to continue exploring new tools or instruments for monitoring the conservation of ecosystems and natural resources, and analyze the results and impacts generated by the process of occupation and use of the territory as well as the effect of climate change; and from this, propose measures or actions of a political or technical-regulatory nature that contribute to territorial management decisions.

The project will contribute to the improvement of the country's current hydrological and landscape degradation monitoring protocols through the design of an integrated system under a landscape and adaptive management approach for the Andean ecosystems of Peru. The data provided by these systems will allow impact assessment at regional and national levels, as well as providing relevant inputs for territorial planning, ecological restoration and improve their response capacity to the impacts of climate change.

Output 1.1 Monitoring tools to measure hydrological ecosystem services on Andean ecosystem implemented.

Activity 1.1.1. Design of integrated monitoring system of Andean ecosystems

The monitoring strategy implemented with the project will be based on the Integrated Monitoring Strategy for High Mountain Ecosystems in Colombia designed within the framework of the SDC's Andean Forests Programme - Phase 1 (2014-2018). This strategy managed to address the main challenges posed by the articulation of an integrated system at a national scale, as a result of which a multi-scalar conceptual model was worked on of the main change-generating processes and the main response variables that could be monitored, from the national level to the level of ecosystems or plots.

The monitoring system will be designed in collaboration with SERNANP, PNCB-MINAM, INAIGEM and SERFOR (National Forest and Wildlife Service) and will be linked to the early warning systems for forest fires (SERFOR and MINAM) and drought (SENAMHI).

This system will improve the decision-making capacities of the authorities of national governmental bodies in the management, planning and sustainable management of Andean ecosystems by providing timely information on water and degradation indicators through the implementation and improvement of the integrated monitoring system for Andean ecosystems. In this sense, if national institutions have this information on a regular basis, they will be able to improve their capacity to respond (decision-making) to ecosystem variations and implement policies related to the management and sustainable management of Andean ecosystems and the ecosystem services they provide.

The tasks scheduled for the achievement of this activity include:

- Elaboration of baseline of the state of knowledge and functioning of monitoring systems linked to Andean ecosystems in Peru.
- Workshops/Meetings of Multisectorial Working Group for development the Integrated System, including meetings with the Ministry of Economy and Finance to identify public financing opportunities within the framework of the budget programs of the agriculture, environment, forestry and wildlife, disaster risk management, sanitation sectors,
- Peru-Colombia exchanges (virtual and face-to-face) for technical assistance to design the monitoring system.
- Elaboration of a road map for the implementation and sustainability of the integrated monitoring system for high Andean ecosystems in Peru.

Activity 1.1.2. Installation and monitoring of hydrological monitoring plots:

The project will implement at least six hydrological monitoring plots in six different protected areas of the three previously defined mosaics, in order to monitor the flow of water sources. This will make it possible to quantify the contribution and dynamics of water flow and the water regulation capacity of the Andean ecosystems with regard to water security in the region (water availability for the city and agricultural areas).

To achieve the adaptation and implementation of hydrological monitoring tools in Andean ecosystems and to measure the impact of the services provided, we will work mainly in close coordination with SERNANP, INAIGEM and SENAMHI, as well as interacting with the Regional Initiative for Hydrological Monitoring of Andean Ecosystems (iMHEA), which is a network of organizations whose objective is to increase and strengthen knowledge about hydrology in the Andean region.

The information generated by the monitoring plots (precipitation and flow) will increase SENAMHI's capacity to analyze the impact of climate on the provision of the ecosystem service of water regulation. On the other hand, it will strengthen decision making by the competent national authorities (National Water Authority, Municipalities and Regional Government) to improve water resources management at the local level and increase resource mobilization to improve the protection, restoration and sustainable use of Andean ecosystems as providers of key ecosystem services for climate change adaptation: water regulation and habitat.

To ensure the best functioning of the hydrological monitoring tools and ensure their sustainability, technical assistance and practical sessions will be provided for the development and strengthening of

capacities on the use of these tools in the field, involving the local population, specialists from the protected areas and the local municipalities and regional government, so it is expected that at the end of the sessions these actors will be able to collect information from the measurement of the plots and be able to socialize it in the municipality and with the local population as part of their reports in the monthly assemblies.

Likewise, SERNANP, as part of its intervention strategy and after coordination with the chiefs of each protected area, will proceed to include these monitoring systems within its technical field actions for each area, which will ensure the management of these tools over time.

A letter of commitment will also be signed with the municipal authorities, SENAMHI and INAIGEM to ensure the support of all parties in the follow-up of the implementation of the monitoring system after the end of the project and thus guarantee the sustainability of the results achieved in this component. The replication, scaling and sustainability of the monitoring plots installed by the Project will be one of the activities to be included in the roadmap indicated in activity 1.1.1.

Likewise, in line with the Public Sector Budget Law for Fiscal Year 2024 and among the actions for the implementation and sustainability of the monitoring system, the project will seek to develop a pilot and training modules for regional authorities within the framework of the provided in the Budget Program Competitiveness and Sustainable Use of Forest and Wildlife Resources. In addition, a roadmap will be worked on with the Ministry of Economy and Finance to coordinate and articulate future actions that promote the sustainability of the monitoring system.²⁷

The tasks to be carried out to achieve this activity are as follows:

- Institutional arrangements for hydrological monitoring: coordination meetings will be held with SERNANP, INAIGEM and SENAMHI to establish commitments on the process of installing plots and hydrological monitoring. Also, at the local level, agreements will be established with the communities and local population to support the installation of the plots, capacity building and protection of infrastructure and equipment.
- Capacity building for local actors: technical assistance will be provided by a local expert from the iMHEA network in Peru to support site selection, plot installation and capacity building at the local level with SERNANP, municipalities and local population.
- Site selection and installation of hydrological monitoring plots in protected natural areas: technical assistance and logistical facilities will be provided for the identification and selection of sites for the installation of the plots in coordination with SERNANP and the local population. For hydrological monitoring, an automatic rain gauge will be installed and a small weir will be built with a datalogger for flow measurement. The *Hydrological Monitoring System Design Guide for Water Ecosystem Service Compensation Mechanisms for Drinking Water Utilities* (SUNASS, 2020), which was developed based on the *iMHEA Methodological Guide for Hydrological Monitoring of Andean Ecosystems* (Céleri R., De Bièvre, B., & Ochoa, B., 2012), will be used.
- Strengthening the iMHEA network in Peru: Peru is one of the countries where the iMHEA network has the largest number of hydrological monitoring sites in the Andean region. By increasing the number of monitoring sites in Peru, the project will strengthen iMHEA's technical assistance capacities in Peru through a local expert, for the benefit of the network members and in the framework of a process of capacity building and collaborative networking with INAIGEM, which is complemented by annual iMHEA events in Peru.
- Exchange workshops and network learning of hydrological monitoring sites: the Project will support the organization in Peru of two annual events of the iMHEA network, facilitating the participation of local partners and international experts to develop training courses under the "train the trainers" approach.
- *Downloading, quality control and data processing, operation and maintenance of monitoring sites*: the Project will support with logistic expenses for the transfer of the national expert of the iMHEA network to the monitoring sites for the development of local capacities for data downloading and

²⁷ Ley de Presupuesto del Sector Público para el Año Fiscal 2024 - <https://www.mef.gob.pe/es/por-instrumento/ley/32201-ley-n-31953/file>

processing.

Output 1.2. Monitoring system of degradation and deforestation of Andean forests designed and piloted.

The need for accurate long-term monitoring data on the dynamics and role of high Andean ecosystems in hydrological regulation and the impact of their degradation on Andean landscapes and ecosystems is of utmost importance to understand the dynamics of these ecosystems and at the same time seek ways to reduce or prevent greenhouse gas emissions from the degradation and deforestation of Andean ecosystems and generate timely information about the impacts in the local productive activities prioritized by the population.

The SDC's Andean Forests Programme Phase 2 (2019-2021)²⁸ supported the PNCB-MINAM in the elaboration of a proposal for the design of a monitoring system for the degradation and deforestation of Andean forests. This proposal will be the basis for the design and operation of the Andean Forests Module of the PNCB which is the main activity to achieve output 1.2 under this project.

The design of this system is part of the PNCB-MINAM's Strategy 2030 which seeks to expand the coverage of Peru's national forest monitoring and mapping system, currently focused on Amazonian forests, and which will seek to comprehensively assess deforestation and degradation of Andean forests, and be part of the National Forest and Wildlife Information System under the responsibility of SERFOR and the National Environmental Information System - SINIA under the responsibility of MINAM. According to the PNCB's 2030 Strategy, the design of the Andean Forest module will begin in 2025.

As part of the operational process of the Andean forest monitoring module, the capacities of public officials (regional governments, municipalities, among others) in the project intervention areas will be strengthened in coordination with the PNCB-MINAM for the proper use of the tools provided under this system, which will contribute to adaptation measures aimed at reducing the exposure and vulnerability of socio-environmental systems, improve their adaptive capacity and generate co-benefits of adaptation and mitigation.

The activities and tasks to be carried out to achieve this output are as follows:

Activity 1.2.1. Conceptual design of the Andean Forests Module of the PNCB: the Project will provide technical assistance (through a local expert) and logistical support to facilitate and guide the reflections and discussions between the PNCB-MINAM, SEFOR, SERNANP and INAIGEM on the conceptual design of the Andean forests mapping and monitoring module of the PNCB-MINAM and in line with the modules for Amazonian forests and dry forests. The conceptual design includes the governance and sustainability of the module, as well as a roadmap for capacity building at the sub-national level.

Activity 1.2.2. Design and operation of the Andean Forests Module of the PNCB:

- Mapping and monitoring system design: technical assistance will be provided for the design of the system (information gathering methodology, software and hardware required by the PNCB-MINAM and the implementation of the pilot at the subnational level).
- Acquisition of software for monitoring system - PNCB: according to the requirements indicated in the module design.
- Acquisition of hardware for monitoring system - PNCB: according to the requirements indicated in the module design.
- Acquisition software and hardware for pilot Regional Government: according to the requirements indicated in the module design.
- Technical support for pilot Regional Government: it is planned to develop capacities in at least two regional governments with Andean ecosystems and where tests and adjustments are carried out to validate the Andean Forest module and fully integrate it into the PNCB-MINAM forest mapping and

²⁸ Estrategia para el Monitoreo Integrado de los Ecosistemas de Alta Montaña en Colombia: <https://condesan.org/recursos/construccion-una-estrategia-monitoreo-integrado-los-ecosistemas-alta-montana-colombia/>

monitoring system.

Component 2. Implementation of best practices for landscape protection and restoration of Andean ecosystems in conservation mosaics.

Outcome 2. Enhancing the resilience capacity of Andean ecosystems in three prioritized conservation mosaics.

This component is focused on contributing to increasing the resilience of Andean ecosystems through collaborative work with the local population to reduce pressures on them, and contribute to the maintenance of the ecosystem services they provide, one of the main ones being the water resource, also incorporating the approach of adaptation to climate change and disaster risk management in the planning and management of protected areas, and the mobilization of financial resources from the private sector for the effective and sustainable management of mountain ecosystems in Peru.

This will be achieved through the implementation of ecosystem-based adaptation measures (EbA), complemented with nature-based measures (NbP) and other interventions (soft measures) such as monitoring (component 1) and capacity building of the local population foreseen in component 1, 2 and 3.

Soft measures also include the incorporation of the climate change adaptation and disaster risk reduction approach in the planning instruments of natural protected areas, and the support to the design of the Andean phase of the "Peru-Andean Natural Heritage Initiative". The project has identified and prioritized the protection and restoration of the following ecosystem services: water provision and regulation, food and fodder provision, soil fertility and nutrient cycling and soil carbon storage and sequestration.

The proposed activities will be carried out inside and outside of prioritized protected areas, which conserve representative samples of Andean forests, Andean moor, grassland, and wetlands. The natural protected areas prioritized in coordination with SERNANP are: in the north, the Tabaconas-Namballe National Sanctuary (and the Chicuate-Chinguelas private conservation area and the El Chaupe, Cunía and Chinchiquilla regional conservation area) in the department of Cajamarca; in the center the Calipuy National Reserve and the Calipuy National Sanctuary in the department of La Libertad, and the Huascarán National Park in the department of Ancash; in the south the Ampay National Sanctuary in the department of Apurímac and the Machupicchu Historic Sanctuary in the department of Cusco.

In the area of influence of the three selected mosaics, there are some precedents of successful experiences which serves a reference for the implementation of good ecosystem conservation and restoration practices which can be scaled up to other localities within the buffer zones of the same mosaics, and for which there is evidence of positive and proactive involvement of the communities which has been corroborated with interviews and outreach meetings with the population during the proposal formulation stage. Likewise, it is important to note that these activities will be developed based on the experience of several projects in these and similar areas (for further details see Section II. F), as well as key regional actors.

An example of a successful experience in Andean ecosystems that belong to the chosen mosaics have been developed based on the restoration guidelines - R.D.E. N° 083-2018-MINAGRI-SERFOR-DE, as is the case of the pilot project for the restoration of Andean forests in the rural community of Kiuñalla, the preparation of a public investment project profile for the restoration of 1000 hectares of Andean forests in Apurímac, and the implementation project to support the consolidation of MERESE in the Mariño micro-basin in Abancay, Apurímac. Also important are the experiences developed by the Mountain Institute of Peru through the project "Scaling Up Mountain Ecosystem-Based Adaptation: building evidence, replicating success, and informing policy" (Mountain EBA Peru).

Other restoration experiences is the "Quiroz Chira Water Fund", located in the north of Peru, it is an experience led by the NGO Nature and Culture International, which consists of articulating the various actions distribution and use of water between communities, municipalities and irrigation boards in order to conserve and restore Andean forests and moorlands (www.faqch.com). In the center of the country,

research is carried out to identify the main factors for wetland restoration (Planas et al, 2020)²⁹. In the south, recent research is being carried out on constructed wetlands that show their contribution to the provision of ecosystem services (Monge et al, 2022)³⁰.

In that sense, the project will seek to gather the learnings of these previous experiences and work based on them, to achieve a broader scope and involving a larger population, in a more comprehensive manner and seeking the involvement and articulation of different levels of government and local and regional actors.

Output 2.1. Rural communities implement conservation and restoration practices in degraded areas inside and outside (buffer zones) of prioritized protected areas.

In the protected areas of the three mosaics, local populations live inside and outside the area (buffer zones). These populations develop formal and informal economic activities that exert direct pressure on protected areas and affect the diversity and biological composition of Andean ecosystems. The existence of these activities is generated due to the lack of promotion and diversification of sustainable economic activities in the region, the poor development of technical capabilities and the little investment in work tools and instruments for productive activities.

Livestock, which is one of the most important livelihoods of high mountain populations, also depends on grasslands. We will work with communities to protect water, restore natural grasslands and sustainably manage livestock. These measures will help communities and ecosystems increase their resilience to extreme weather events. Healthy herds and grasslands make mountain people's sources of income more secure.

In this context, in close coordination with SERNANP, it has been prioritized for project intervention, the areas that have been most affected by productive activities, and at the same time work with communities with which need to strengthen relationships to achieve participatory management of the protected area.

In each of the protected areas, the existing pressures are different, but in general terms they are linked to the productive activities carried out by the population, with livestock being the most common and the activity that affected the most in the region. Due to the poor performance and organization of this activity in the region, as well as the lack of technical knowledge and investment in it.

In that sense, the project will promote sustainable livestock management actions through pasture improvement, haymaking, livestock rotation, animal health, among other actions in accordance with the ecosystem, and thus reduce the impact of this activity on the protected areas.

In addition, the project will promote and complement the restoration of Andean forests and grasslands, thanks to the installation of rustic water reservoirs (qochas in Spanish) that will collect for their creation based on traditional knowledge about the practice of planting and harvesting water, aligned with the adaptation measures of the Ministry of the Environment in Andean areas of the country. Ecosystem-based adaptation (EbA) measures preliminarily identified include: Conservation and restoration of bofedales, Sustainable Grassland Management, Reforestation with native species, Crop diversification, Eco- and agrotourism and Integrated Soil Fertility Management. On the other hand, preliminarily identified nature-based measures (NbP) include: Qochas/Rustic micro-reservoirs, Irrigation management and Afforestation.

All activities will be carried out in coordination with SERNANP and in collaboration with local municipalities, regional governments, or the private sector, as appropriate, to increase the impact of the intervention. To this end, it is also planned to develop capacity-building activities with a gender focus (prioritizing the participation of women and youth) in management and restoration practices of Andean forests to reduce cases of forest fires.

²⁹ Planas-Clarke, A.M., Chimner, R.A., Hribljan, J.A. et al. The effect of water table levels and short-term ditch restoration on mountain peatland carbon cycling in the Cordillera Blanca, Peru. *Wetlands Ecol Manage* 28, 51–69 (2020). <https://doi.org/10.1007/s11273-019-09694-z>

³⁰ María J. Monge-Salazar, Carolina Tovar, Jose Cuadros-Adriazola, Jan R. Baiker, Daniel B. Montesinos-Tubée, Vivien Bonnesoeur, Javier Antiporta, Francisco Román-Dañobeytia, Beatriz Fuentealba, Boris F. Ochoa-Tocachi, Wouter Buytaert, Ecohydrology and ecosystem services of a natural and an artificial bofedal wetland in the central Andes. *Science of The Total Environment*, Volume 838, Part 2 (2022). <https://doi.org/10.1016/j.scitotenv.2022.155968>

For more details on the consultation process about this item and the settlement or peasant communities identified for the implementation of the activities for this output, please see section H of this proposal.

The activities planned for the achievement of this output are as follows:

- **Activity 2.1.1. GIS baseline of intervention areas:** technical assistance will be provided to prepare detailed maps of the project intervention zones, identifying areas degraded by livestock or agricultural activities inside and outside the protected natural areas, water recharge zones and land use. The identification and prioritization of intervention zones will be carried out in coordination with the head of the protected natural area and the local population, taking as a reference the zoning of the NPA and the agreements on direct use of resources established between the NPA and the community.
- **Activity 2.1.2. Technical assistance and capacity building for rural communities on good practices of ecological restoration:** in coordination with SERNANP, SERFOR, INIA, MIDAGRI, Municipalities and local communities, capacity building activities for the implementation of EbA and NbP measures will be designed and implemented. Previously, conservation agreements³¹ will be established with the rural communities to establish management rules around the protected areas and to promote passive restoration of degraded areas. The conservation agreements will take as a reference the proposed directive indicated in SERNANP Working Document No. 33 (2019) and the experience of the local implementing partners (Nature and Culture International and The Mountain Institute). Training will include capacity building in seedling production with native species (sexual and vegetative propagation), reforestation techniques, Andean grassland restoration and wetland restoration practices. It will also include training on site selection, design and construction of Qochas for agricultural use by the local population, based on the Methodological Guide developed by SERFOR (2018).
- **Activity 2.1.3. Implementation of good restoration practices on 105 hectares inside and outside protected areas:** the project will implement EbA (Conservation and restoration of wetlands, Sustainable Grassland Management, Reforestation with native species and Eco- and agrotourism) and NbP measures (Qochas/Rustic micro-reservoirs, Irrigation management and Afforestation) according to the prioritization carried out in coordination with SERNANP and the local population. Likewise, conservation agreements will be established with the local population to avoid the entry of livestock into areas undergoing restoration and not to carry out productive activities in the prioritized areas, especially in water recharge areas. In accordance with the prioritization and guidelines established by SERFOR, reforestation and afforestation activities in Andean forests will be carried out with native species, mainly Queuña (*Polylepis sp*) and Intimpa (*Podcarpus sp*). The construction of qochas will be carried out under the technical supervision of MIDAGRI. Coordination with Municipalities, Regional Governments, MIDAGRI (AGRORURAL and Sierra Azul Programme), SERFOR and private companies will be carried out to promote investments in the identified EbA and NbP measures and to expand the impact of the Project intervention.
- **Activity 2.1.4. Diagnosis and development of a livestock and equine management plan:** In order to contribute to reducing the impact of livestock farming (north and central mosaic) and the management of horses and mules used in tourism (south mosaic), a livestock census and diagnosis of livestock farming will be carried out in order to establish guidelines and recommendations for the sustainable management of livestock farming (EbA measure: Sustainable Grassland Management) and equine breeding linked to tourism (EbA measure: ecotourism).
- **Activity 2.1.5. Technical assistance and capacity building for livestock producers to reduce the impact on Andean ecosystems:** In coordination with SERNANP, INIA, MIDAGRI, Municipalities and local communities, activities will be designed and implemented for the development of local capacities in livestock management and management and improvement of livestock health. Capacity building will include aspects linked to improving the adaptation of livestock systems to climate change and mitigating greenhouse gas emissions.

³¹ According to Presidential Resolution No. 183-2020 SERNANP, this mechanism aims to establish joint work alliances between SERNANP and the population neighboring the Natural Protected Area, to contribute to the conservation of biodiversity and ecosystem services of the natural protected area, through the strengthening of participatory monitoring, the development of sustainable economic activities (bio-business and commercial articulation), and cultural revalorization

- **Activity 2.1.6. Implementation of 21 plots of improved pasture:** As part of the livestock and equine management plan, seed plots of improved pasture suitable for high Andean soils will be installed in priority areas and in coordination with the Municipality, MIDAGRI, INIA and local people. Having improved pasture will reduce the mobilization of livestock and increase the possibilities of improving their management and the use of milk products. Coordination with Municipalities, Regional Governments, INIA, MIDAGRI, and private companies will be carried out to promote investments and expand the impact of the Project's intervention.

Output 2.2. Incorporation of the climate change adaptation and disaster risk reduction approach in planning instruments of three conservation mosaics of Andean ecosystems.

SERNANP is currently in the process of updating the Natural Protected Areas Director Plan (National Strategy). This new Director Plan seeks to canalize all efforts at the national level to achieve biodiversity conservation results and its contribution to local development, contributing to compliance with the Global Biodiversity Framework, and to strengthen protected areas as dynamic cores of sustainable territorial development.

Under this approach, the project seeks to address problems such as poverty among local populations, inequalities, and climate change, which are risk factors for the conservation of mountain ecosystems in Peru. Project activities will contribute to this approach and promote its incorporation into protected area planning instruments by expanding the concept and developing methodologies.

To this end, the sustainable landscape approach will be promoted in general terms, including the identification of risk factors such as climate change and natural disasters. This approach will promote territorial articulation between protected areas based on the concept of conservation mosaics. This approach should later be included in protected area planning instruments and especially in integrated water resource management instruments, considering the ecosystem services of water regulation and sediment control as strategic for Andean ecosystems.

This will be complemented with the strengthening of management capacities and sustainable management of protected areas, the establishment and consolidation of alliances with local populations (organized through peasant communities or producer organizations) and the impact on the dynamics of territorial development through protected area management committees, where a key actor for the promotion of local and economic development are the rural district municipalities that articulate the actions.

The activities planned for the achievement of this output are as follows:

- **Activity 2.2.1. Conceptual design:** The project will provide technical assistance to the Strategic Development Direction of SERNANP for the conceptual development and implementation of the so-called "*conservation and sustainable development mosaics (functional landscape)*" indicated in the Director Plan for Natural Protected Areas. These mosaics integrate conservation dynamics (through protected areas) and productive and social dynamics in a particular territorial space and under the framework of analysis of socio-ecological systems should include aspects linked to climate change resilience, disaster risk management and the strengthening of local governance. The conservation mosaics where the project will be implemented will be used as pilots in high Andean ecosystems, considering that they are climatically different. Technical assistance will be provided through experts and workshops and meetings with professionals designated by SERNANP, MINAM, SERFOR and MIDAGRI.
- **Activity 2.2.2. Design of instruments or methodological tools:** the project will provide technical assistance to the Strategic Development Directorate of SERNANP to develop, incorporate into planning instruments and implement in the project intervention sites the concept of "*conservation and sustainable development mosaics (functional landscape)*" in landscapes of high Andean ecosystems. For the design of the instruments and methodological tools, landscape functionality (ecological integrity), resilience (response capacity) and good governance (landscape management arrangements) will be considered as attributes. Methodological tools and instruments developed by SERNANP will be used as a basis. Technical assistance will be provided through experts, facilitators and workshops and meetings with professionals designated by SERNANP.

- **Activity 2.2.3. Incorporation in protected area planning documents:** the project will provide technical assistance to the Strategic Development Direction of SERNANP to use as pilots of the "*conservation and sustainable development mosaics (functional landscape)*" in landscapes of high Andean ecosystems the intervention sites of the Project and the natural protected areas established in them. Technical assistance will be provided through experts, facilitators and workshops and meetings with heads of protected areas and members of the management committee.

Output 2.3 Preliminary conditions prepared for the start of the “Natural Heritage Initiative of Peru – Andes”, based on previously agreed upon conditions

The initiative "Securing the Future of Protected Areas. National Parks: Natural Heritage of Peru" (PdP), recognized by R.P. 254-2015-SERNANP and declared of national interest by Supreme Decree 003-2019-MINAM aims to consolidate the effective management of protected areas and their financial sustainability in the long term.

PdP is SINANPE's Permanence Financing Program (PFP), which seeks to ensure the long-term financial sustainability of protected areas in the country. This initiative is considered a crucial tool to reduce the vulnerability of ecosystems and the people who live from them, as a result of the adverse effects of climate change. This will be achieved by promoting sustainability for the conservation and management of protected areas through the enhancement of ecological and socioeconomic resilience. Therefore, PdP contributes to the implementation of the enabling conditions of the following adaptation measures BOS2 and BOS4 of the NDCs.

The PdP initiative has begun its activities in the Amazon Biome. Its objective is to consolidate the effective management of Sinanpe and the protected areas within a period of 20 years, in at least 19 million hectares, generating the enabling conditions for said management through the implementation of an articulated and extraordinary fundraising strategy and the development and implementation of economic mechanisms. As a result of this, in 2019, a 23 USD million "Transition Fund³²" was created and is currently administered by PROFONANPE. PdP will be implemented also in the Marine - Coastal and Andes biomes.

In this regard, as part of the "30x30 Project": "Achieving 30x30 in Peru, through the sustainable management and financing of landscapes and seascapes", funded by the Moore Foundation through the World Wildlife Fund, the concept note for the PdP initiative for the Andes is being prepared.

Following the experience of the PdP Amazon initiative, a transition fund will be structured for the PdP Andes, with the support of international cooperation, international NGOs working on mountain issues and the private sector. This fund will focus on financing actions to confront the effects of climate change in selected landscapes of the Andean ecosystems delimited through product 2.1, and under the SERNANP approach, which will be applied in the conservation and management of natural resources activities within of protected areas.

Its operational design and structuring will consider two strategic objectives (complementary to each other): (i) support the implementation of good restoration practices and sustainable use of Andean ecosystems, and (ii) promote local economies towards climate resilient trajectories.

Its impact metrics will include, among others, the generation and use of information to avoid, minimize and address loss and damage; integrating climate adaptation into planning; strengthening capacities, and collaboration and articulation with the public-private sector. The impact indicators of the investment will be linked to the adaptation measures established in the NAP Peru, prioritizing those planned for this project: water, forests and agriculture. The Transition Fund will strongly promote public-private collaboration, for example, through impact investment or the implementation of the "works for taxes" mechanism.

The products of component No. 1 who aims at the implementation of hydrological and deforestation and

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The Transition Fund is an essential component of the Permanence Financing Program (PFP), providing the necessary financial support to ensure a smooth and effective transition towards a sustainable and long-term financing model for protected natural areas. This fund guarantees the stability and continuity of conservation activities, facilitating the success of the PFP and the lasting protection of ecosystems. https://sis.sernanp.gob.pe/biblioteca/?publicacion=2554&fbclid=IwZXh0bgNhZW0CMTEAAAR1bl8dhoiCUZnKqANuPKL3f_QWsWiMpmB7bk8ppg37kMDdK_Fq54piMBUG_aem_Ei8VI9cdNFIDb3jlnwFYVg

degradation monitoring systems will be added to the Andean PdP initiative. Component No. 2, which involves the practice of productive activities that promote restoration and conservation of ecosystems as part of the management actions of protected areas and promotion of the sustainable development approach of Andean landscapes. Both components will be recognized as part of the action strategy of this initiative for compliance with the enabling conditions.

The activities planned for the achievement of this output are as follows:

- **Activity 2.3.1. Conceptual design:** technical assistance will be provided through an expert and the organisation of workshops and/or meetings will be facilitated to (i) systematize lessons learned from the implementation of the PdP Amazonía (technical, administrative, management, governance and financial aspects), (ii) delimit the focus and scope of the PdP Andes initiative under the concept of "*conservation and sustainable development mosaics (functional landscape)*", (iii) establish objectives, targets and indicators, (iv) establish in institutional terms the articulation of both initiatives within the framework of the current Board of Directors of the PdP Amazonía, and (iv) the opportunity to mobilise public and private funds to constitute a new Financial Fund.
- **Activity 2.3.2. Operational design:** the project will provide technical assistance and facilitate working meetings to design the governance framework and institutional arrangements for the technical and administrative operativity of the PdP Andes and to ensure its financial and technical sustainability.
- **Activity 2.3.3. Financial structuring of the Transition Fund:** Technical assistance will be provided to SERNANP and MINAM in coordination with PROFONANPE to identify the best financial practices to design and structure a financial fund (a mixture of investment fund and Transition fund) for the protection, restoration and sustainable use of high Andean ecosystems under a landscape approach, and from which public investments can also be directed to promote sustainable productive activities. Likewise, operational models will be identified based on financial contribution opportunities for the creation of the Fund from international organizations (donations), international cooperation (donations, debt-for-nature swaps, etc.), the private sector (donations, royalties, etc.) and the public sector (for example, taking advantage of opportunities with Legislative Decree 1620, which approves the Law on Universal Potable Water and Sanitation Services).
- **Activity 2.3.4. Create of the Transition Fund:** Technical assistance will be provided and support will be given to the holding of working meetings to present the technical and financial operational design of the Fund to potential contributors, and rounds of negotiations will be held to set up the Fund. The target for the end of the project is to establish the financial fund and to have the PdP Andes in operation by the end of the project.

Component 3. Increasing resilience and sustainability of local productive systems in rural communities in landscapes of Andean ecosystems

Outcome 3. Enhancing the resilience capacity of productive activities in rural communities of the three prioritized conservation mosaics.

This outcome seeks to involve the local population in the management of protected areas (a process led by SERNANP) in the three prioritized conservation mosaics, and which is complemented by Output 2.1 of component 2, in which rural communities implement conservation and restoration practices in degraded areas of the buffer zones, in addition to promoting the sustainable management of Andean ecosystems and their resources that are essential for the well-being of local, national and global society.

The consultation process has included a participatory assessment of risks and threats to ecosystems, which has included the perspective of communities and has broadened that of specialists and chiefs of protected areas. This is how factors such as burning, the unsustainable use of timber and non-timber forest products, wildlife hunting, illegal mining and settlements, and contamination by solids and liquids have been identified. These factors will be included in the capacity building activities of output 2.1 and

will be part of the knowledge management of the Project. It should be noted that this identification was made under gender-inclusive methodologies and has considered the perspective of both men and women.

The project has identified cattle farming throughout the mosaics as one of the main livelihoods (and source of family income), and at the same time one of the main drivers of ecosystem degradation. To address this problem, the project will promote climate-smart agriculture and livestock³³, the breeding of alternative sources of protein production (small animals and guinea pigs) and the optimization of livestock systems under a sustainable and regenerative livestock approach³⁴, in combination with value chain optimization measures for the reduction of losses and increase of productive efficiency and the application of conservation practices and restoration for water regulation, erosion control and soil fertility, so that together, the ecological footprint of the system is reduced compared to the initial situation

In this context, this component will mainly seek to strengthen the technical and practical capacities of local populations under a climate change adaptation approach and to articulate local productive activities to a wider market, to mobilize public and private financial resources, promote environmentally friendly practices and strengthen local businesses. Rising temperatures in high Andean areas, melting ice and droughts particularly affect food security, water security, habitat health and agricultural and livestock productivity in the Peruvian Andes, resulting in climate change-driven expansion of agricultural frontiers to higher altitudes. In addition, the extent of grasslands and forests is decreasing, directly affecting biodiversity conservation and negatively impacting important ecosystem services that support local populations in the Andes: provisioning, regulating and maintenance services are the most important for food security. The EbA and NbP measures identified as part of capacity building include: Crop diversification, Eco- and agrotourism, Integrated Soil Fertility Management, Sustainable Grassland Management and Irrigation Management.

In addition, detailed evaluations of the activities will be obtained and will serve as a basis for designing an intervention strategy and form part of the protocols to be implemented by SERNANP in relation to the promotion of local businesses (produced by peasant communities), so that SERNANP can award the final products with the "Allies for Conservation" brand and contribute to improving the marketing channels of local businesses developed in and around protected areas. This information will also allow us to prepare a proposal for technical assistance from government programs and identify opportunities for the diversification of productive activities that are more resilient to climate change and more sustainable and friendly to the conservation of biodiversity and high Andean ecosystems.

The Project has identified other initiatives to which it can articulate and establish synergies, such as the Northern Andes Water Fund in the northern mosaic, and state programs for productive initiatives of PROCOMPITE, AGROIDEAS and AGRO RURAL, as well as projects promoted by local governments.

PROCOMPITE is a priority strategy of the State that constitutes a Competitive Fund to co-finance productive proposals (business plans). It aims to improve the competitiveness of production chains through the development, adaptation, improvement, or transfer of technology. The Law establishing Provisions to Support Productive Competitiveness (Law No. 29337) indicates that regional and local governments may authorize PROCOMPITE to use up to 10 percent of the resources budgeted for project expenditure, except for resources from sources of official credit operations and grants and transfers.

The Compensation Program for Competitiveness (AGROIDEAS) is an entity attached to the Ministry of Agrarian Development and Irrigation (MIDAGRI). The Program promotes the strengthening of business management and the adoption of environmentally sustainable agricultural technologies of small and medium organized agricultural producers in Peru, contributing to the improvement of their competitiveness and quality of life, through efficient and results-oriented management. It also formulates, lead, and supervises Agricultural Productive Reconversion Projects, initially prioritizing some crops

³³ Climate-smart livestock is a productive approach that simultaneously seeks to sustainably increase livestock productivity and income, improve the resilience of livestock systems to climate change and reduce greenhouse gas emissions ([FAO, 2020](#)).

³⁴ According to the document "[Sustainable Livestock: Practice Guide for the Northwest of Pichincha](#)" (Cabezas *et al*, 2019) sustainable livestock is a production approach feasible to apply in the Andean context, which encompasses a series of practices that increase the profitability of livestock activity while favoring its sustainability over time and the conservation of the remaining forests along with their functions. It covers, for example, farm zoning and planning, improvement of grazing systems and inclusion of forest species, proper use and management of water and animal welfare. In the context of the Northwest of Pichincha in Ecuador, it has demonstrated a 300% increase in the carrying capacity of the farm and the reduction and / or elimination of purchases of surplus food and external fertilizers, while a notable improvement of soils, significant increases in flows and water sources that no longer dry up in summer.

considered sensitive due to different factors. Additionally, it also improves the capacity of small and medium producers, repowering production and marketing and capitalizing on it with new technologies.

The Rural Agricultural Productive Development Program (AGRO RURAL) is an entity attached to the Ministry of Agrarian Development and Irrigation. The program designs, promotes and manages rural agrarian development models that facilitate the articulation of public-private investments and that contribute to poverty reduction and the inclusion of rural families. The program seeks to improve the quality of life of rural families in Peru through the implementation of sustainable rural development plans and policies agreed with regional and local governments and other social actors.

It should be noted that, for each of the project components, it is expected to include activities aligned with knowledge management as indicated in section G below.

For more details on the consultation process about this item and the settlement or peasant communities identified for the implementation of the activities for this outcome, please see section H of this proposal.

Output 3.1. Rural communities have productive technical capacities to reduce the vulnerability of prioritized protected areas (buffer zone)

With this output, the project seeks to strengthen the technical and practical capacities of local populations under a climate change adaptation approach based on the productive activities carried out by the local population, prioritising the participation of women and young people, mainly in the sessions and workshops that will be held.

To this end, a consultation process was previously carried out during the project formulation stage to identify the main productive carried out in the three conservation mosaics. For more details on the consultation process about this item and the settlement or peasant communities identified for the implementation of the activities for this output, please see section H of this proposal. The principal productive activities are:

- Northern mosaic: sustainable livestock, guinea pig breeding, bio-gardens.
- Central Mosaic: potato cultivation, guinea pig breeding, sheep breeding (for wool), crops
- Southern mosaic: tourism (equine breeding), guinea pig breeding, crops, non-forest product (tara).

Based on the productive activities identified, an evaluation will be made of the training offered by the government through the Ministry of Agriculture (MIDAGRI), the Ministry of Production (PRODUCE) and the Ministry of Development and Social Inclusion (MIDIS). This will serve to strengthen and integrate the efforts of the different government bodies and facilitate the attention of the populations involved in the project.

The topics prioritized for the design of the training modules will also be articulated with the training plan of the regional directorate of agriculture of the regional government and the economic development directorate of district municipalities (governmental bodies of which the local populations are part). With this cross-checking of information, the final version of the training modules for the population and local authorities will be available.

The development and strengthening of capacities to increase the resilience and sustainability of local productive systems will be linked to the conservation objectives of the protected area and the key ecosystem services for the development of agricultural, livestock and tourism activities developed by the communities involved in the project. This product seeks to contribute to the development of the pilot implementation of the concept of "*conservation and sustainable development mosaics (functional landscape)*" established by SERNANP's Director Plan for Natural Protected Areas. Capacity building activities will prioritize the implementation of EbA and NbP measures preliminarily identified and in accordance with component 2.

The activities planned for the achievement of this output are as follows:

- **Activity 3.1.1. Diagnosis of MIDAGRI / PRODUCE / MIDIS training offer/services:** technical assistance will be provided to identify the supply of government technical assistance services (including public research institutes and academia) for agricultural, livestock and tourism activities in

the project intervention areas, the capacity to support the population of the project intervention site and assess whether they consider adaptation to climate change of these productive activities as an issue. Regional governments and municipalities will be included in the diagnosis to assess their technical assistance capacity. Priority will be given to technical assistance linked to the EbA and NbP measures preliminarily identified.

- **Activity 3.1.2. Diagnosis of training needs (local population and municipalities)**: technical assistance will be provided to identify, based on the prioritised productive activities, the development and capacity building needs of local populations and technicians in the municipalities. Priority will be given to capacity building linked to the EbA and NbP measures preliminarily identified.
- **Activity 3.1.3. Articulation with Municipalities and/or Regional Government for training plan design**: collaboration agreements will be established with Municipalities and/or Regional Governments for the design (participation in workshops and meetings) and implementation (logistical support) of capacity building activities for local people.
- **Activity 3.1.4. Design of training modules**: Based on the diagnosis of the supply of technical assistance services and training needs, assistance will be provided through an expert for the design of training modules for promoters and local people (methodological guides and materials) and the implementation methodology, considering intercultural and gender aspects. Coordination with the sectors involved (MIDAGRI and MINAM) for the support with the development of the materials, considering native languages and prioritizing the training of local promoters. Priority will be given to the design of training modules based on the EbA and NbP measures preliminarily identified.
- **Activity 3.1.5. Training of municipal promoters**: In coordination with the district (or provincial) municipalities, the regional government and MIDAGRI, training workshops will be held for municipal technicians under the “train the trainers” format. The technicians will then accompany the MIDAGRI specialists to carry out the training with the local population.
- **Activity 3.1.6. Workshops/Training meetings for local people**: the project will support the implementation of training workshops in the communities in coordination and collaboration with municipal technicians and MIDAGRI specialists. Although the trainings are planned for the entire population and especially for those engaged in the prioritized productive activities, the training of local promoters (Yachachiq) will be promoted, and traditional knowledge will be incorporated to increase the climate resilience of productive activities in a process of co-creation (and innovation) and knowledge management of good local practices or documented in similar ecosystems. This activity constitutes the "theoretical" part of the development and capacity building of local people.
- **Activity 3.1.7. Implementation of good practices to reduce vulnerability of production chains**: The project will support capacity building by financing the implementation of best practices to increase the resilience of local productive activities in each of the sites prioritized by the project. The activities will be implemented with technical assistance from MIDAGRI specialists, trained municipal technicians and local promoters. Their evaluation and monitoring will be documented. The prioritized activities are detailed below and have prioritized the implementation of the preliminarily identified EbA and NbP measures:
 - North mosaic: good practices in livestock management, guinea pig breeding, self-consumption agriculture in the eastern (Namballe) and western (Huancabamba) boundaries of the Tabaconas Namballe National Sanctuary.
 - Center mosaic: good practices in livestock management, guinea pig breeding and potato cultivation in the area between Calipuy National Sanctuary and Calipuy National Reserve, and around the Chacas population center located on the central and eastern border of Huascarán National Park.
 - South mosaic: good practices in guinea pig breeding, agriculture, and tourism (management of equine cattle) in the Ampay National Sanctuary and in the southeastern area of the Macchupichu Historic Sanctuary.

The practices that will be implemented in the three mosaics chosen in the project are aligned with the National Plan for Adaptation to Climate Change (MINAM, 2021), specifically within the agriculture sector. These practices seek to conserve resources (water, soil and vegetation) through the

implementation of environmentally sustainable productive activities.

The practices identified are the following: the sustainable grassland management (for livestock and equine cattle), integrated soil fertility management, irrigation management, and crop diversification (agrobiodiversity conservation).

For more details on the consultation process about this item and the settlement or peasant communities identified for the implementation of the activities for this output, please see section H of this proposal.

Output 3.2. Design, evaluation, and implementation of adaptation measures of productive chains linked to the market.

The productive activities identified in product 3.1 are mainly subsistence activities and in other cases are linked to trade in local markets. This output will seek to articulate these activities to a much broader market such as the regional market and continue mobilizing financial resources, in addition to promoting the practice of more environmentally friendly activities directly related to the conservation of Andean ecosystems and their adaptation to climate change.

To this end, a series of activities will be developed to strengthen the productive chain of local businesses and as a starting point, a detailed analysis of these chains will be carried out to learn how it works, and to identify the critical points that hinder the development of sustainable productive activities and the advantages that promote it. This exercise will also make it possible to recognize and visualize the main barriers for the participation of local businesses and gaps in access to opportunities and resources that exist in the chains.

This analysis will be the basis for the development of a detailed diagnosis of productive activities with potential for scaling up to regional or national markets based on the identified demand. Then, a productive chain will be selected by mosaic to apply the identified articulation opportunities and technical assistance in the different stages of the productive chain in order to obtain the "Allies for Conservation" seal of guarantee granted by SERNANP as part of its conservation strategy.

In addition, these production chains will be linked to the guidelines of the MIDAGRI (AGRORURAL, AGROIDEAS and Sierra Azul Program) and/or PRODUCE and/or MIDIS programs that facilitate public technical assistance, research & development, and investment (in collaboration with private sector) for similar production chains, and finally, productive diversification opportunities will be identified to promote partnership opportunities with local businesses.

For more details on the consultation process about this item and the settlement or peasant communities identified for the implementation of the activities for this output, please see section H of this proposal.

The activities planned for the achievement of this output are as follows:

- **Activity 3.2.1. Diagnostics of productive activities (including economic analysis)**: technical assistance will be provided to carry out detailed social, economic, and technological analyses of the productive activities and chains developed in each of the project intervention sites and with potential for access to other markets. The potential for market access can promote opportunities for associativity among producers, improve product quality and promote the implementation of sustainable and climate-smart production practices, which can translate into better incomes for local producers.
- **Activity 3.2.2. Identification of articulation/demand opportunities for chain prioritization**: based on the diagnosis and prioritization carried out in the previous activity, opportunities for articulation with demand outside the district/provincial production area will be identified, identifying opportunities with companies that implement sustainable production and marketing practices and that can promote the implementation of good practices and technological improvements at the local level. The articulation with these markets does not imply promoting the expansion of current agricultural or livestock activities and generating a negative impact on ecosystems and ecosystem services.
- **Activity 3.2.3. Identification of productive reconversion opportunities including economic analysis (ecobusiness and R&D promotion)**: based on the diagnosis made in activity 3.2.1, the opportunities for articulation to new markets, the identification of opportunities for the development of

new products (value added) and needs for technological improvement of current products (in coordination with academia and PRODUCE) a proposal for the reconversion of Agri-Food local production systems and technological assistance will be elaborated. The proposal will include the environmental benefits and impacts (positive and negative) under the "functional landscape" approach indicated in the Master Plan for Natural Protected Areas of SERNANP.

- **Activity 3.2.4. Identification and implementation of opportunities for Associativity:** for current products with market potential, the associativity of producers will be promoted once the market and agreements with potential buyers have been defined and established.
- **Activity 3.2.5. Mobilization of public financing (MIDAGRI and/or PRODUCE and/or MIDIS programs):** the proposal elaborated in activity 3.2.3 will be presented to the Provincial Municipality, the Regional Government, PRODUCE, MIDAGRI and the private sector to define its feasibility and the channeling of public and private financial resources for its implementation. In the first phase, priority will be given to investments in current products.
- **Activity 3.2.6. Diagnosis of training needs (local population and municipalities):** technical assistance will be provided to identify: (i) training needs on ecosystem-based adaptation measures or natural based practice required by the prioritized productive activities and with market potential, (ii) the development and capacity building needs of local producers and technicians of the municipalities. The design of the training modules will be prioritized based on the EbA and NbP measures preliminarily identified.
- **Activity 3.2.7. Design of training modules:** based on the training needs, assistance will be provided through an expert for the design and/or adaptation of training modules on the implementation of specific adaptation measures for prioritized production chains (methodological guides and materials) aimed at municipal technicians and local producers. Likewise, the implementation methodology will be developed, considering intercultural and gender aspects. This activity will be complementary to the activities foreseen in Output 3.1. Priority will be given to the design of training modules based on the EbA and NbP measures preliminarily identified.
- **Activity 3.2.8. Implementation of adaptation measures to prioritized chains:** the project will support the implementation of EbA and NbP measures required by the prioritized productive activities and with the objective of increasing opportunities for access to sustainable markets. The activities will be implemented with the technical assistance of specialists from MIDAGRI and PRODUCE and trained municipal technicians. The potential production chains in each of the mosaics are detailed below:
 - North mosaic: adaptation measures for sustainable livestock and/or guinea pig breeding in the eastern (Namballe) and western (Huancabamba) boundaries of the Tabaconas Namballe National Sanctuary.
 - Center mosaic: adaptation measures for guinea pig breeding and/or cultivation of native tubers in the area between Calipuy National Sanctuary and Calipuy National Reserve, and around the Chacas population center located on the central and eastern border of Huascarán National Park.
 - South mosaic: Sustainable agriculture and/or ecotourism adaptation measures in the Ampay National Sanctuary and in the southeastern area of the Macchupichu Historic Sanctuary.

In general terms, adaptation measures will be implemented aimed at improving the management of Andean agricultural systems in the three mosaics. Part of the production of these systems is market-oriented, which is why the practices implemented will seek to improve and increase production in prioritized areas. These practices are aligned with the National Plan for Adaptation to Climate Change (MINAM, 2021), and are the following practices: (a) livestock management (management of improved pastures, haymaking, use of organic food supplements and added value - transformation); (b) crop management (conservation agriculture, biogardens, exchange of potato varieties and other crops used in the area resistant to climate change conditions, and added value - transformation); and (c) planning for land use and exchange of good practices among producers.

- B. Describe how the project/programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/programme will avoid or**

mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

The population of the sites prioritized by the Project lives 2,800 m above sea level. The traditional form of local organization is the peasant community, which are organizations of public interest, with legal existence and legal status, made up of families that inhabit and control certain territories, linked by ancestral, social, economic and cultural ties (Law 24656 - General Law of Peasant Communities). According to the Indigenous or Original Peoples Database of the Ministry of Culture (<https://bdpi.cultura.gob.pe/>), the indigenous peoples located in the project intervention area (mostly in the central and southern mosaic) are Andean and known as Quechuas, whose mother tongue is Quechua in its different varieties (<https://bdpi.cultura.gob.pe/index.php/pueblos/quechuas>). According to the census of indigenous peoples and peasant communities (INEI, 2017), on average 35% of the population is under 18 years old and 11% over 65 years old, and on average 49% of the population is female

In accordance with the principle of Marginalized and Vulnerable Groups of the FA ESP document, these populations have limited access to government technical assistance and economic development programs, which is why they require greater technical assistance and economic support to strengthen and diversify their productive activities.

The consultation process:

Based on consultations carried out in 2023 with local populations involved in the management of protected areas in the conservation mosaics in the north, center and south of the country, 25 settlements and 3 peasant communities were prioritized for project intervention (see Annexes 1 and 2 for more details). It is estimated that the expected impact of the project will directly benefit 8,900 people in high Andean areas of Peru, who live in conditions of poverty and subsistence economies mainly. Likewise, it is estimated that 36,300 people of the high Andean ecosystem landscapes located in the three conservation mosaics will benefit indirectly.

The direct consultation process was carried out with local leaders and community members who participated during the meetings to present the components, activities and results of this proposal, in order to know their opinion and collect important inputs to enrich the proposal. The result of these consultations are the attendance lists signed by all participants at the meetings held and which are attached in Annex 1 and 3.

The Annex 3 (Final report of consultation process) presents the characterization of the three prioritized conservation mosaics, covering specific location of the prioritized sites and sector within each mosaic, forms of organization, local authorities, ecosystems, degradation and deforestation drivers, preferences regarding the proposed conservation and restoration practices, ecosystem management history, local perception regarding their landscapes (considering gender particularities), livelihoods, local perspectives regarding their own vulnerability to climate change, gender and youth productive and organization aspects, and disposition to the activities and results proposed for those components of the project directly related to the population. This report gathers information provided by the population as part of the beginning of the coordination with the communities and as a result of the previous consultation. This information has served as the basis for the design and validation of the activities of outputs 2.1, 3.1 and 3.2

In order to adequately manage the expectations of the beneficiary population and promote their commitment to the project, it was decided to hold prior participatory consultation meetings during the project design and approval stage. When the project start, the commitments will be close with the parties. It should be noted that local authorities and specialists from the protected areas of the mosaics also participated in this process. All the means of verification of this consultation process are detailed in Annexes 1, 2 and 3.

Also, to includes the gender and vulnerable groups perspective, the consultative process has included a gender evaluation in peasant communities', that included the socioeconomic, cultural and political context, regarding the project components (relationship, perspective and preferences of each gender group regarding ecosystems, livelihoods and value chains). As result, it has been identified, for instance,

that women's inclusion in local organizations and leadership positions has different levels among all the prioritized towns (for example, within the northern mosaic, female leadership is less evident in Pueblo Libre sector than in Chinguelas settlements in the northern mosaic), or that women and men have a different level of bonding with the different components of their own environment (for example, in Chupapata sector in the southern mosaic, women identify with less level of detail the ecosystemic elements compared with men, being the opposite regarding the cultural and agricultural elements). This kind of observations are further described in Annex 3 and allowed to craft site-specific strategies of interventions (Part II.H and Part III.C).

Consistent with the description of the activities indicated in Section II. A (implementation and promotion de EbA and NbP measures), the project has not anticipated negative social, economic, or environmental impacts. The potential impacts would be linked to the installation of the hydrological monitoring plots and the implementation of some of the EbA and NbP measures: conservation and restoration of wetlands, sustainable grassland management, reforestation with native species, qochas/rustic micro-reservoirs, irrigation management and afforestation. All activities consider the gender and intercultural approach (especially in relation to the local language). For more details see Section II. K

The project estimates the following environmental, social and economic benefits:

Environments benefits:

- Support the conservation process of approximately 670,000 hectares and the restoration process of 10,000 hectares in the Andean ecosystems of Peru: The Andean ecosystem is being directly impacted by climate change but it is also the key element for Ecosystem-based Adaptation measures to enhance water security and the resilience of the population.
- A larger scale, the protection and restoration of the ecosystem service of hydrological regulation of protected areas such as the Huascarán National Park or the Ampay National Sanctuary will benefit cities such as Huaraz (Ancash) and Abancay (Apurimac). Mountain water resources in the tropical Andes sustain both rural and urban water supplies, irrigated agriculture, hydropower generation and fragile high-elevation ecosystems.
- The project expects to contribute to reducing the occurrence of forest fires in the three conservation mosaics, thereby also reducing biodiversity loss.
- GHG emissions are avoided through the conservation and restoration of degraded ecosystems.
- Access to climate information services via SENAMHI, INAIGEM, and MIDAGRI's platforms will support the planning, programming, and decision-making for further replication.

Social benefits:

- Health and well-being, food and water security: the focus is on water security, enhancing the availability and quality by conserving and restoring the water services provided by the Andean ecosystems. Most precipitation falls in the wet season between December and March, with glacier meltwater an important water source during the dry season (May to September), and especially during droughts (Potter et al, 2023)³⁵.
- The project will directly benefit 8,900 people (50 % women) and from settlements and peasant communities. Indirectly benefit 36,300 people in the conservation mosaic and more people in the middle and lower watersheds that will be quantified during project implementation.
- Communities and local leadership, including of women and youth, will be strengthened. Project activities will enhance living conditions and economic opportunities of women and youth Andean farmers through directed training on associative processes and business plan development (women and youth associations will be prioritized), integrating and gender issues in platforms of knowledge exchange for ancestral practices and increasing women and youth participation in watershed dialogue decision-making platforms.
- Improved social cohesion. The focus of the project on recuperating ancestral knowledge, technologies, tools, organizational structures and management practices, and the monitoring of the communities' own progress in vulnerability reduction will strengthen social cohesion and enhance the importance of ecosystem conservation to sustain current livelihoods. The promotion of associative processes and access to markets will strengthen high Andean farmers networks.
- The project will facilitate the coordination within MIDAGRI and MIDIS with other key sectors (Water and Sanitation) and actors in the territory.

³⁵ Potter, E.R., Fyffe, C.L., Orr, A. et al. A future of extreme precipitation and droughts in the Peruvian Andes. *npj Clim Atmos Sci* 6, 96 (2023). <https://doi.org/10.1038/s41612-023-00409-z>

- The project will help mobilize MERESE funds. The operationalization of the MERESE mechanism will contribute to channel funding for the conservation of Andean ecosystems and support smart climate productive activities.

Economic benefits:

- The project aims to transform vulnerable communities' businesses and their usual production system into more sustainable and climate-resilient production systems. This will be done by implementing EbA measures, while at the same time, seeking to increase productivity, secure water regulation, fodder provision, and carbon storage.
- Improved associativity and entrepreneurship. Direct support will be provided to communities, farmer associations and individual farmers in developing sustainable business models that focus on increased productivity, increased income, and value chain addition. Farmer associations will be trained in associative processes, business plan development, technification and increased participation in climate-sensitive value chains to be prepared for access to national and international markets.
- Climate innovation will be catalyzed through improved land management and sustainable business models in target value chains supported by public and private finance. The improved participation of vulnerable High Andean communities in these value chains will be promoted through sustainable ecosystem management practices, enhanced associative processes, climate-resilient agribusinesses, increased access to specialized markets, and improved access to finance and technical assistance.
- Locally generated and targeted innovation for market transformation. MIDAGRI's funds from AGROIDEAS and private sector to strengthen local associations and their business ideas will be complemented by the project by technical support to develop business plans and apply to the program.
- The project has the potential of leveraging public and private financing towards EbA and NbP measures in the Andean ecosystem landscape. Through access to finance and capacity-building, project activities will support local employment and dynamize local economies via increased participation in the value chain and access to specialized markets.

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

The adaptation measures proposed in the project (ecosystem monitoring, strengthening of capacities, restoration activities, mobilization of financial resources), are cost-effective long-term solutions to develop resilience in the communities and conserve the functionality of Andean ecosystems, which implies continuing to provide contributions from nature to the local populations mainly.

The research builds upon several years of extensive study by the iMHEA network in different types of Andean ecosystems (Andean forests, Andean moor, grassland, and wetlands) to implement best practices and better decisions, show that watersheds with less land use change or intensity of use for sustainable livestock provide a better ecosystem service of water regulation (Ochoa-Tocachi B.F et al, 2016)³⁶.

The iMHEA network has hydrological monitoring sites in northern (Piura), central (Huaraz) and southern (Abancay) Peru. Recommendations derived from a review of the status of forestry impacts on water and soils in the Andes include (Bonnesoeur V., Locatelli B., Ochoa-Tocachi B.F., 2019)³⁷: (i) to optimize hydrological services, forest landscape restoration initiatives should prioritize soils without vegetative cover, with compacted soils, and with soils in which organic matter has been depleted; (ii) local authorities and population should understand the advantages, disadvantages, and specify what is expected from afforestation (water or timber); (iii) decision makers sometimes assume that afforestation is key to watershed conservation or restoration, but the reality is that native Andean grasslands and Andean moor in good conditions provide excellent hydrological services; (iv) it is urgent to protect forests from degradation and deforestation, especially cloud forests, not only for their rich biodiversity but also for their

³⁶ Impacts of land use on the hydrological response of tropical Andean catchments. BF Ochoa-Tocachi, W Buytaert, B De Bievre, R Céleri, P Crespo, ... Hydrological Processes 30 (22), 4074-4089. <https://onlinelibrary.wiley.com/doi/pdf/10.1002/hyp.10980>

³⁷ Bonnesoeur, V., Locatelli, B., Ochoa-Tocachi, B.F. 2019. Impactos de la forestación en el agua y los suelos de los Andes: ¿Qué sabemos? Resumen de políticas. Lima, Peru: Forest Trends-Proyecto. <https://www.cifor.org/knowledge/publication/7147/>

contribution to hydrological and soil regulation; (v) landscape restoration and green infrastructure projects should invest in monitoring, and their results should be used in decision-making processes, and to guide and support the design, implementation and evaluation of conservation and afforestation projects.

The high Andean ecosystems constitute a continuum of humid grasslands (puna), wetlands and *Polylepis* forests. In an evaluation carried out in Apurímac between 3,900 and 4,635 masl (Cervantes et al, 2022)³⁸, the results show that the humid grasslands(puna) regulate 80%, the wetlands 17% and the *Polylepis* Forest 3%, so the planning of protection, restoration and management activities should be approached from a landscape perspective.

An additional reference to be used for the design of activities is an evaluation of the cost-effectiveness of high Andean ecosystem management in water regulation compared to other regulation alternatives, such as the construction of rustic micro-dams, concrete dams and payment of the opportunity cost of the families living in the Mariño watershed (Cervantes, 2022)³⁹. The cost-effectiveness threshold was estimated at \$0.05/m³ of water, while the incremental cost-effectiveness ratio of the strategies evaluated were: i) ecosystem restoration through a public investment project (\$0.088/m³), ii) construction of rustic micro-dams (\$0.47/m³), iii) construction of a concrete dam (\$0.18/m³) and iv) payment of the opportunity cost (\$0.01/m³).

Furthermore, Quispe et al (2022)⁴⁰ in the same study area in Abancay, evaluated the contribution of agroecology to food security and against climate change in family farming. His results show that the application of agroecological practices improves food self-sufficiency and family income; it also reduces antagonisms or increases synergies between productivity and adaptation or mitigation. These results suggest that agroecology can help to simultaneously achieve the (often conflicting) objectives of Climate-Smart Agriculture.

Identifying the interests of the local population in the key ecosystem services for the project is the basis for achieving a high degree of ownership and commitment to continue supporting the protection, restoration and good land management (Hosftede, 2019). The experience of the Andes del Norte Fund in Piura (Albán, 2017)⁴¹ demonstrates how local participation in the design of activities to protect and reduce pressures on ecosystems and technical assistance from the district municipality are good practices that can be replicated in other landscapes with similar issues. This is particularly important in the management of protected areas, where it is key to involve the local population and municipalities.

Vasquez et al (2017)²⁴, in an assessment conducted in Apurímac about the Andean ecosystem and population vulnerability, the following forest landscape management practices were identified as reducing vulnerability: protection of mammals, establishment of customary rules, honeybee production, restoration, protection of native forests, and reforestation. It also indicates that the capacities of local populations to cope with climate change vary from fair to poor, using for this analysis variables such as rights over natural resources, community capacity for economic diversification, community organizational capacity and presence of vulnerable groups. The Project will consider all these findings as a basis for identify the activities with the local population, to make its intervention more efficient and sustainable.

At the institutional level, the involvement of national-level sectorial governmental organizations with responsibilities in the implementation of the National Adaptation Plan will also contribute to the efficiency of the project: PNCB-MINAM, SERFOR and SERNANP, the three together in outcome 1, and SERNANP leading outcome 2 and 3. The involvement of the three institutions is key from a landscape approach and considering their complementary roles inside and outside the protected areas.

The project intervention will generate direct impact on: (i) at least 1.7 million hectares of Andean

³⁸ Ronal Cervantes, José Miguel Sánchez, Julio Alegre, Eric Rendón, Jan R. Baiker, Bruno Locatelli, Vivien Bonnesoeur. 2022. Contribution of highandean ecosystems in providing the water regulation ecosystem. Vol. 20 Núm. 2 (2021). <https://doi.org/10.21704/rea.v20i2.1804>

³⁹ Ronal Cervantes, 2022. Costo efectividad del manejo de ecosistemas altoandinos en la regulación hídrica de la unidad hidrográfica de Rontoccocha, Abancay, Apurímac. <https://hdl.handle.net/20.500.12996/5180>

⁴⁰ Yésica Quispe Conde, Bruno Locatelli, Améline Vallet, Raúl Blas Sevillano. 2022. Agroecología para la seguridad alimentaria y frente al cambio climático en Perú. Economía Agraria y Recursos Naturales. Vol. 22,1. (2022). pp. 5-29. <https://polipapers.upv.es/index.php/EARN/article/view/14467/15117>

⁴¹ Albán, L. 2017. The Fondo del Agua Quiroz Chira: a mechanism for the management for the Piura (Perú) ecosystem mountain. Andean Forest Programe and Nature and Culture International Perú. <https://www.bosquesandinos.org/wp-content/uploads/2017/02/FAQCH-FINAL-WEB.pdf>

ecosystems in protected areas through a financial strategy to close the gap for the management of protected areas and incorporating the climate change adaptation approach (Output 2.3), (ii) will contribute to monitoring the impact of climate change and deforestation on the slightly more than 270,000 hectares of Andean relict forests (and up to 800,000 hectares in accordance with the PNCB-MINAM goals for 2030), (iii) will strengthen the capacities of the local population to develop productive activities around and within the conservation areas, and (iv) will facilitate the start of the intervention of the PNCB-MINAM in Andean relict forests through the design and implementation of the degradation mapping and monitoring system for this type of ecosystem. The PNCB-MINAM establishes agreements with peasant communities for the conservation of forests. Through these agreements, a grant of US\$ 3.00/ha is provided, which can be used to promote productive activities linked to forest conservation.

Research carried out in the Apurímac region, that have managed to identify and make visible ancestral knowledge and differentiated participation of women and men in the communities around biodiversity, use of wild species, agroforestry practices and soil and water management. and conservation, recovery and protection of forests, fire prevention, family livelihoods, economic activities, among others (Mathez-Stiefel et al, 2016; Kometter and Huasquiche 2017; Kometter, 2018). Women play a fundamental role in the production of seedlings, construction of q'ochas (artificial wetlands), livestock, firewood collection, seed handling, planting, post-harvest handling and sale; while men are responsible for the transfer of seedlings, tools and supplies, soil management, house construction, tool making, harvesting and product transfer (ANFOR, 2019c and 2021; Mathez-Stiefel, 2016). Specific gender analysis to be carried out at the beginning of project execution will be an opportunity to guide and better define the intervention strategy, as well as to unify information on this subject in the protected areas of Perú.

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

The project is fully aligned with the National Policy of the Environment (Supreme Decree 023-2021-MINAM), the Framework Law on Climate Change (Law 30754 and its regulations approved by Supreme Decree 013-2019-MINAM) and National Strategy of Climate Change (Supreme Decree 011-2015-MINAM) (39).

The project is fully aligned with the National Adaptation Plan (approved by Ministerial Resolution 096-2021-MINAM). The proposed adaptation activities will follow the approach laid out in Peru's NAP, focusing on ecosystems, hydrographic watersheds, restoration and conservation of ecosystems, recover traditional knowledge and territorial planning. The project will directly contribute to the implementation of six NDCs through outputs 2.1 and 3.1 and 3.2, as follows:

- Conservation and recovery of the natural infrastructure for the provision of hydrological ecosystem service in basins that are vulnerable to climate change (AGU24).
- Restoration of the ecosystems within the National System of Natural Protected Areas (SINANPE for its initials in Spanish) to maintain landscape connectivity and reduce the impacts of climate change (BOS.2).
- Implementation of sustainable practices for the conservation of ecosystems in watersheds of Protected Areas vulnerable to extreme climate events (BOS.4)
- Management of natural grasslands to ensure livestock feed and reduce their vulnerability to climate change (AGRI.7).
- Implementation of adaptive technological innovation services for climate change in agricultural value chains (AGRI.15).
- Implementation of business strategies that incorporate risk and opportunity management in the face of climate change (AGRI.17).

In addition, the project is aligned with the following national plans and strategies:

- Law on Equal Opportunities for Men and Women (Law 28983) and National Policy on Gender Equality (Supreme Decree 008-2019-MIMP). These policies seek, among others, to guarantee women and

men the exercise of their rights to equality, dignity, free development, well-being and autonomy, guarantee greater participation of women in decision-making positions, and guarantee the exercise of their economic and social rights, such as access to land ownership, credit, water and sewage services, technology, receive fair wages for the work they do, among others. Through outputs 2.1, 3.1 and 3.2 will promote the participation and capacity building of women and youth in conservation and restoration activities and productive activities.

- Intervention Strategies for 2030 of the National Program of Forest Conservation, approved by Resolution of Executive Coordination 026-2020-MINAM/VMDERN/PNCB. The project will directly contribute to the implementation of the module for mapping and monitoring deforestation and degradation of Andean forests (Output 1.2).
- National Agrarian Policy 2021-2030 (Supreme Decree 017-2021 MIDAGRI) which aims to improve access to markets for small farmers, improve natural resource management, improve technical and commercial capacities of agricultural producers and their incomes, promote producers' associativity and entrepreneurship. The project, through products 2.1, 3.1 and 3.2, will contribute to strengthening the capacities of high Andean residents and small producers for the implementation of EbA and NbP measures for adaptation to climate change in the management of natural resources and their productive activities.

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.

In general terms, no negative environmental or social impacts generated by the Project intervention have been foreseen. However, the main risks and relevant mitigation measures have been identified in accordance with the Environmental and Social Policy of the Adaptation Fund. For further details see Section II.K and Section III.C

The regulatory framework in Peru establishes that all activities or investment projects likely to generate environmental (and social) impact are evaluated within the framework of the National Environmental Impact Assessment System (SINIA) in accordance with Law 27446 - National Environmental Impact Assessment System Law. The SINIA is mandatory for national sectorial authorities and subnational authorities, according to their competences and functions.

The environmental risk of the activities to be implemented by the Project (EbA and NbP measures) is regulated by the Ministry of Agriculture (MIDAGRI). It has been verified that the Project activities are outside the established thresholds or exceptions of the List of Inclusion in the SEIA of the Agriculture and Irrigation Sector (MIDAGRI) approved by Ministerial Resolution No. 202-2019-MINAM.

Without prejudice to what is indicated in the previous paragraph, for the implementation of the activities for outputs 1.1, 2.1, 3.1 and 3.2 the project will be taken into account the follow:

- All activities within natural protected areas and their buffer zones require the obligatory opinion of SERNANP, in accordance with the provisions of Presidential Resolution 057-2014-SERNANP, which approves the minimum requirements that must be included in any request for compatibility of a proposed activity overlapping a nationally administered Natural Protected Area and/or its Buffer Zones, or a Regional Conservation Area. Coordination will be made with SERNANP to ensure compliance with this regulation.
- Reforestation and afforestation activities require the preparation and approval of an Environmental Management Report (IGA), as indicated by the Environmental Management Regulations for the Agricultural Sector, approved by Supreme Decree No. 019-2012-AG and modified by Supreme Decree No. 013-2013-MINAGRI. Coordination will be made with MIDAGRI and SERFOR for compliance with this regulation.
- Reforestation, afforestation and grassland or wetland restoration activities to be carried out outside the scope of natural protected areas shall be implemented in accordance with the *Guidelines for the restoration of forest ecosystems and other wild vegetation ecosystems* (Executive Management

Resolution No. 083-2018-MINAGRI-SERFOR-DE). In addition, for the case of wetland restoration will be considered the *Guide for the evaluation of the state of wetland ecosystems* (MINAM, 2019), in accordance with the methodology established in the Complementary Guide for Environmental Compensation: High Andean Ecosystems, approved with Ministerial Resolution 183-2016-MINAM.

- The installation of the hydrological monitoring plots will be carried out based on the *Guide for the Design of Hydrological Monitoring Systems for the Mechanisms of Retribution for Water Ecosystem Services of Drinking Water Service Providers* (SUNASS, 2020).
- The construction of qochas will be carried out based on the *Technical Manual for Water Planting and Harvesting* (FONCODES, 2015) of the Cooperation Fund for Social Development (FONCODES) of the Ministry of Development and Social Inclusion (MIDIS). Also, will be taken into consideration the *Methodological Guide for the Construction of Artisanal Reservoirs, Ditches and Drinking Troughs* (SERFOR, 2018). Coordination will be made with the Sierra Azul Program of MIDAGRI for the construction of the qochas, and if necessary, the provisions of Resolution 007-2015 of the National Water Authority that approves the Regulation of Administrative Procedures for the Granting of Water Use Rights and Authorization for the Execution of Works in Natural Water Sources will be considered.

For the management of the selected conservation mosaics, and especially of conservation areas, both SERNANP and the local organizations with which it works have established mechanisms for effective participation and involvement of the local population, local governments, and rural communities. In these, they coordinate their actions for protection, restoration and sustainable management of resources.

The stakeholders in each mosaic and protected area have a background of collaboration, in which they have developed and established both formal and informal modalities of synergies, agreements and collaboration in order to fulfill both the population needs and objectives of conservation, according to the cultural, social and ecological particularities of each sector and area. The current and successful modalities of collaboration in each protected area have been identified during the consultation process, which are going to be respected and strengthened by the Project, so it will not create any kind of conflict but, in the opposite, will improve the relationship among stakeholders:

Protected Area	Modality of Collaboration established with the population
Tabaconas Namballe National Sanctuary	Communal counterpart in labor for the days of reforestation or installation of live fences.
ACP Chicuate Chinguelas	Communal counterpart in labor for the days of restoration and conservation
Calipuy National Sanctuary	Obligatory communal counterpart (1 day per year per person) in labor for the days of restoration or delimitation of the protected area.
Calipuy National Reserve	Remuneration agreements for the provision of pasture, under the modality of registered surveillance committees Communal counterpart in labor for the days of surveillance, censuses, among others.
Huascarán National Park	Participation of the population in awareness-raising campaigns
Ampay National Sanctuary	Small activity and conservation agreements community forest fire brigades
Machupicchu Historic Sanctuary	Communal counterpart in labor for productive projects. Independent community organization for the days of restoration and water management in coordination with institutions (Huayllabamba sector).

On the other hand, in the three selected mosaics there is a history of successful local experiences in the implementation of good ecosystem conservation practices, with evidence of positive and proactive involvement of the communities, which can be replicated within and among the mosaics and are further described in the Annex 3.

Specifically, the consultation has allowed to identify the population directly involved in the activities for Output 2.1 and component 3, with a high level of detail for selection, such as the identification of prioritized settlements, the local authorities which are going to be convened during the initial phase of implementation (in order to establish agreements), the conservation and restoration practices of

degraded areas most appropriate for the biophysical conditions of each mosaic and the preferences of the communities themselves for these purposes); as well as the selection of high potential productive chains to focus on strengthening the technical productive capacities of vulnerable groups (including women), for sustainability and resilience with high market acceptance.

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

From the consultations carried out with SERNANP and MINAM, there is only one project currently under implementation that overlaps territorially with the concept note: the "Natural Heritage of Peru - Amazon" project, and as described below, this project does not plan to incorporate or develop actions on climate change adaptation. Additionally, there are two (2) initiatives in the design stage, which are expected to be completed in 2023 or 2024. In both cases, SERNANP or PROFONANPE are involved, and considering that both will be part of the project steering committee, it is ensured that duplication of actions among all projects is avoided: all interventions in protected areas must be reported to SERNANP, which ensures that the projects duplicate activities, and contribute in a complementary manner to cover the protected area's management gaps.

The projects or initiatives identified in the intervention zone of this proposal are listed below.

Project	Geographical Overlap	Status	Implications
Project "Achieving 30x30 in Peru through Local Stewardship and Sustainable Financing of Landscapes and Seascapes"	Ampay National Sanctuary	In execution: 2024 – 2026. The project was approved by Moore Foundation and World Wildlife Fund (WWF). SERNANP is national counterpart in the framework of the PdP Amazonia.	<p>As part of the project "Achieving 30x30 in Peru through Local Stewardship and Sustainable Financing of Landscapes and Seascapes" a feasibility evaluation will be carried out for the creation of the second phase of Peru's Natural Heritage that will cover other areas such as marine, coastal, and Andean.</p> <p>This evaluation will provide details of the concrete actions necessary to strengthen the enabling conditions, as well as recommendations that will guide the design of this second phase.</p> <p>In this context, the project "Building a program for adaptation and resilience to climate change of Andean local communities and ecosystems in Peru" will coordinate with the "30 x30" project to complement efforts in the design of the financial fund for the Andean PdP under Outcome 2.3.</p> <p>This will be achieved through the feasibility assessment of the potential for scalability of the second phase of the PdP, which is aligned with the relevant enabling conditions and evaluation criteria for PdPs. In addition, this study will provide recommendations that will guide the design of the second phase of the PoP under Outcome 2.3.</p> <p>It is also important to mention that the project's intervention does not overlap with the intervention of the present proposal, and there will be no duplication of efforts or resources.</p>
Project	The	The project was approved by	The main objective of the Puna

Project	Geographical Overlap	Status	Implications
"Resilient Puna: Ecosystem-based Adaptation for Sustainable High Andean Communities and Landscapes in Peru" ⁴²	departments of Cusco and Apurímac.	the Green Climate Fund (2024) and will be implemented until 2030. The project is lead by GIZ and PROFONANPE and the principal counterpart is MIDAGRI	<p>Resiliente project is to restore and protect Andean ecosystems from the hazards associated with climate change in order to ensure the provision of ecosystem services, safeguard livelihoods and reduce the vulnerability of communities located in the territories of the departments of Arequipa, Cusco, Puno and Apurimac.</p> <p>Both projects (Puna Resiliente and "Building a program for adaptation and resilience to climate change of Andean local communities and ecosystems in Peru") will be implemented with an ecosystem-based adaptation approach and it is planned to implement knowledge management exchanges between them, in order to promote learning exchange and replicate best practices (e.g. livestock and agriculture) that predominate in the southern region.</p> <p>It is also important to mention that the project's intervention does not overlap with the intervention of the present proposal, and there will be no duplication of efforts or resources.</p>
Project "Fund for Innovative Adaptation in vulnerable ecosystems in North of Perú. (Ancash, Cajamarca; Lambayeque, San Martin y Loreto)" EDA - Perú Fund.	Huascarán National Park	The project was approved by the Adaptation Fund (2024) and will be implemented until 2028.	<p>The EDA-Peru Fund project, executed by Profonampe, aims to increase the population's capacity to adapt to climate change through the financing and implementation of adaptation measures in the water regulation, agriculture, food security and forestry sectors, prioritized in the Nationally Determined Contributions within three selected vulnerable watersheds located in the departments of Lambayeque, Cajamarca, Ancash, San Martin and Loreto.</p> <p>The project "Building a program for adaptation and resilience to climate change of local communities and Andean ecosystems in Peru" will ensure synergies and complementarity with the EDA - Peru project through the implementation of various initiatives that seek to increase the resilience of vulnerable ecosystems in the selected watersheds, in order to respond to climate change and climate variability, mainly in the area where the ecosystem of the Santa Periglacial Basin (Ancash) is predominant.</p> <p>It is also important to mention that the project's intervention does not overlap</p>

Project	Geographical Overlap	Status	Implications
			with the intervention of the present proposal, and there will be no duplication of efforts or resources.
Project "Restoration of high Andean ecosystems in Peru"	Huascarán National Park. Possible geographic overlap (the specific area of complete intervention in the project has not yet been identified)	The full project proposal will be presented in December 2024 to the GEF8 for review and subsequent approval.	<p>The project "Restoration of high Andean ecosystems in Peru" is in the process of formulation, so in December 2024 the complete proposal document will be presented to the GEF8.</p> <p>In the framework of the project's starting coordination, it is planned to have alignment meetings with the implementing entity, which is UNDP, in order to seek complementarity between the activities of component 2 (product 2.1) related to the topic of restoration of Andean ecosystems and of component 3 (products 3.1 and 3.2) related to the productive activities of peasant communities.</p> <p>It is also important to mention that the project's intervention does not overlap with the intervention of the present proposal, and there will be no duplication of efforts or resources.</p>

The Project Public Investment "Improvement of the biodiversity conservation service of Huascarán National Park" was cancelled and will not be implemented, according to the information available in the Peruvian Ministry of Economy and Finance's public investment information system.

There are projects in Colombia, Ecuador, Peru and Bolivia that aim to contribute to the adaptation of high Andean ecosystems, the populations living in them and their livelihoods. Among these projects we can mention the "Andean Forests Regional Programme" (2014-2021), the "Andes Resilient to Climate Change" project (Phase 1: 2020-2024), the Adaptation to Climate Change Impacts on Andean Water Resources - AICCA (2017 - to date) and "The Mountain Ecosystems-based Adaptation -EbA" program, being the basis of this proposal, the lessons learned, results and pending challenges of the "Andean Forests Regional Programme".

These projects are implemented by Helvetas Swiss Intercooperation, CONDESAN and the Mountain Institute, and there is a relationship of collaboration and coordination between them in the framework of these projects, and between the three organizations in the framework of the Technical Group on Mountains of the National Commission on Biological Diversity (CONADIB), led by the National Institute for Research on Glaciers and Mountain Ecosystems (INAIGEM). In this context, meetings for the exchange of lessons learned and experiences will be promoted as a basis for the final design of the proposal and its implementation. This type of exchange has been foreseen by the project, within the knowledge management elements and activities to be developed in each of its components.

This proposal is based on the previous experience of the Regional Andean Forest Program and uses as a reference several projects that have been developed in the Andean ecosystems of Peru, which are described below.

Project Title	Period of execution	Implementing Entity (in Perú)	Intervention site	overlapping or complementarity
Multiplying environmental and carbon benefits in high Andean ecosystems (ECOANDES)	2013-2018	CONDESAN	Ayabaca, Piura	Not overlapping Thematic Complementarity
Andean Forests Regional	2014-2021	HELVETAS	Abancay,	Partial overlapping

Project Title	Period of execution	Implementing Entity (in Perú)	Intervention site	overlapping or complementarity
Programme (ANFOR / Bosques Andinos)		Swiss Intercooperation	Apurímac	Thematic Complementarity
Scaling Up Mountain Ecosystem-based Adaptation: Building Evidence, Replicating Success, and Informing Policy (Mountain EBA Perú)	2017-2020	The Mountain Institute – IUCN	Cañete, Lima	Not overlapping Thematic Complementarity
Natural Infrastructure for Water Security in Peru (NIWS)	2017-2022	Forest Trends, CONDESAN, SPDA	Piura, Lima, Arequipa, Cusco	Not overlapping Thematic Complementarity
Adaptation to Climate Change Impacts on Andean Water Resources (AICCA)	2017-2022	CONDESAN	Piura, Ancash, Cajamarca	Not overlapping Thematic Complementarity
Adaptation at Altitude: acting in the mountains	2020-2023	CONDESAN	Support the iMHEA Network (Lima)	Not overlapping Thematic Complementarity
Andes Resilient to Climate Change (Andes Resilientes)	2020-2024	HELVETAS Swiss Intercooperation	Cusco, Puno	Not overlapping Thematic Complementarity
Water for Abancay and Communities	2020-2024	HELVETAS Swiss Intercooperation	Abancay, Apurímac	Not overlapping Thematic Complementarity

The following lessons learned for the effective implementation of EbA measures were systematized by the United Nations University – Institute for Environment and Human Security and CONDESAN (2022) based on projects implemented in Nor Yauyos Cochas (UNEP, 2019), Sierra Azul (Varillas, 2019) and other EbA measures in mountain ecosystems in Peru (UNEP et al., 2014) and will be used as a reference for the implementation of the activities planned by the project.

In the EbA Project planning

- Adequate site selection considering ecological, socio-economic, cultural and operational criteria. For example, the percentage of the local population that depends on ecosystem services.
- Promote interactive and open dialogues between local traditional knowledge and external researchers.
- Establish multidisciplinary teams with local and external experts to diagnose social and environmental impacts.
- Follow a participatory approach that empowers and actively involves communities in the project.
- Anchor the design, planning and further implementation of the measures with the communities' ancestral culture and ways of living.
- Involve and work coordinately with the different actors in the territory. Especially make partnerships with local governments that can sustain the measures in the future.
- The measure should generate concrete and tangible benefits in the area where they are implemented (e.g., local water and food security) to increase the measure's sustainability and local buy-in.
- Add value to the ecosystem by measures that support the value chains of products or services (e.g., ecotourism).

In the EbA project implementation

- Build trust and common understanding with local communities.
- Have an adaptive management approach that can adjust the project implementation as knowledge about the measure advances.
- Consult the community and its forms of organization permanently to secure the measures' implementation.
- Ensure local ownership of the EbA measure and build local capacity for its long-term

implementation.

- Work with the local population following a learning-by-doing (action learning) approach.
- Harness local talents that facilitate the connection between technical knowledge and local knowledge.
- Set up easy-to-apply and simple monitoring systems.
- Promote a paradigm shift in managing natural resources toward an integrated view of the territory and revaluing the usefulness of nature-based solutions.

For replicating and scaling the EbA Project

- Implement the measures gradually, starting with a specific EbA measure toward more integrated actions in the territory.
- Encourage the replicability of measures through technical-scientific and testimonial evidence of the generated benefits.
- Interventions should be tailored to the reality of each context instead of an automatic replication of a measure.

Additionally, it is important to consider the lessons learned from the Project "Integrated Management of Climate Change in Communal Reserves in the Amazon-Peru (EBA Amazonía)", implemented by UNDP and SERNANP. Some of the lessons learned (Lopez, 2018) and of interest for the project include the following:

- Co-management: this is a fundamental process for the effective conservation of NPAs. The heads of the NPAs assume, in this modality, a facilitating and supporting role. This management modality fits solidly with the EbA approach, which is based on the use of biodiversity and ecosystem services as part of a larger strategy, such as Life Plans, Master Plans or Concerted Development Plans (of the Municipalities or Regional Governments), which help people adapt to climate change.
- Conservation agreements with communities are another type of co-management mechanism that offers good results. The agreements make it possible to specify conservation commitments and frame them in the management and planning documents of the Protected Area (the Master Plan) and to support them with sustainable economic activities that facilitate the fulfillment of the commitments.
- Sustainable Economic Activities Program (PEAS): this is a mechanism that allows proposals to emerge from local interest and motivation, according to their own analysis of the beneficial effects they identify. However, these are still maturing processes that will probably generate adaptations in the medium term. It is hoped that the SEAP will become a regular management instrument for the NPA; it could be replicated, taking the model with it, or scaled up if local dynamics of joint analysis of the possible effects are promoted and relevant adaptations are proposed for each context.
- Articulation with local governments: This issue merits its own strategy to be developed in a specific component. It has become evident that the communities and their representatives need to understand the competencies of the different scales of government in territorial management and how they articulate with each other, taking advantage of public resources from different levels of government. In the same way, it is necessary to influence the municipalities and regional governments in their role as territorial managers. The heads of the NPAs should also be clear about the importance of this articulation and promote it from their support role.
- Role and capacities of SERNANP: It is highly strategic that SERNANP, through an implementing unit, strengthen itself integrally in conceptual, methodological, strategic and operational aspects in areas such as EbA, co-management of NPAs, institutionalization of territorial management, gender and interculturality. SERNANP is the key actor for providing continuity to the implementation of adaptation measures, both at the strategic and operational levels. It is recommended that it should accompany the productive cycles, further consolidate technical capacities, promote and guide participatory monitoring of the effectiveness of the measures in the communities themselves and also assume a support role for territorial articulation, facilitating links that allow access to markets for the products generated.

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

The project will support the implementation of the Climate Change Adaptation Measures established in the NAP of Peru. In this context, knowledge management is proposed as a cross-cutting working approach, and resources from each of the components will be allocated for knowledge management activities. The following stages will be held during the initial phase of sensibilization in each one of the three mosaics:

Activity	Description
Analysis of capacity building needs	<ul style="list-style-type: none"> - Participatory analysis of needs of local populations, local government officials and protected area managers and specialists, especially to achieve the expected result of component 3 "Increased resilience of productive activities in rural communities in three prioritized conservation mosaics". - Identification of knowledge gaps among groups of gender or age, deepening the initial information collected during the consultation process, to identify specific needs of women and youth, regarding each group of practices and value chains to be implemented by the Project.
Capacity building	<ul style="list-style-type: none"> - Capacity building will be a core activity and strategy to successfully fulfill the goals of the Project and rightfully implement its activities, as part of the implementation of Output 2.1 and Component 3.
Knowledge management	<ul style="list-style-type: none"> - Promote discussion on knowledge management in participatory spaces such as management committees and regional platforms, where the participation of managers, academia and local population should be ensured. This ensures that the actions to be designed and implemented have the consensus of the strategic stakeholders in the territory.
Knowledge diffusion	<ul style="list-style-type: none"> - Systematization of processes and results, through guidelines established at the beginning of the project, to facilitate their dissemination. - Dissemination of information through the web portals of PROFONANPE, MINAM, SERNANP, INAIGEM and PNCB-MINAM, taking into consideration the strategic communication actions established by the NAP of Peru. - Dissemination of knowledge through appropriate communication channels to each type of target audience identified by the project: local population, municipal authorities, and the general public. Likewise, the dissemination of the project's experiences in global knowledge management web portals on climate change or mountain ecosystems such as WeADAPT or The Mountain Partnership, and through the COPs on Climate Change and Biodiversity is also planned. - Linkage to the project's monitoring and evaluation system and to the institutional knowledge management strategy of the project counterparts (especially SERNANP), PROFONANPE and HELVETAS Swiss Intercooperation.

To include this element with a comprehensive approach, the Project planning will include the following set of activities is proposed:

- Specialized workshops to identify the specific capacity building needs and information gaps of the Project's stakeholders (regarding the Project components), during the first year of implementation stage.
- Capacity building activities, based on the stakeholder's deep analysis, related to the Project's components and held during its implementation.
- Systematization of experiences and key information generated by the Project.
- Design and implementation of communication guidelines, aligned to the NAP Perú and the knowledge management strategies of the Project's counterparts.
- Implementation of a monitoring and evaluation system, including indicators related to knowledge management outputs and a data base of knowledge management products.
- Mid-term and final workshops of strategic reflection with the participation of project implementers and main stakeholders (if needed), to identify lessons learnt, innovative elements, key knowledge

management products, key messages to be transmitted, main outcomes and main impacts of the Project.

The proposed stages and activities, as well as methodological orientations for them, will be further described in the Knowledge Management Strategy, to be elaborated at the beginning of the project.

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 and Gender Policy of the Adaptation Fund.

The results of the preliminary consultation process carried out in 2022 for the Conceptual Note served as the basis for the design of the consultation process carried out for the formulation of this proposal. Methodologically we used a "waterfall approach" that involved the following steps:

- a) Focalization workshops with 16 Chiefs and specialists from each protected area with the aim of identifying priority sites and communities for the intervention of the Project.
- b) In-depth interviews with 11 representatives of Chiefs, specialists and allies of each protected area to collect relevant information for the formulation of the complete proposal and identify relevant organized groups.
- c) Interviews with 32 community leaders to validate and deepen diverse information⁴³.
- d) Workshops in the three mosaics with population (313 people) to collect information regarding preferences and willingness to get involved in conservation activities, ecosystem restoration and strengthening of production chains preliminarily identified; as well as analyzing the differentiated perspective of each gender and age group (men, women, young people, others).

The total list of people consulted appears and the lists of attendance at workshops and meetings with the local population are in Annex 1.

The methodology of each of these activities included a gender assessment related to the proposed conservation and restoration practices for output 2.1 and the value chains of the site and basis for the intervention of component 3. The information collection methods were designed considering the use of inclusive language and specific instructions were provided to local partners to identify, convene and interview representatives of different gender and age groups, under an intersectional approach⁴⁴ (community leaders, representatives of producer organizations, water user management committees, women's organizations, vigilance committees, among others). In the case of the workshops, graphic methodologies (talking maps) were used to facilitate the flow of information in a dynamic way, and working groups were organized by gender to ensure that everyone can express themselves freely, as well as to collect differentiated perspectives, needs and priorities.

For the design of the information collection instruments, the specifications of the Guidance Document for Implementation Entities on Compliance with the Gender Policy of the Adaptation Fund⁴⁵ were considered, based on which information was collected in a participatory manner referring to:

General aspects	Output 2.1	Component 3
- Key statistics relevant to the Project (population, inequality index, literacy, economic independence, among others) ⁴⁶	- Differentiated perception between gender groups regarding the environment and landscape elements.	- Gender division of domestic work (related to the availability of time for economic activities).

⁴³ Information on livelihoods, vulnerability to climate change; participation, organization, institutionality and aspects of equity and inclusion of women and youth, preferences and willingness to get involved in conservation activities, and strengthening of the value chains proposed in the Project.

⁴⁴ Considering as factors gender, age, and geographical location (all the population to participate in the Project lives in rural Andean areas)

⁴⁵ Gender Guidance Document for Implementing Entities on Compliance with the Adaptation Fund Gender Policy (Updated in 2022): <https://www.adaptation-fund.org/document/guidance-document-implementing-entities-compliance-adaptation-fund-gender-policy-2/>

⁴⁶ There are no statistics at the local level for these factors, so data have been taken from the national level (best approximation to date) and a distinction has been made between the rural and urban reality, for the indicators that had this information.

General aspects	Output 2.1	Component 3
<ul style="list-style-type: none"> - Land tenure (communal or population centers). - Level of participation in community or local social and political life by young people and women (access to social and political capital). - Existence of female leadership. - Existence of women's and youth organizations. - Persistence of cultural norms that foster inequality (machismo). - Differentiated need for empowerment and capacity building. - Migrations and causes. 	<ul style="list-style-type: none"> - Gender roles in conservation and restoration activities (access to natural capital). - Differentiated perception between gender groups regarding the main threats and factors of climate vulnerability in their environment and landscape elements. 	<ul style="list-style-type: none"> - Gender roles in livelihoods and value chains. - Climate vulnerability of livelihoods. - Opportunities for women's economic empowerment (potential value chains of greatest interest to women)

It was considered that, in Peru, a consultative process is understood by many stakeholders and institutions as a special type of process that can generate expectations among the local population consulted. In this sense, interaction has been managed through representatives and key actors (for example: head of protected areas, support NGOs), respecting the channels of communication and convening accepted and formalized in each case (for example, letters addressed to formal representatives of organizations). Workshops and interviews with prioritized families or local groups were held once agreements had been established regarding which population centers and local organizations would be prioritized.

For the prioritization of the sectors and population centers to be involved in the projects, the following criteria were considered⁴⁷, coordinated with the heads and/or specialists of the protected areas:

- **Criterion 1: Areas degraded by different drivers:** forest fires, land use change, advance of agricultural and livestock frontier, advance of urban areas, water deficit, among others.
- **Criterion 2: Exposure to climate change:** irregular precipitation patterns, temperature increases, increased incidence of frost, others.
- **Criterion 3: Vulnerability to climate change of population livelihoods:** decrease in agricultural and livestock productivity, susceptibility to pests and diseases of crops and breeding, decrease in water supply, impact by frost, deterioration of access roads, landslides, alteration of agricultural calendar, among others.
- **Criterion 4: Expected willingness of the population to implement restoration and conservation practices** (output 2.1): communities with a history of willingness to enter into conservation agreements, participate in conservation and sustainability projects.
- **Criterion 5: Expected willingness of the population to implement population measures in production and value chains** (component 3): communities or associations of producers with a history of willingness to participate in chain strengthening and sustainability projects.

The consultation process collected specific information for each tile regarding:

- Location of the prioritized sectors, population centers and approximate population.
- Local organizations and relevant authorities.
- Characterization of ecosystems and drivers of degradation in the prioritized sectors, linked to the conservation and restoration practices identified by the Project (output 2.1)
- Background to ecosystem management initiatives
- Population perspective and gender issues related to ecosystems (roles, gender perspective regarding landscape elements and their drivers of degradation).
- Technical and strategic information for output 2.1 (conservation and restoration practices).
- Livelihoods and vulnerability
- Gender issues related to livelihoods and potential value chains.

⁴⁷ Two biophysical criteria related to component 2 (degraded areas and exposure to CC) and two social criteria related to both component 3 and the provisions of the environmental and social policy of the Adaptation Fund were identified. All criteria were agreed with the heads of the protected areas before the targeting workshop.

- Prioritized value chains and proposed measures for their optimization and resilience.
- Technical and strategic information for component 3.

Because peasant communities and the population engaged in agriculture are the most vulnerable to the effects of climate change, the project contemplates their direct involvement in activities aimed at increasing their capacity for life and adaptation to the natural environment (specifically, products 2.1 Peasant communities implement conservation and restoration practices of degraded areas inside and outside (buffer zones) of prioritized protected areas and 3.1 - Peasant communities with productive technical capacities to reduce the vulnerability of value chains). Therefore, the consultation process had special emphasis on exploring their disposition and preferences regarding these products.

The settlements and organizations prioritized in the consultation process are detailed in Annex 2 and the results of the consultation process are extensively described in Annex 3. A summary of them, regarding output 2.1 and component 3 of the project, are shown below:

Consultation summary in North Mosaic:

a) Synthesis for output 2:

Protected Area	Settlement	Ecosystems	Current degradation engines	Conservation and restoration practices	Summary of the consultation with Population
Tabaconas Namballe National Sanctuary - SNTN	Pueblo Libre	Moors, podocarpus forests and "casarilla" (<i>Cinchona sp.</i>). Ecosystems providing water ecosystem services.	Livestock (progressively approaching the core zone of the SNTN), especially on the border with the ACR in the east, where there are cumulative threats, as there is progressive expansion of the agricultural frontier of coffee	Management of livestock activity with the exclusion of cattle from water sources. <i>Installation of live fences in areas with the presence of livestock.</i> Wastewater management and compost mills	They agree with the livestock management in silvopastoral plots and protection of water sources They ask for advice on coffee cultivation.
	Cataluco	Moors. Ecosystems providing water ecosystem services	Livestock, which comes to enter the buffer zone. There is confusion regarding the limit of the SNTN (the population indicates that the limit of the livestock area is the source of water upstream, within the SNTN). Fires in pastures due to agricultural mismanagement. Formal and informal mining, especially in the upper part of the Segundo y Cajas peasant community	Livestock management and exclusion of cattle in water springs. <i>Note: SERNANP considers necessary an evaluation of the degradation caused by livestock.</i> Bio-gardens	The population is interested in reforestation with native species (alder, chontilla and romerillo) in the water sources
ACP	Chinguelas	Moors and	Persistence of	Restoration of	The population is

Protected Area	Settlement	Ecosystems	Current degradation engines	Conservation and restoration practices	Summary of the consultation with Population
Chicuate Chinguelas		montane forests	<p>extensive cattle ranching by a focused group of villagers who enter cattle into the forest, which threatens the connectivity of the páramos ecosystem, especially in times of drought.</p> <p>Existence of an access road where there is transit of people and for the realization of economic activities</p>	<p>moors and patches of montane forests (cinchona, Cinchona sp.).</p> <p>Livestock management</p>	<p>interested in reforestation with native species (cinchona, cedar and romerillo) in live fences, silvopastures, riparian strips and water springs.</p> <p>They agree with the protection of water sources and harvesting of water in qochas (small rural dawns).</p> <p>Technical assistance for pasture improvement and livestock management and henification and silage techniques</p>

b) Synthesis for component 3:

Protected Area	Settlement	Prioritized Value Chains	Measures for optimization and resilience	Summary of the consultation with Population	Relevant organizations
Namballe Tabaconas National Sanctuary	Pueblo Libre	<ul style="list-style-type: none"> • Cattle farming • Coffee • Guinea pigs 	<ul style="list-style-type: none"> • Livestock management as a productive measure with improvement of pastures and livestock housing. 	Improvement of pastures, silage and livestock housing	Lieutenant governors, presidents of peasant patrols, water boards, children feeding committees, 02 coffee associations "Gallito de las rocas" and "Cuenca del Río Blanco"
	Cataluco	<ul style="list-style-type: none"> • Cattle farming (dairy) • Guinea pigs / hens • Vegetables (broccoli and chard) 	<ul style="list-style-type: none"> • Livestock management as a productive measure with improvement of pastures and livestock housing. • Strengthening of the organization and seal "allies for conservation" 	<p>Improvement of pastures, silage and livestock housing</p> <p>Organic bio-gardens</p> <p>Organizational strengthening</p>	<p>Lieutenant governors, agent, president of Ronda Campesina, commission of irrigators, club of mothers.</p> <p>There are no productive associations</p>
ACP Chicuate Chinguelas	Chinguelas	<ul style="list-style-type: none"> • Cattle farming (dairy) • Sheep farming (tissues) 	<ul style="list-style-type: none"> • Livestock management as a productive measure. • Dairy processing 	<p>Improvement of pastures and silage.</p> <p>Management of sheep and alpaca breeding (fabric</p>	<p>Management Committee of the ACP Chicuate Chinguelas</p> <p>Sapalache Cattlemen's Association</p> <p>Pulun Cattlemen's Association</p>

Protected Area	Settlement	Prioritized Value Chains	Measures for optimization and resilience	Summary of the consultation with Population	Relevant organizations
				processing).	Peasant patrols Lieutenant Governor, Water Boards El Carmen de la Frontera District Women's Association (ADMUCAF) Association of Entrepreneurs La Sapalacheña Virgen del Carmen Mothers Club

Summary of consultation in Center Mosaic:

a) Synthesis for output 2.1:

Protected Area	Settlement or Peasant Community	Ecosystems	Current degradation engines	Conservation and restoration practices	Summary of the consultation with Population
Calipuy National Sanctuary - SNC	El Molle, Collayguida baja, El Quiguir, Cusipampay y Cachubamba. El Zaile y Monchugo	Grasslands, shrubs and wetlands. SERNANP has indications that before the area was dedicated to livestock exploitation there were forests of Lloque (<i>Kageneckia lanceolata</i>)	The core area is currently in recovery due to previous exploitation of agriculture and livestock, however, there are pressures for livestock in the buffer zone. Growth of illegal human settlements The drought or lack of rainfall that reduces the water capacity of the wetlands and decreases the growth of grasslands.	Protection of wetlands and pastures. Restoration of intervened ecosystems through reforestation with native plants and excluder fences ⁴⁸	The population agrees with the proposed practices of restoration and protection of wetlands and degraded soils inside and outside the Sanctuary, through the construction of dikes (masonry) and infiltration ditches, as well as with reforestation with native plants. <i>The key actors also propose insertion of vicuñas.</i>
Calipuy National Reserve - RNC	Cortadera Sector (Cusipampay y Monchugo)	Lloque forests (<i>Kageneckia lanceolata</i>), shrubby scrub, coastal desert	In the past the reserve was degraded by illegal logging and overgrazing, so it is in the process of recovery, however, there are pressures	Reforestation with natives such as Lloque and Quishuar	<ul style="list-style-type: none"> • Reforestation with natives (Lloque and quishuar) • Management of water sources through infiltration ditches and construction of dikes.

⁴⁸ The key actors (SERNANP and population) consider it important to complement these interventions with environmental awareness and education for the entire population and strengthening research related to ecosystems (puyas or caguas) and training/workshops for raising awareness among the population (environmental education).

Protected Area	Settlement or Peasant Community	Ecosystems	Current degradation engines	Conservation and restoration practices	Summary of the consultation with Population
	Carbonera Sector (El Quiguir, El Zaile y Llacamate)	Quishuar forests (<i>Buddleja sp.</i>), shrub scrub, coastal desert	<p>for livestock in the buffer zone and remanence of feral cattle.</p> <p>It is currently managed with an organized cattle access quota (maximum of 15 heads per owner, with seasonal rotation)</p> <p>Climate change: droughts that directly affect the availability of water resources, added to mass movements (huaycos in spanish) in extreme events such as those caused by the El Niño phenomenon.</p>		<ul style="list-style-type: none"> • Control and handling of feral cattle • Installation of drinking troughs for guanacos • Strengthen the capacities of the monitoring and research committee on the guanacos population.
Huascaran National Park - PNH	Chacas	<i>Polylepis sp</i> forests, grasslands and scrub.	<p>Pressures for livestock and agriculture. Planting of exotic forest species (pines and eucalyptus).</p> <p>Forest fires</p> <p>Climate variation (frost and heavy rain)</p>	<i>Reforestation with Polylepis sp.</i>	<ul style="list-style-type: none"> • Livestock rotation and exclusion in the HNP area. • Reforestation with native species in areas degraded or affected by livestock and forest fires. • Control and monitoring of excessive extraction of medicinal and aromatic plants
	Acochacas	Forests of <i>Polylepis sp.</i> , wetlands, grasslands and scrub.	<p>Overgrazing</p> <p>Mining pollution</p> <p>Forest fires</p> <p>Climate variation (frost, drought and heavy rainfall)</p>	<i>Reforestation with Polylepis sp.</i>	<ul style="list-style-type: none"> • Cattle rotation. • Restoration of degraded areas or affected by frost and drought.

b) Synthesis for component 3:

Protected Area	Settlement or Peasant Community	Prioritized Value Chains	Measures for optimization and resilience	Summary of the consultation process	Relevant organizations
Calipuy National Sanctuary – SNC	El Molle, Collayguida baja, El Quiguir, Cusipampay Cachubamba. El Zaile y Monchugo	<ul style="list-style-type: none"> • Tubers (potato) • Guinea pigs • Fabrics (sheep wool) 	<ul style="list-style-type: none"> • Technified guinea pig breeding • Technified irrigation in tubers 	<p>The population expresses interest in:</p> <ul style="list-style-type: none"> • Breeding guinea pigs in modules, with improved pasture management, technified irrigation. • Cattle improved in sheds, with improved pastures (in the ZA). • Technified irrigation, installation of family micro-reservoirs to improve the distribution and management of water for drinking and irrigation. • Improvement of agricultural seeds, phytotoldos and mills or equipment for the aggregate processing of tubers and cereals. • Advice for the improvement of quality, quantity and technique of the fabric • Commercial and technical strengthening 	<ul style="list-style-type: none"> • Association of artisan weavers of the populated centers of El Quiguir, Cusipampa and others that can be formed. • Creation of associations led by women in the breeding of guinea pigs. • Association of potato producers of the town of Munchugo and others that can be formed.
Calipuy National Reserve - RNC	Cortadera Sector (Cusipampay Monchugo)	<ul style="list-style-type: none"> • Tubers (potato) • Cattle farming • Guinea pigs • Fabrics (sheep's wool) 	<ul style="list-style-type: none"> • Technified irrigation • Improved pastures • Technified guinea pig breeding (modules) 	<p>The population agrees with:</p> <ul style="list-style-type: none"> • Efficient water management through technified irrigation and creation of family micro-reservoirs • Management of improved pastures, henification, genetic improvement of livestock and sanitary control. • Organizational strengthening (productive quality, marketing, financial management) • Equipment for aggregate 	<ul style="list-style-type: none"> • Association of artisan weavers of the populated centers of El Quiguir, Cusipampa. • Association of potato producers of the town of Munchugo.
	Carbonera Sector (El Quiguir, El Zaile y Llacamate)	<ul style="list-style-type: none"> • Agricultural production associations from Calipuy to El Molle. • Association of producers of derivatives. 			

Protected Area	Settlement or Peasant Community	Prioritized Value Chains	Measures for optimization and resilience	Summary of the consultation process	Relevant organizations
				<p>processing of tubers and cereals.</p> <ul style="list-style-type: none"> • Equipment for the technification of fabrics • Creation of associations led by women in the breeding of guinea pigs. 	
Huascaran National Park - PNH	Chacas	<ul style="list-style-type: none"> • Tubers (potato) • Guinea pigs • Fabrics (sheep's wool) 	<ul style="list-style-type: none"> • Technified irrigation • Technified guinea pig breeding (modules) 	<p>The population proposes:</p> <ul style="list-style-type: none"> • Improved pastures for cattle. Genetic improvement and animal health. • Canals, micro reservoirs and technified irrigation • Technified guinea pig breeding • Transformation of cereals and tubers into flour for sale and family self-consumption. • Advice for the improvement of quality, quantity and technique of the fabric. • Organizational strengthening of women and producers. 	<ul style="list-style-type: none"> • CUPN. Potaca • SERNANP – JPNH • Conventional tourism agencies. • Board of Irrigators JASS
	Acochacas	<ul style="list-style-type: none"> • Vegetables • Guinea pigs • Textiles 	<ul style="list-style-type: none"> • Technified irrigation 	<p>The population proposes:</p> <ul style="list-style-type: none"> • Improved pastures for cattle. Pasture rotation. • Canals, micro reservoirs and technified irrigation. • Technified guinea pig breeding • Production of vegetables in greenhouses. 	<ul style="list-style-type: none"> • CUP. of Cajavilca, Ruricocha and Ruripaccha • Warmicocha peasant community. • Board of irrigators. • Association.

Summary of consultation in Mosaico Sur:

a) Synthesis for output 2.1:

Protected Area	Settlement or Peasant Community	Ecosystems	Current degradation engines	Conservation and restoration practices suggested by SERNANP	Summary of the consultation with Population
National Sanctuary of Ampay - SNA	Peasant Community Chupapata Umaccata	Andean forests and scrub. Relict of the species <i>Podocarpus glomerata</i> .	Overgrazing (cattle not stabled) affecting vegetation cover and water sources. This problem generates conflict with agriculture due to soil compaction and water pollution.	Reforestation of scrub and forests with native species: <i>Podocarpus glomerata</i> . (prioritized by SERNANP for the core area)	The population expresses interest in reforesting in special use and agricultural areas with native species that can be exploited (alder, queuña and elderberry). In Ccorhuani there is provision for the plantation of <i>Podocarpus glomerata</i> , but only in the upper parts. A part of the population says they understand the need and agree with the exclusion of livestock in the upper parts.
	Ccorhuani	Areas providing water ecosystem services.	Forest fires due to poor agricultural practices. Currently the population is expanding its agricultural frontier, in the lands affected by the fires of the years 2021/2022. Extension of the agricultural frontier (especially since the pandemic).	Protection of water sources (exclusion of livestock income)	
Machupicchu Historic Sanctuary - SHM	Huayllabamba	Grasslands and forests of <i>Polylepis sp.</i>	Overgrazing by equine cattle used for tourism (not stabled). They do not have infrastructure of sheds for the ordering of the activity.	Exclusion of livestock from high water supply areas	They do not identify the need to exclude livestock from the highlands as a water management measure. They express the need to control forest fires. Expresses interest in implementing water management measures, under technical studies. They show interest in reforestation with the queñua species
	Peasant Community Piscacucho	Unca forests, scrub and grassland	Fires due to burning of stubble. <i>Note: Cattle farming has been recently managed and is not currently the main driver of degradation</i>	Don't burn Water management to supply water for fruit crops	
Choquequirao Regional Conservation Area - ACRC	Sector Santa Teresa (Yanama, Totoro y Ccolccapampa)	High Andean forests (queñuas) and grasslands ecosystem transitions	Fires due to traditional agricultural practices	Livestock management and silvopastoral systems. Forest restoration, subject to feasibility studies	It was not possible to carry out the consultation process with the population.

b) Synthesis for component 3:

Protected Area	Prioritized Sectors	Prioritized Value Chains	Measures for optimization and resilience	Summary of the consultation with Population	Relevant organizations
National Sanctuary of Ampay - SNA	Peasant Community Chupapata Umaccata	<ul style="list-style-type: none"> Guinea pigs Rotational vegetables <p><i>Vulnerability due to water deficit</i></p>	<ul style="list-style-type: none"> Breeding guinea pigs in modules. Strengthening of associativity and seal allies for conservation Technified irrigation (water scarcity) 	<p>The public expresses interest in the proposed chains and measures, in line with the protection of water sources proposed for output 2.1.</p> <p>They emphasize their interest in breeding guinea pigs.</p>	<ul style="list-style-type: none"> Chupapata Communal Assembly Assembly of the population center of Umaccata Committees of irrigators of Chupapata and Umaccata Association of agricultural producers of Chupapata (16 women) Federation of Women of Apurimac
	Ccorhuani				
Machupicchu Historic Sanctuary - SHM	Huayllabamba	<ul style="list-style-type: none"> Equine livestock (linked to tourism) <p><i>Vulnerability due to water deficit</i></p>	<ul style="list-style-type: none"> Semi-stybulated cattle with improved fodder 	<p>The population is not sensitized to the need to manage livestock.</p> <p>Expresses interest in the technified irrigation of self-consumption crops</p>	<ul style="list-style-type: none"> Communal Assembly Reforestation Committee Association of producers and artisans
	Peasant Community Piscacucho	<ul style="list-style-type: none"> Tara and fruit trees <p><i>Vulnerability due to water deficit</i></p>	<ul style="list-style-type: none"> Technified irrigation and seal allied for conservation 	<p>The population expresses interest in the proposed chains and measures, in line with the management of water sources proposed for output 2.1</p>	<ul style="list-style-type: none"> Assembly of the peasant group

During the beginning of the project, a Gender Plan will be developed for the implementation of the project, in line with the environmental, social and gender policy of the Adaptation Fund, and the three cross-cutting approaches (gender, intercultural and intergenerational) and human rights established by the National Adaptation Plan of Peru in accordance with the Regulation of the Framework Law on Climate Change of Peru, which also includes the National Policy on Gender Equality and Law No. 28983, Law on Equal Opportunities between Women and Men, and the provisions of the Gender and Climate Change Action Plan of Peru (PAGCC Peru).

For the Gender Plan of the project, the consultation process has managed to synthesize relevant aspects (including other aspects, such as youth), which are described below:

a) Summary of gender and youth considerations and recommendations North Mosaic

General considerations	Considerations for Output 2.1	Considerations for Component 3	Recommendations
Pueblo Libre			
Little participation of women in meetings convened by institutions, due to cultural patterns shyness, added to incidence of gender	Weak representation of women in the SNTN management committee. High participation of young men in community policing	Women participate in productive activities and tasks in the field (livestock and agriculture). There are no productive experiences directed or inclusive with	<ul style="list-style-type: none"> Strengthen capacities for the specific tasks of women in the livestock value chain. Consider sessions of female empowerment and

General considerations	Considerations for Output 2.1	Considerations for Component 3	Recommendations
violence. They participate more in forms of productive and communal organization, such as children caring, school committees, peasant rounds.		women. Interest in making fabrics.	<p>awareness to the entire participating population.</p> <ul style="list-style-type: none"> • Make visible the knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in participatory knowledge management activities, as a strategy to promote its valuation in society
Chinguelas			
Although most community leaders are men, there are female leaders, especially in the neighboring town of Sapalache.	Women are involved in conservation activities, especially in fine labour (nurseries, seeds). There is a youth group called the ranger committees of the future.	<p>Women participate in the milking of cows, "molting" or rotation of cattle for grazing and processing dairy products. Others: weaving, raising small animals, domestic work, coffee cultivation tasks and mainly in the process of drying and processing sugar cane, planting and harvesting of vegetables and in weeding and crop harvesting activities.</p> <p>They are led by organizations such as the El Carmen de la Frontera District Women's Association (ADMUCAF), La Sapalacheña Association of Entrepreneurs and Virgen del Carmen Mothers Club</p>	<ul style="list-style-type: none"> • Establish formal agreements with identified women's and youth associations. Invite them to participate in output 2.1 activities • Strengthen the identified female and youth leadership. • Strengthen capacities for the specific tasks of women in the livestock value chain.
Pueblo Libre and Chinguelas			
	Both men and women value the conservation of forest and páramo areas because they identify water provision and regulation as the main service provided by these ecosystems. They equally identify threats and pressures to ecosystems, but women highlight the neglect of authorities.	Men identify more with the initial phase of production, and women project themselves in the phase of transformation of the raw material, such is the case of dairy products. Young people migrate in search of work and study opportunities.	<ul style="list-style-type: none"> • Strengthen the transformation phases in the livestock value chain (transformation), as a strategy for the empowerment of women and youth. • Make visible the knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in knowledge management activities.

b) Summary of gender and youth considerations for Center Mosaic:

General considerations	Considerations for Output 2.1	Considerations for Component 3	Recommendations
Calipuy National Sanctuary			
Women actively participate in agreed activities at community meetings, as do young people, to whom their parents have delegated	Women and youth often do not participate in decision-making related to pasture, water or other management.	There are two organizations of women's artisans that are formally constituted: the "Association of artisans Conserving our biodiversity" and "Puya Raymondi"	<ul style="list-style-type: none"> • Establish formal agreements with identified women's associations. Invite them to participate in output 2.1 activities.

General considerations	Considerations for Output 2.1	Considerations for Component 3	Recommendations
<p>the responsibilities of participation.</p>	<p>Both genders recognized the ecosystems of their area and the ecosystem service of water provision.</p>	<p>Association". Women's participation in agricultural or livestock decision-making is lower than that of men; However, they show great interest in specific activities such as raising guinea pigs and chickens mainly, as well as a desire to participate in workshops and training on tissues.</p> <p>Young people, being involved in agricultural activities from an early age, are more frequently involved in decision-making. show interest in improving their agriculture through technified irrigation and pasture management</p>	<ul style="list-style-type: none"> ● Strengthen identified female leadership. ● Strengthen capacities for the specific tasks of women in the livestock value chain, raising small animals and sheep wool fabrics. ● Strengthen capacities of young people. ● Make visible the knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in knowledge management activities.
Calipuy National Reserve			
<p>Macho patterns that limit the involvement of women in equal conditions. Young people, in both prioritized sectors, are linked to decision-making and activities from an early age.</p>	<p>High participation of young people in vigilance committees, while the participation of women is considerably lower, they do not usually participate in decision-making related to the management of pastures, water or others (it is a little higher in the Carbonera sector).</p>	<p>Women in priority sectors have high participation in the economic activities of agriculture (especially harvesting) and livestock, as well as in the manufacture of fabrics; However, they do not have an evident participation in productive organizational life. They show interest in weaving and raising small animals, especially in the peasant community of Llacamate. Young people are linked to decision-making and showing great concern for agricultural activity.</p>	<ul style="list-style-type: none"> ● Consider sessions of female empowerment and awareness to the entire participating population. ● Make visible the knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in knowledge management activities. ● Strengthen capacities for the specific tasks of women in the livestock value chain, raising small animals and sheep wool fabrics. ● Strengthen capacities of young people.
Huascarán National Park			
<p>The participation of women in organizational decision-making (pasture committee) is limited in the Chacas sector but not in Acochacas, where there are women leaders and with managerial positions.</p> <p>There is accentuated machismo in families. The local female authorities (regidoras) support the gender approach, it is recommended to forge a network that allows to defend their proposals for</p>	<p>Young people frequently participate as volunteers in the "Fans of Conservation" initiative, but not in the monitoring committees for migration for studies or work. Women, on the other hand, participate mainly in environmental education activities and tasks and clean-ups within the area, but not in user committees in which their presence and voice is restricted by patriarchal patterns. They show expertise about ecosystems and agricultural systems.</p>	<p>Women's participation in agricultural or livestock decision-making is lower than that of men, except when they are widows and/or single mothers. The activities in which women are engaged are mainly the raising of small animals (guinea pig, hen, etc.), agriculture (particularly sales), and herding animals. He has shown great interest in the breeding of guinea pigs and sheep wool fabrics.</p> <p>Young people from an early age are dedicated to supporting the father of the</p>	<ul style="list-style-type: none"> ● Consider sessions of female empowerment and awareness to the entire participating population. ● Strengthen the identified youth leadership. ● Make visible the knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in knowledge management activities. ● Strengthen capacities for the specific tasks of

General considerations	Considerations for Output 2.1	Considerations for Component 3	Recommendations
<p>social development.</p> <p>Young people at the end of high school migrate to the city to continue their studies at university or in search of a job.</p>		<p>family in agricultural activities. This group shows interest in improving their agriculture through technified irrigation and pasture management.</p>	<p>women in the livestock value chain, raising small animals and sheep wool fabrics.</p> <ul style="list-style-type: none"> Strengthen capacities of young people.

c) Summary of gender and youth considerations for South Mosaic:

General considerations	Considerations for Output 2.1	Considerations for Component 3	Recommendations
Chupapata/ Umaccata			
<p>A peasant woman is president of the assembly, representative of the Federation of Women of Apurímac. Agreement that attendance at their meetings should have 50% representation of each gender.</p> <p>Young people and women get involved and participate in Water Boards, widows and young people who assume the roles of parents.</p>	<p>Women are more aware than men of the diversity of native forest species and much greater detail of the infrastructure built and crops at the communal level. Men, on the other hand, represented more accurately their geographical scope, and with greater detail the different types of vegetation and water resources in the protected area. Both genders identified the main factors causing degradation and vulnerability in their area.</p>	<p>Males generally carry out more livestock activities, take advantage of forest resources, and manage the conduction of irrigation water. Domestic work and the care of agricultural plots (crops and irrigation) are carried out by women, who have a medium to low participation in the Irrigation Boards.</p> <p>The Association of Agricultural Producers of Chupapata, is conformed mainly by women.</p> <p>It notes that economic empowerment is a strategy to address the physical and psychological violence that is still experienced in many households, where the fact that women do not yet have their own income is a factor of discrimination</p>	<ul style="list-style-type: none"> Establish formal agreements with identified women's associations. Invite them to participate in output 2.1 activities Strengthen identified female leadership. Strengthen capacities for women's specific tasks in agricultural and guinea pig value chains. Strengthen capacities of young people. Make visible the knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in knowledge management activities.
Ccorhuani			
<p>There is insufficient representation of women in the decision-making bodies of the population centre (committees and assemblies).</p>	<p>Women clearly represented the areas of forest, lagoon, agricultural cultivation, animal husbandry and infrastructure, but men did so more clearly and accurately.</p> <p>Both genders identified degradation and vulnerability factors, but men did so in greater detail.</p>	<p>Males generally carry out more livestock activities, take advantage of forest resources, and manage the conduction of irrigation water. Domestic work and the care of agricultural plots (crops and irrigation) are carried out by women.</p>	<ul style="list-style-type: none"> Consider sessions of female empowerment and awareness to the entire participating population. Make visible the knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in knowledge management activities. Strengthen capacities for women's specific tasks in the agricultural value chain. Strengthen capacities of young people.
Huayllabamba			
<p>In communal assemblies,</p>	<p>Women clearly identify the</p>	<p>The men are responsible for</p>	<ul style="list-style-type: none"> Make visible the

General considerations	Considerations for Output 2.1	Considerations for Component 3	Recommendations
<p>the most active group with the most voice are women.</p>	<p>diversity of landscape elements, especially fauna and flora at the community level. The men are represented in less detail, but include in their scope the surrounding areas covered by the Inca trail.</p> <p>Both genders identified and showed concern about threats to their environment</p>	<p>organizing equine breeding, hauling services and transportation for tourism. Women are responsible for self-consumption crops. In agricultural work, they perform fine work of sowing and weeding, crop irrigation, fertilization, among others; while men take care of the heaviest agricultural tasks.</p> <p>Women develop economic activities linked mainly to tourism (sale of chicha, food and snacks).</p>	<p>knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in knowledge management activities.</p> <ul style="list-style-type: none"> ● Strengthen capacities for women's specific tasks in the agricultural value chain. ● Strengthen capacities of young people.
Piscacucho			
<p>Little participation of women in community assemblies. Women are part of the irrigation committees and currently the lieutenant governor of the town center is a woman. In community tasks (reforestation, maintenance of irrigation canals, etc.) both women and men, young people and infants participate, although there is high migration of young people in search of study and employment opportunities.</p>	<p>Only men participated in the consultation process. They represented with great clarity and precision the elements of the environment (ecosystem and cultural) as well as the threats to them.</p>	<p>There are Committees of Vendors and Artisans, composed mainly of women, who organize the attention to tourists.</p>	<ul style="list-style-type: none"> ● Establish formal agreements with identified women's associations. Invite them to participate in output 2.1 activities ● Strengthen identified female leadership. ● Strengthen capacities for women's specific tasks in agricultural value chains. ● Strengthen capacities of young people. ● Make visible the knowledge and differentiated contribution of each gender in the management of ecosystems and economic activities, in knowledge management activities.

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

The project will focus on two of the specific problems identified by NAP Peru: the low adaptive capacity of the population and the high vulnerability of ecosystems to hazards associated with climate change. Thus, the Project will specifically contribute to the targets of seven adaptation measures for the water, forestry and agriculture sectors.

The project will implement the following EbA and NbP measures in prioritized areas of the three intervention mosaics: (i) Conservation and restoration of bofedales, (ii) Sustainable Grassland Management, (iii) Reforestation with native species, (iv) Crop diversification, (v) Eco- and agrotourism, (vi) Integrated Soil Fertility Management, (vii) Qochas/Rustic micro-reservoirs, (viii) Irrigation management and (ix) Afforestation. The project is allocating around 60% of the budget to activities on the ground to strengthen the resilience of ecosystems and the productive systems of local populations.

The project does not require co-financing; however, outputs 2.1, 3.1 and 3.2 will seek to expand project interventions with public funds from district and provincial municipalities, regional governments and MIDAGRI (Sierra Azul, AGRORURAL, AGROIDEAS), MIDIS (FONCODES) and SERFOR programs (Sierra Azul, AGRORURAL, AGROIDEAS).

In this context, the funds required from the Adaptation Fund (USD \$4,746,649.0) are considered reasonable for the implementation of the project and achieving the expected results.

Expected Concrete Outputs	Baseline (Without AF)	Additional (With AF)	Comments
<p>Output 1.1. Monitoring system of hydrological ecosystem services in Andean ecosystem implemented.</p>	<p>Peru does not have an integrated monitoring system for Andean ecosystems</p> <p>There is a 1 hydrological monitoring plot in a protected area</p>	<p>An integrated monitoring system for Andean ecosystems will be designed in coordination with SERNANP, INAIGEM, PNCB-MINAM and SERFOR</p> <p>At least 6 monitoring plots will be installed in 6 protected areas</p>	<p>Contributes to the targets of the adaptation measure AGU24 of the NAP Perú: Conservation and recovery of the natural infrastructure for the provision of hydrological ecosystem service in basins that are vulnerable to climate change.</p>
<p>Output 1.2. Monitoring system of degradation and deforestation of Andean forests designed and piloted</p>	<p>The Platform for Monitoring Changes in Forest Cover in Peru (GEOBOSQUES) does not have a module for Andean forests</p>	<p>GEOBOSQUES module for Andean forests designed and in operation</p>	<p>Contributes to the goals of the National Forest Conservation Program of MINAM to expand the coverage of GEOBOSQUES at the national level.</p>
<p>Output 2.1. Rural communities implement conservation and restoration practices in degraded areas inside and outside (buffer zones) of prioritized protected areas.</p>	<p># of settlements or peasant communities that implement conservation and restoration practices inside and outside protected areas</p>	<p>2 peasant communities and 10 settlements (100 families) that implement conservation and restoration practices</p>	<p>Contributes to the goals of the BOS2 adaptation measure of the NAP Peru: Restoration of the ecosystems within the SINANPE (for its initials in English) to maintain landscape connectivity and reduce the impacts of climate change.</p> <p>Contributes to the targets of the adaptation measure AGU24 of the NAP Perú: Conservation and recovery of the natural infrastructure for the provision of hydrological ecosystem service in basins that are vulnerable to climate change.</p> <p>Contributes to the targets of the adaptation measure AGR17 of the NAP Perú: Management of natural grasslands to ensure livestock feed and reduce their vulnerability to climate change.</p>
<p>Output 2.2. Incorporation of the climate change adaptation and disaster risk reduction approach in planning instruments of three conservation mosaics of Andean ecosystems</p>	<p>SINANPE's Director Plan without a climate change adaptation and disaster risk reduction approach incorporated</p>	<p>SINANPE's Director Plan with a climate change adaptation and disaster risk reduction approach incorporated</p>	<p>Contributes to the targets of the adaptation measure BOS2 y AGU24 of the NAP Perú</p>
<p>Output 2.3. Preliminary conditions prepared for the start of</p>	<p>Peru's PdP Initiative does not currently include Andean ecosystems</p>	<p>Andean ecosystems incorporated into the PdP Initiative</p>	<p>Contributes to the targets of the adaptation measure BOS2, AGU24, y AGR15 of</p>

Expected Concrete Outputs	Baseline (Without AF)	Additional (With AF)	Comments
the "Natural Heritage Initiative of Peru – Andes", based on previously agreed upon conditions			the NAP Peru
Output 3.1. Rural communities with technical productive capacities to reduce vulnerability of productive chain inside and outside (buffer zone) prioritized protected areas.	# of population centers or peasant communities that implement practices to improve the resilience of their production chains	2 peasant communities and 10 settlements (100 families) that improve the resilience of their production chains around	Contributes to the targets of the adaptation measure AGR15 of the NAP Perú: Implementation of adaptive technological innovation services for climate change in agricultural value chains
Output 3.2. Design, evaluation, and implementation of adaptation measures of productive chains linked to the market.	# of production chains that implement adaptation measures and are connected to the market	At least 3 production chains that implement adaptation measures and are connected to the market	Contributes to the targets of the adaptation measure AGR17 of the NAP Perú: Implementation of business strategies that incorporate risk and opportunity management in the face of climate change

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

The sustainability of the project's actions is guaranteed at the local level by the participation of the local population through the peasant communities and local groups, who are the owners of their territories and the main stakeholders interested in maintaining their livelihoods and productive chains, including their diversification (Outcome 3). In addition to SERNANP, other institutions and sectors are directly linked to the future sustainability of actions: the National Forest and Wildlife Service (SERFOR) and the Ministry of Agrarian Development and Irrigation (MIDAGRI). Both institutions will be involved in the implementation of project activities.

Component 3 of the project is based on the process led by SERNANP to involve settlements and peasant communities in the co-management of the protected areas in the conservation mosaics, in this case through the organization of productive activities carried out by the communities, the signing of the so-called "conservation agreements" and subsequently the signing of a SEAP (Sustainable Economic Activities) contract. This encourages productive activities to reduce their impact and increase opportunities for biodiversity use. Thus, SERNANP not only promotes the signing of these agreements, but through the "allies for conservation" brand, it hopes to contribute to improving the commercialization channels for the bio-businesses developed in and around protected areas.

In this context, the participation of communities in the planning of activities in their territories will be guaranteed, ensuring adequate representation of women and vulnerable groups at all stages, including consultations for project formulation, in accordance with the Gender Policies of the Adaptation Fund and the cross-cutting approaches (gender, intercultural and intergenerational) of the NAP Peru. The assessments detailed for gender-sensitive activities, such as productive and restoration activities, will serve as a basis for the appropriate design of the intervention strategy. It will be recommended that they become part of the protocols to be implemented by SERNANP in relation to the promotion of bio-businesses and productive activities with the communities.

The project will promote a user-centered, iterative, and open to innovation approach for the development of adaptation measures in local productive systems. The annual project implementation plans will be designed in a participatory manner, articulating their activities to those planned by the communities and local municipalities in the project intervention area. Likewise, a reasonable duration is considered for project implementation, to guarantee sufficient time for the consolidation of processes.

Community participation in decision-making on land management and rural development with a focus on climate change and risk management will be strengthened in the protected area management committees. In these, communities, municipalities, civil society and the private sector participate and plan the sustainable management of the conservation areas and their buffer zones (Outcome 2). At the sub-national level, coordination and participation spaces for the management of water resources (where they exist) and the departmental territory will also contribute to the sustainability of the project's actions, incorporating climate change in their planning instruments (Outcome 2).

At the national level, the sectoral governmental organizations involved in the proposal are responsible for the implementation of Peru's National Climate Change Adaptation Plan. This guarantees the long-term sustainability of monitoring actions (Outcome 1) and the closing of gaps for protected areas in Andean ecosystems (Output 2.2 and 2.3). At the sub-national level (regional governments), the linkage of project activities with regional climate change agendas and/or strategies (where appropriate) will promote the incorporation of actions in support of the implementation of the NAP Peru in the programmatic and budgetary planning instruments of regional governments.

The project will equally promote participation of and collaboration with academia and research centers in mountain ecosystems to take advantage of previously generated tools and knowledge that can be used by the project (Outcome 1, Output 2.1 and Outcome 3). This articulation will at the same time allow the involvement of academia in the mobilization of financial resources to support and expand the monitoring of Andean ecosystems. On the other hand, the generation of scientific knowledge on the impact of the activities will increase the evidence for monitoring the implementation of public policies on climate change.

Likewise, within the framework of the relationship actions that will be carried out with the project actors, mainly with SERNANP and the peasant communities, a Complaints and Claims Mechanism (MAQR) will be implemented, for which the current one will be taken as a reference. mechanism approved and implemented by PROFONANPE in its activities with local, regional and national actors.⁴⁹. This mechanism is aligned with the environmental, social, gender and indigenous people's policies, performance standards and environmental and social safeguards of the GCF.

The mechanism establishes the process for the different stakeholders involved in the project to submit claims, grievance and/or concerns that may arise from the implementation of project activities, as well as to address the requirements of the affected population in a timely manner. Grievances or claims can be presented in person with the local team, at the project offices in the implementation sites or directly at the PROFONANPE office in Lima. Written communications can also be submitted to the Project offices at the local level or to the PROFONANPE office. On the other hand, complaints and claims can also be received by phone calls and digital messaging means (whatsapp, email, video and/or audio phone, text messages), through PROFONANPE's website (<https://profonanpe.org.pe/en/quejas/>) or its social networks (Facebook, Instagram, LinkedIn, X, etc.).

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

The project is not expected to generate any negative environmental or social impacts. It's possible that some activities may represent a low risk, so the project will be preliminarily classified as Category B. At level of outputs the following table provides information about the risk level:

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
<i>Compliance with the Law</i>	X	<p>No Risk</p> <p>All project activities do not exceed the limits or exceptions indicated in the list of projects in the agriculture and irrigation sector of the National Environmental Impact Assessment</p>

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<https://profonanpe.org.pe/wp-content/uploads/2020/11/Mecanismo-de-Atencion-de-Quejas.pdf>

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		System. The implementation of the activities of products 1.1 (hydrological monitoring system), 2.1, 3.1 and 3.2 (EbA and NbP measures) will comply with the technical specifications indicated by MINAM, SERNANP, MIDAGRI, SERFOR and FONCODES as detailed in the Part II – E.
<i>Access and Equity</i>	X	<p>No Risk</p> <p>The implementation of the EbA and NbP measures provided for in products 2.1, 3.1 and 3.2 considers the participation of all direct beneficiaries identified in the consultation process within the framework of the coordination carried out with the communities for the implementation of the Project. Likewise, the identification and delimitation of the project intervention areas will be carried out with neighbors and local authorities.</p>
<i>Marginalized and Vulnerable Groups</i>		<p>Medium risk</p> <p>The proposed activities for the outputs 2.1., 3.1 and 3.2 are expected to improve the ability of all, including marginalized and vulnerable groups, to adapt to the adverse effects of climate change. However due to diverse barriers to participation such as physical access, age, gender, language and other circumstances, vulnerable groups could be excluded from its benefits. The activities will require providing the criteria and the means to identify project beneficiaries by close coordination with local social services, social programs, municipalities and other sources to address the participation gaps. In addition, the project is required to design and implement a communication plan that includes workshops and the use of local media to present the project objectives to a large audience that engage the stakeholders.</p>
<i>Human Rights</i>	X	<p>No Risk</p> <p>The activities planned in product 2.1, 3.1 and 3.2 were identified in the consultation process with the residents and local authorities of the communities around the protected areas and will be implemented on communally or individually owned land. Agreements will be established with the communities prior to the implementation of the project, including mechanisms for filing complaints.</p>
<i>Gender Equality and Women's Empowerment</i>		<p>Medium risk</p> <p>The project will promote the equitable participation of women, youth and other vulnerable groups in activities 1.1, 2.1, 3.1 and 3.2.. To this aim general guidelines for inclusive capacity building activities, technical assistances and other activities will be designed, including specific gender and youth considerations, based in the analysis of the level and patterns of participation into the organizations and sociopolitical dynamics, the preferences of each group about productive livelihoods, practices and value chains, and the relation of each group with specific natural resources and ecosystem</p>

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		<p>services. That, to promote positive impacts, to reduce gender gaps and to avoid the exacerbation of current situations of gender inequity.</p> <p>The project will have a gender action plan so that women can have more opportunities to benefit from the project, seeking to reduce barriers (language, means of participation, leadership skills, among others) and be effectively involved. The project implementation strategy will also promote women's leadership and decision-making and ensure to increase women's participation in activity 1.1.2 and outputs 2.1, 3.1 and 3.2. PROFONANPE will also ensure Gender-sensitive indicators are incorporated where applicable and are monitored and tracked as part of M&E.</p>
<i>Core Labour Rights</i>	X	<p>No Risk</p> <p>The participation of the local population in the activities provided for in products 2.1, 3.2 and 3.3 is voluntary and does not involve the payment of salaries or the provision of incentives.</p>
<i>Indigenous Peoples</i>		<p>Medium risk</p> <p>The activities planned in products 2.1, 3.1 and 3.2 were identified based on the needs expressed by the residents in the consultation process (see Part II – H and Annex 3). Its implementation involves the establishment of specific agreements with each community within the framework of the preparation of the annual work plan, which establishes the activities to be carried out and the commitments assumed by the Project and the Community for its implementation.</p> <p>These agreements will establish the conditions and criteria for the use of communal or individual territory (restoration, protection or sustainable use activities, and linked to productive activities), and avoid exclusion due to language, sex, age, or access to resources. (soil and water) from the population to the activities. Likewise, activities will be prevented from generating conflicts over territorial limits or limiting access to common resources.</p> <p>All project activities will be coordinated with local authorities of the settlements and peasant communities in the intervention area. During project implementation, the AF policy on indigenous peoples will be followed and complemented with PROFONANPE's indigenous people's policy⁵⁰.</p>
<i>Involuntary Resettlement</i>	X	<p>No Risk</p> <p>The activities of products 2.1, 3.1 and 3.2 will be implemented in selected areas outside the areas where the population lives</p>

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		and carries out daily activities, this allows strengthening work ties with the community and respect prevails between all the actors involved.
<i>Protection of Natural Habitats</i>		<p>Medium risk</p> <p>The activities of products 1.1, 2.1, 3.1 and 3.2 are aimed at generating positive impacts on the natural habitat of the prioritized areas, which is why it is necessary to design and implement them under various technical criteria, previously prepared. The activities identified are: installation of hydrological monitoring plots in protected areas, management of natural pastures, construction of qochas and reforestation.</p>
<i>Conservation of Biological Diversity</i>	X	<p>Medium risk</p> <p>The project will promote the conservation of biological diversity and natural habitats, through the restoration and protection of Andean ecosystems, therefore an inadequate implementation or maladaptation of EbA or NbP measure or productive activity support by the project can generate a negative impact.</p> <p>Special attention will be paid to the installation of live barriers to prevent overgrazing of livestock in restoration areas or in areas where improved pastures are being installed. Likewise, the best practices identified for the restoration of wetlands will be replicated.</p>
<i>Climate Change</i>	X	<p>No Risk</p> <p>None of the activities proposed by the project are listed in the sectors indicated in Principle 11 of the ESP Guidance Document of the AF.</p>
<i>Pollution Prevention and Resource Efficiency</i>		<p>Medium risk</p> <p>The activity 1.1.2 and outputs 2.1, 3.1 and 3.2 will be implemented in Andean ecosystems. The project will ensure also avoid any potential pollution and direct production of residual materials during the installation of hydrological monitoring plots or the construction of qochas. Likewise, the use of agrochemicals or pesticides will be avoided.</p>
<i>Public Health</i>	X	<p>No Risk</p> <p>No risks are anticipated in terms of public health concerns, rather it is intended to improve livelihoods through climate-resilient practices and alternative income-generating activities.</p>
<i>Physical and Cultural Heritage</i>	X	<p>No Risk</p> <p>The physical heritage identified in the project intervention areas are the protected natural areas. The planned activities will promote its restoration and not its degradation or damage.</p>

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
		The cultural practices of the local population will be respected, especially those linked to the activities planned by the project.
<i>Lands and Soil Conservation</i>	X	<p>No Risk</p> <p>The proposed project is ensuring the conservation and restoration of Andean landscapes that are threatened by unsustainable practices. Ecosystem-based adaptation measures will be implemented that will promote the conservation and restoration of degraded soils.</p>

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project/programme implementation.

The project will be implemented through a simple and efficient structure that will facilitate the active participation and coordination of all project stakeholders as presented in Figure 9.

PROFONANPE will serve as the National Implementing Entity (NIE) responsible for the oversight of the project. In its role, PROFONANPE will contribute to the preparation, implementation and monitoring of the project, through its headquarters and country office in Peru. These will include among others the following activities: (i) support project preparation and evaluation, (ii) guide the definition of monitoring and evaluation arrangements including outcome and output indicators, (iii) contribute building local capacity through specialized training/workshops on fiduciary and procurement-related aspects of project execution in accordance with PROFONANPE's policies and guidelines, (vi) provide support on technical and quality assurance issues in accordance to PROFONANPE's policies. The Republic of Peru will be the Beneficiary of the project and will be represented by MINAM and SERNANP in the Project Steering Committee (PSC).

PROFONANPE in coordination with the Executing Agency (EA) established the Project Steering Committee (PSC). The PSC will be composed by senior-level representatives from the Ministry of the Environment (MINAM - Vice-Minister of Strategic Natural Resources Development), the Peruvian National Service of Protected Areas (SERNANP - Director), the Peruvian National Service of Forest and Wildlife (SERFOR - Director), PROFONANPE (IE) and HELVETAS Perú (EA). The PSC will be presided by MINAM and SERNANP will assume the role of Technical Secretary of the PSC. The PSC have the following responsibilities: (i) serving as forum for the analysis of policy implications, political feasibility and building consensus for policy and regulation implementation among project stakeholders; (ii) maintaining, through its Technical Secretary regular communication among its members and ensuring that their interests are addressed and communicated effectively to project stakeholders; (iii) provide sectorial policy advisory as requested, (iv) provide strategic orientations for the correct implementation of the Project and in accordance with national policies on climate change, (iv) ensure effective inter-institutional and inter-sectoral coordination (v) approved the Project Operations Manual (POM) and required updates or modifications, and (vi) approved the Annual Budget and Annual Operational Plan and the Technical and Financial Annual Report. The PSC will meet at least 2 times a year and more frequently, when necessary.

HELVETAS Swiss Intercooperation will be the **Executing Agency (EA)** responsible for the execution

of the project in its administrative and accounting aspects. The EA will execute the project in accordance with the purposes and activities agreed upon with PROFONANPE, following its policies and procedures. The EA will carry out its responsibilities in coordination with SERNANP and PNCB-MINAM, and the local partners of the project: **Nature and Culture International Perú** in the northern zone; **The Mountain Institute Perú** in the central area; and **CEDES Apurímac** in the southern zone. EA will host a **Project Coordination Team (PCT)**, financed through the project.

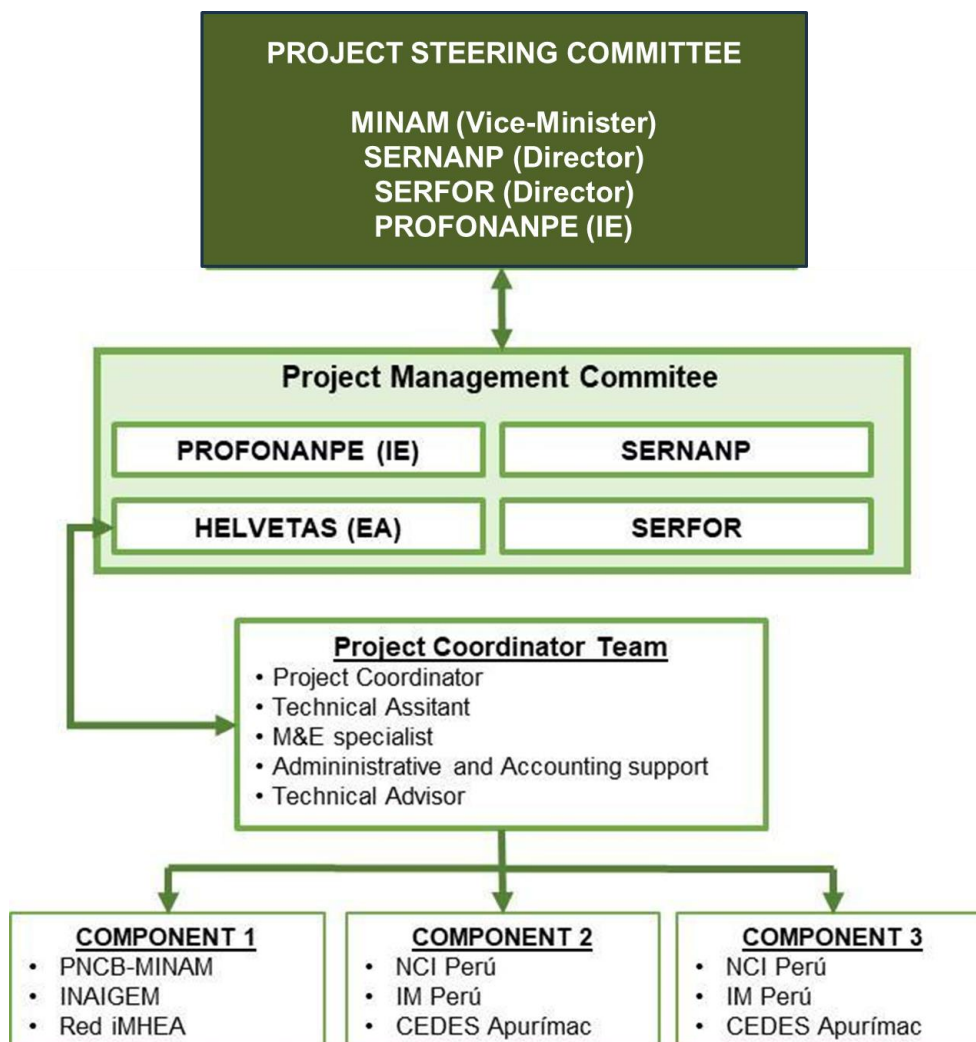
PROFONANPE, HELVETAS Perú, SERNANP and SERFOR will be conform the **Project Management Committee (PMC)**. SERNANP and SERFOR will designate the technical focal points for the project that will be part of the PMC. The principal role for the PMC is overseeing and coordinating the project's execution and ensuring its implementation within the designated territory and provide regular reports to the Steering Committee. The PMC will additionally be responsible to: (i) ensure compliance with project management directives, guidelines, and information flow among EA and local partners, (ii) coordinate and ensure the timely implementation of activities and promoting a common understanding among government institutions and local partners regarding the adaptation approach across all project activities, (iii) supervise the implementation and compliance with Social and Environmental Safeguards and Gender policies, (iv) support, within the framework of its competencies, with the management of the corresponding permits for the implementation of EbA or NbP measures inside and outside the natural protected areas at local level, (v) facilitate coordination, as pertinent, with the Heads of the natural protected areas and Heads of the Forestry and Wildlife Technical Administrations of the project intervention sites; (vi) to facilitate the participation of specialists from SERNANP and SERFOR Headquarters in the project activities linked to outputs 1. 2 and 2.2, (vii) provide opinions and recommendations on the project's annual operational plans, (viii) provide opinions and recommendations on the terms of reference for contracting goods and services in areas within its competence. The PMC will meet at least 4 times a year and more frequently, when necessary.

The **Project Coordination Team** consists of a group of professionals hired by the EA that includes a project coordinator, technical assistant, monitoring and evaluation specialist, administrative and accounting support and technical advisor. The responsibilities and functions of each of the PCT members are described as follows:

- **Project Coordinator:** is the lead of the PCT and will oversee progress of technical project components, including day-to-day operations of the project, and the overall operational and financial management and reporting. PC's core functions include:
 - Lead the preparation and execution of the POM and present it to PROFONANPE and PSC for its approval.
 - Leading the preparation of the annual operating plan and present it to PROFONANPE and PSC for its approval.
 - Hold quarterly coordination meetings with PROFONANPE to monitor the progress of the project, (iv) coordinate with SERNANP and PROFONANPE the organization of biannual meetings of the PSC.
 - Support SERNANP in its role as Technical Secretary of the PSC.
 - Prepare terms of reference for contracting goods and services in coordination with local partners and request approval from PROFONANPE according to its administrative procedures.
 - Review and approve project disbursement requests to be presented to PROFONANPE.
 - Compliance with monitoring and evaluation protocols established in the POM to be designed following PROFONANPE's procedures.
 - Lead the preparation of technical and financial semiannual and annual reports of project status and present to the PSC and PROFONANPE.
 - Contracting external annual audits and preparing required documentation for this purpose in coordination with PROFONANPE.
 - Lead the preparation of project's final evaluation.
 - Serve as the liaison between the project and other national, regional or local activities that could complement or generate synergies with the objectives of the project.
- **Technical assistant:** is responsible for:
 - Supporting the elaboration and implementation of the annual work plans.
 - Supporting the elaboration of the semi-annual and annual technical reports of the project.

- o Supporting the elaboration of the terms of reference for the contracting of goods and services of the project in coordination with the local partners, SERNANP (chief of national protected areas) and PNCB-MINAM.
 - o Supervising the implementation of the project activities in coordination with the local partners, SERNANP ((chief of national protected areas), PNCB-MINAM and iMHEA.
 - o Supporting the compliance of the M&E system of the project.
- **M&E specialist:** provides technical assistance to the project coordinator and technical assistant for the successful implementation of the project's monitoring system.
- **Administrative and accounting support:** Provides administrative and accounting assistance to the project coordinator. Its responsibilities include:
 - o Supporting the preparation of the project POM.
 - o The contracting of project goods and services according to the procedures established by PROFONANPE and the POM.
 - o Keeping the project's accounting and financial records.
 - o Support the preparation of requests for disbursement of funds.
 - o Support the contracting external annual audits and preparing required documentation for this purpose in coordination with PROFONANPE.
 - o Support the preparation of financial reports semiannual and annual project.
- **Technical advisor:** is a focal point of Helvetas Swiss Intercooperation Perú for the project and Responsible for providing technical assistance on climate change to the project coordinator and suggesting improvements and adjustments for the correct implementation of the activities.

Figure 9. Project Governance



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

PROFONANPE will support the TCP and EA in monitoring and mitigating risks; results should be monitored and reported as agreed with PROFONANPE. Risks should also be systematically monitored as part of the Monitoring & Evaluation (M&E) Plan by PROFONANPE staff carrying out the oversight related tasks. Reporting on risks and mitigation strategies should take place as part of the semi-annual reports. In addition to this and keeping with PROFONANPE practices, a dedicated budget line exists for M&E, to ensure that the necessary resources are allocated to execute such a framework.

The correct and ongoing management of risk will not eliminate risks but will help improve the probability of satisfactorily achieving project results and impacts. For this reason project risk management will include the following principles: (i) integrated approach, (ii) on-going process that takes into account all of the information that is created during periodic evaluations and decisions adopted, (iii) decisions taken during the risk management process must be documented, (iv) inclusion of effective communication with interested parties in all aspects of the process, (v) guarantee of integrity of risk evaluation process, (vi) regular assessment of quality risk management standards and procedures becomes an integral part of project's supervision and monitoring tasks.

Potential risks for the development of the proposed project and measures to control them have been defined in the following table.

#	Type	Risk	Classification	Mitigating Measures
1	Institutional	Continuity due to political instability and changing authorities	Medium	PROFONANPE and HELVETAS maintain solid relationships with SERNANP and MINAM, thanks to the involvement of these organizations from the beginning of the construction of the joint proposal, and subsequently in the implementation of the activities for the management of the protected areas and the adaptation measures to the climate change. This approach will allow the development of project activities to continue and guarantee its sustainability despite future changes at the governmental and institutional level.
2	Financial	The exchange rate for the PEN/USD is not holding above 3.55	Low	Exchange rate projections will be monitored on a quarterly basis. In case of significant negative impact, the EA in consensus with PROFONANPE will prioritize the measures with the greatest positive effect and the agreements for prioritizing activities on eligibility will be respected.
3	Financial	There may be insufficient financial resources for the sustainability of the project activities once the grant financing the project is spent.	Medium	The fundraising capacity of EA and PROFONANPE to access private sector funds and international cooperation will be strengthened for the design of the PdP-Andes Initiative and especially for the creation of its Transition Fund. The participation of MINAM in this process will be promoted. The EA will take advantage of current and future public and private financing opportunities for climate change

#	Type	Risk	Classification	Mitigating Measures
				adaptation, biodiversity conservation, risk management, food security and rural development, to provide sustainability and scale up the adaptation measures put in place during the project. These opportunities will be reinforced at national sectoral level with MIDAGRI, PRODUCE and MIDIS.
4	Financial	Complexity of financial management and contracting. Some administrative processes could delay the implementation of project activities.	Low	<p>All arrangements for financial and administrative management shall be clearly established during the preparation and inception phase of the project.</p> <p>The control framework of PROFONANPE and the EA, in accordance with the financial rules and regulations of the AF will ensure the documentation of clearly defined roles and responsibilities for management, internal auditors, the governing body, personnel management and coordination with local partners.</p> <p>The acquisitions and approval of expenses will be carried out by the EA as agreed in the Cooperation Agreement with PROFONANPE</p>
5	Technical - cultural	Limited participation of local population in project activities	Low	<p>Local partners have a respected image in the project intervention areas. The livelihood practices proposed by the project for output 2.1 have been successfully tested and are known to the local population. The impact of climate change on their productive activities (especially those related to water scarcity) has been recognized in the consultation process and capacity building is planned prior to the implementation of the activities linked especially to component 3. To reduce the risk of cultural barriers, the gender and intercultural recommendations indicated in Part III-C will be considered. From the beginning of the project, direct contact will be made with local authorities and alliances will be sought for their consolidation.</p>
6	Operational	Few and limited instances of coordination and communication do not guarantee the proper design and implementation of project activities.	Low	<p>Ensure local participation and consultation through workshops and meetings during the preparation, introduction, implementation and evaluation phases of the project.</p> <p>Ensure the operability of the coordination and governance spaces of the project to inform, validate and implement the actions planned by the project in a participatory manner.</p>

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

The risk category of the project is B because the activities can have potential limited adverse environmental or social risks and/or impacts that are few, generally site-specific, largely reversible, and readily addressed through a Social and Environment Management plans.

A social and environmental risk analysis has been carried out based on the PROFONANPE classification methodology for the 15 policies of the Adaptation Fund, activating 5 policies for which an environmental and social management plan is proposed.

PROFONANPE Risk severity classification		
Severity	Classification	Description
Critical	5	Significant adverse impacts on populations and/or the environment. Adverse impacts over a large spatial extent (e.g., large geographic area, often outside the scope of the intervention, affecting a significant number of people, with transboundary impacts, cumulative impacts) and often long-term and irreversible; affecting areas of high biodiversity sensitivity and conservation value; adverse impacts on indigenous peoples' rights, lands, resources, and territories; displacement or resettlement; and may result in significant social conflict.
Severe	4	Adverse impacts on people and/or the environment of medium to large magnitude. Less spatial and temporal extent than critical level risks and impacts. Risks and impacts are considered predictable, mostly temporary and reversible
Moderate	3	Risks and impacts considered moderate to low magnitude. Impacts are limited in scale (site-specific) and duration (temporal), can be avoided and/or mitigated by relatively simple and generally accepted measures.
Slight	2	Risks and impacts are minimal in terms of magnitude (e.g., small, affected area, small-scale activities, very low number of people affected) and duration (short, e.g., only during construction phase), and risks and impacts can be easily avoided and/or mitigated.
Negligible	1	Negligible or no risks and impacts on communities, individuals and/or the environment

Probability of occurrence	Classification	Description
Expected	5	The risk is almost certain to occur very frequently (< once a week).
Highly likely	4	Risk is very likely to occur frequently (> once a week and < once a month).
Moderate likely	3	The risk is likely to occur during the implementation of the intervention (> once a month and < once a year).
Less likely	2	The risk is unlikely to occur. If it does occur, it will be infrequent (> once a year and < once every 05 years).
Unlikely	1	It is very rare or impossible for the risk to occur (> once every 05 years).

Risk=Probability x Severity		Severity of impact				
		Negligible	Slight	Moderate	Severe	Critical
Probability of occurrence		1	2	3	4	5
Expected	5	5	10	15	20	25
Highly likely	4	4	8	12	16	20
Moderate likely	3	3	6	9	12	15
Less likely	2	2	4	6	8	10
Unlikely	1	1	2	3	4	5

Risk	Score	Risk Management
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Critical	10 to +	Requires previous actions and restructuring of the project
Severe	7 to 9	It requires specialized action at the technical, managerial and political levels.
Moderate	4 to 6	Requires specialized action at the technical level
Slight	2 to 3	Routine procedural action required
Negligible	1 to 2	No action required.

Measures for environmental and social risk management

Environmental & Social Policies (AF)	Potential Risk	Risk Level (Severity)	Probability of occurrence	Risk Score	Risk Management Action
Compliance with the Law	The activities exceed the limits or exceptions indicated in the list of projects in the SEIA agricultural sector.	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> Design and implementation of activities ensure compliance with the limits and exceptions indicated in the SEIA project list
	The activities do not meet the technical specifications indicated by national standards	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> Design and implementation of activities ensure compliance with national standards
Access and Equity	Not respecting traditional community decision-making.	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> All activities are consulted with the communities and written agreements are established for their implementation when the project begins.
	Failure to identify and prioritize intervention areas with community participation	Negligible (1)	Less likely (2)	2	
Marginalized and Vulnerable Groups Marginalized and Vulnerable Groups	Due to diverse barriers to participation such as physical access, age, gender, language and other circumstances, vulnerable groups could be excluded from project benefits.	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> Close coordination with local authorities (settlement and peasant communities), district municipalities and social programs and other sources to identify vulnerable populations. Ensure that local partners include staff fluent in native language or have translators available. Ensure that all project documents related to activities with the local population have a Quechua version.
	Concentration of project benefits in a few most advanced groups	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> The implementation of the project contemplates several activities that provide material and immaterial benefits, which should be distributed equitably among participants, their families, and critical stakeholders of the pilot sites that meet the project conditions. Therefore, the beneficiary identification process should contemplate establishing concrete conditions, as detailed and explicit as possible, for achieving the project and contributing to local Adaptation Prepare an internal communication strategy to present the project objectives to a large audience according to the Field

					<p>Entrance Protocol of PROFONANPE⁵¹</p> <ul style="list-style-type: none"> Review list of participants periodically. Establish criterion for identification of beneficiaries
Human Rights	Not establishing formal agreements with the communities for the implementation of the activities initiated by the project	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> All activities are consulted with the communities in meetings during the proposal design process and written agreements are established for their implementation at the beginning of the project.
	Failure to inform communities about complaint mechanisms	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> Report on the operation of the complaints mechanism and establish written agreements with the communities on the use of this mechanism under community assemblies.
Gender Equality and Women's Empowerment	Women and indigenous organizations excluded due to technicalities in climate information, hydrological indicators	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> Ensure that local partners include staff fluent in Quechua or have translators available Ensure prior training on gender policies and soft skills of technicians and experts who will provide technical assistance to local populations.
	Overload due to the demand placed by community workers, especially on women.	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> Preparation of engagement plan (EP) This activity involves the elaboration of a work plan at the level of local site and for each group. The EP must contain a roadmap and a timetable, with assigned responsibilities for all members. To this end, a series of working meetings should be held to achieve four aspects: <ul style="list-style-type: none"> i) to fully understand the activity and its implications, in terms of time and resources. ii) to define their expectations at the local level. iii) to prioritize the most strategic activities/tasks, iv) establish arrangements to facilitate participation in project activities, including mobilization to the sites where they are implemented. Activities planning will consider the communities' rainfall and crop cultivation calendars.
	Activities for output 2.1, 3.1 and 3.2 do not reflect the demands of women. Or the technology proposed are not	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> Additional consultation meetings with settlement and peasant communities with the following objectives: <ul style="list-style-type: none"> i) Presentation of the complete project and its benefits ii) To express the expectations of the communities

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https://profonanpe.org.pe/wp-content/uploads/2021/03/Protocolo-de-Ingreso-a-Campo_.pdf

	suitable for Women				<ul style="list-style-type: none"> iii) Share a work schedule and work it together with stakeholders. iv) Preparation of documents proving the ownership of the land on which the works are to be carried out. v) Agreements on community collaborative work (if any). vi) Standards of behaviour of outside workers (if any). vii) Identify the mechanisms for handling complaints and claims
Core Labour Rights	The project rewards the participation of residents through incentives or salaryi	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> • No financial compensation or economic incentives are provided to residents participating in the project.
Indigenous Peoples	Indigenous people excluded due to language	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • Ensure that local partners hire key project personnel who speak the local language and have experience working with indigenous people. • Regular use of translators must be included in the budget activities for outputs 1.1, 2.1, 3.1 and 3.2
	Indigenous organizations excluded due to lack of formality	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • Support for the formalization through technical assistance of indigenous associations and organizations.
	Activities for output 2.1, 3.1 and 3.2 do not reflect the demands of indigenous communities. Or the technology proposed are not suitable for communities.	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • Additional consultation meetings with settlement and peasant communities with the following objectives: <ul style="list-style-type: none"> i) Presentation of the complete project and its benefits ii) To express the expectations of the communities ii) Share a work schedule. iii) Preparation of documents proving the ownership of the land on which the works are to be carried out. iv) Agreements on community collaborative work (if any). v) Standards of behavior of outside workers (if any). vi) Identify the mechanisms for handling complaints and claims
	Conflicts between communities due to: Participation in the project (direct or indirect benefits) water use ownership and use of protection and restoration sites	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • The people who will participate directly in project activities will be designated by the community under clear and transparent criteria. • The prioritization of sites, apart from technical criteria, is done with the local population and the head of the protected natural area. • Identify and confirm landowners and land users. • Establish documented communal or individual agreements or approvals for the implementation of activities in the prioritized sites.

					<ul style="list-style-type: none"> • Inform all parties, including stakeholders outside the intervention site and the communities involved, about the activities to be implemented and potential impacts. • Inform all parties about the project's grievance mechanism.
Involuntary Resettlement	Project activities are implemented in areas used by communities	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> • All activities are consulted with the communities and written agreements are established for their implementation when the project begins.
	Project activities generate severe negative impacts	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> • The participatory design and implementation of the activities guarantees the commitment of all actors and compliance with national standards according to the region.
Conservation of Biological Diversity	Protective or exclusion fences block wildlife migration.	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • Participatory assessment of wildlife presence. • Ensure that perimeter barriers prevent livestock entry, but facilitate the migration of other wildlife species between bofedales. • Maintenance requirements should be planned and implemented. • Biological monitoring will be implemented in the future.
	Unexpected damage to wetlands due to erroneous assessment of the situation	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • Bofedales restoration plans should identify and attempt to correct the root causes of degradation at the watershed level and restore original hydrological flows and conditions. • Proper identification of restoration sites and measures to be implemented
	Introduction of exotic species in protected natural areas due to reforestation or afforestation and installation of improved pastures.	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • Comply with the provisions of the current "Action Plan on Invasive Alien Species in Peru in Peru" in force, including the use of invasive alien species to improve pasture productivity, reforestation and/or improvement of pasture productivity, reforestation and/or afforestation.
Protection of Natural Habitats	Unexpected damage due to inadequate design and installation of hydrological monitoring plots in natural protected areas.	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • Strong coordination with the imHEA Initiative • Proper identification of plot sites • Appropriate use of the guide for the design and installation of hydrological monitoring plots
	Risk of overgrazing	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • The grazing capacity of natural pastures will be evaluated and considered in pasture management planning. • Adequate selection of grazing sites • Increase capacity building of local people for monitoring and evaluation of grazing areas
	Construction of qochas: - Affecting the availability of water for other users - Erosion and landslides	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> • Strong coordination with the National Water Authority (ANA), MIDAGRI's Sierra Azul Program or AGRORUAL and approval of water use if necessary. • Ensure that qochas are not built on sloping areas.

					<ul style="list-style-type: none"> Interventions should also be evaluated and designed with a watershed approach to prevent qochas from affecting water availability in the surrounding area and/or downstream. Ensure removal of access or controls if nearby sensitive areas are at risk.
	Reforestation with non-native species can introduce pests and diseases or negative impacts on soil and water.	Moderate (3)	Less likely (2)		<ul style="list-style-type: none"> Reforestation activities only include the planting of native species. Include local knowledge about the native species of local populations in the planning of activities.
Climate Change	Project activities increase greenhouse gas emissions	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> The project activities are not included in the sectors indicated in Principle 11 of the ESP Guidance document of the AF.
Pollution Prevention and Resource Efficiency	Construction of qochas: or monitoring hydrological plots access of equipment and materials may affect or degrade sensitive areas.	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> Ensure removal of access or controls if nearby sensitive areas are at risk. Establish access agreements with local people and farming communities. Remove all waste materials used in the construction of qochas and the installation of monitoring plots. Establishing waste management protocols
	Risks from the use of prohibited chemicals, pesticides and generates water and soil contamination.	Moderate (3)	Less likely (2)	6	<ul style="list-style-type: none"> The project will actively seek to promote and provide technical assistance to develop agroecological practices and ensure that pesticides are not applied. Develop capacities and alternatives to the use of pesticides.
Public Health	Project activities generate negative impacts on the social and economic conditions of the communities that participate in the project.	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> The project activities reflect the demand of the communities that belong to the three intervention mosaics in order to increase the resilience of their livelihoods.
Physical and Cultural Heritage	The project activities affect the physical and cultural heritage in the intervention areas	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> Design and implementation of activities ensure compliance with national standards, especially those established by the National Service of Protected Natural Areas. All activities are consulted with the communities and written agreements are established for their implementation when the project begins.
Lands and Soil Conservation	The design and implementation of activities generate erosion and reduce the quality of soils in communal territories and protected areas.	Negligible (1)	Less likely (2)	2	<ul style="list-style-type: none"> All project activities are implemented under the approach of nature-based solutions. The design and implementation of activities ensure compliance with national standards and appropriate technical criteria.

D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan, in compliance with the ESP and the Gender Policy of the Adaptation Fund.

The Monitoring & Evaluation (M&E) Plan will be conducted in accordance with PROFONANPE standard procedures. The Results Framework defines execution indicators for project implementation as well as the respective means of verification. The monitoring and evaluating system for the Project will be established based on these indicators and means of verification. Monitoring activities will seek progress of processes and project milestones completion, while the evaluation will focus on the achievement of results and overall project impact based on the stated objective.

Monitoring and evaluation at the project level, including the day-to-day monitoring of project activities, will be the responsibility of the project coordinator, with support from the monitoring and evaluation specialist. Periodic monitoring of implementation progress will be undertaken by PROFONANPE through meetings with the project coordinator, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

Resources targeted for M&E are represented in a portion of the time of the Project Coordinator, Procurement specialist, administrative assistant and the technical staff from the participant institutions working in the various components, this is estimated at one quarter of their work time. Dissemination of project progress is part of the estimated communication and information dissemination plan. An external financial audit will be performed each year by a firm approved by PROFONANPE, which will be contracted by the Executing Agency and paid by the project.

The project will have a Project Implementation Plan (PIP) to support project management through a multi-year proposal for the execution of the entire project. The PIP is based on the results matrix and includes the activities and responsibilities throughout the project timeframe. A proposed Annual Operating Plan (AOP) will be developed at the middle of each year of project execution and approved by the PSC. A Project Initial Report will include a detailed description of first year's AOP execution, divided in quarterly sections, related budget, and progress indicators to guide the project implementation during the first year.

The M&E Plan.

MINAM and SERNANP will be part of the project's evaluation activities and will be informed of the progress of the monitoring process. Annual Progress Reports (APR), as well as the Mid-Term and Final Evaluations (including lessons learned and good practices) will be presented to the PSC, and shared with other relevant stakeholders (i.e. government, civil society and participating organizations or beneficiaries). In the APRs comparison between the baseline and the indicators will be carried out.

The monitoring system be based on a digital system and / or database that includes at least the following data:

Component or transverse element	Data
Component 1	<ul style="list-style-type: none"> • Mosaic • Protected Area • Type of administration of the ANP • Place • Type of site (watershed / ZA / Core Zone / Special Use Zone / community area) • Number of people participating differentiating men / women / young people • Type of practice: forest monitoring, hydrological monitoring • Dates or deadline in which the field activities were implemented (differentiating stages) • Contribution to NDC
Output 2.1	<ul style="list-style-type: none"> • Mosaic • Protected Area • Type of administration of the ANP • Place • Type of site (watershed / ZA / Core Zone / Special Use Zone / community area)

Component or transverse element	Data
	<ul style="list-style-type: none"> • Area of direct intervention (in hectares) • Area of indirect intervention (in hectares) • Peasant community or settlement • Number of people participating differentiating men / women / young people • Type of practice: conservation/ecological restoration/productive restoration (SAF, silvopastoral, agroecology, other) • Dates or deadline in which the field activities were implemented (differentiating stages) • Contribution to NDC
Component 3	<ul style="list-style-type: none"> • Mosaic • Protected Area • Type of administration of the ANP • Place • Peasant community or populated center • Number of people participating differentiating men / women / young people • Value chain • Adaptation measure promoted • Dates or deadline in which the field activities were implemented (differentiating stages) • Contribution to NDC
Participatory and capacity-building activities	<ul style="list-style-type: none"> • Type of activity • Place • Peasant community or populated center • Number of people participating differentiating men / women / young people • Type of audience • Beneficiary organizations • Year • Date • Theme • Component • Responsible institution • Collaborating institutions
Methodological instruments and/or tools, knowledge management products and communications	<ul style="list-style-type: none"> • Title • Type • Date • Year • Theme • Responsible institution • Collaborating institutions • Others (emphasis on gender, youth, etc.)

Initial evaluation

- The Project Inception Workshop (PIW) will be held within the first 2 months of project start-up with all stakeholders. The IW is crucial to build ownership of the project results and to plan the first-year annual operating plan. A fundamental objective of the IW will be to present the modalities of project implementation and execution, document mutual agreement for the proposed execution arrangements amongst stakeholders and assist the PCT to understand and take ownership of the project's goals and objectives. Another key objective of the IW will be the introduction of the PCT which will support the project during its implementation. An IW Report will be prepared and shared with participants to formalize the various agreements taken during the meeting.
- Within the first six months of the project, the Project Coordinator will also be responsible for consolidating all baseline information required for the indicators identified in the results framework.

Progress Monitoring

- Quarterly Reports will be prepared by the PCT and verified by the PROFONANPE.
- An Annual Progress Report (APR) will be prepared by the Project Coordinator and shared with all

stakeholders. The APRs will include progress against set goals, objectives and targets, lessons learned, risk management and detailed financial disbursements. APRs will be prepared to monitor progress made since project start and for the previous reporting period. The APRs will include, but are not limited to, the following:

- ✓ Progress made toward project objectives and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative); information related to product indicators will be collected mainly through documentation and records within institutional stakeholders, as well as through the review of meeting reports and agreements of the Steering Committee.
- ✓ Project outputs delivered per project Outcome (annual);
- ✓ Lessons learned/good practices;
- ✓ Annual expenditure reports;
- ✓ Risk management, and a critical assessment of project administration, coordination and execution
- ✓ Effectiveness of project and individual component design including progress in inter institutional coordination and execution.
- ✓ Government authorities, the PCT and/or Technical Assistant, and PROFONANPE staff will conduct regular field visits to project sites based on the agreed schedule in the project's Inception Report/Annual Operating Plan to assess first hand project progress.

Financial monitoring

The Project Coordinator Team will provide PROFONANPE with certified periodic financial statements, and with an Annual Audit of the financial statements relating to the status of fund's execution according to the established procedures set out in PROFONANPE's Operations Manual. PROFONANPE as the entity responsible for the management of resources granted by third parties, has zero tolerance policies for fraud, corruption, financial mismanagement, and any other form of malpractice as well as a policy on conflicts of interest. All policies in this regard can be consulted on the website, in the integrity and transparency section: <https://profonanpe.org.pe/integridad/>.

The audit will be conducted in accordance with PROFONANPE financial regulations and rules and applicable audit policies on PROFONANPE projects by a legally recognized auditor of the government of Peru, or by a commercial auditor engaged by the Government of Peru.

Final evaluation

- A final external evaluation will be conducted three months before project closure (three months before the project steering committee meets for the last time). The final evaluation will also look at the impact and sustainability of project results.

The budgeted M&E plan, which is included in the PEC costs, is presented in the following table, and the break-down of how Implementing Entity's fees will be utilized in the supervision of the M&E function is included in Part III, Section G.

#	Type of M&E activity	Responsible	Budget US\$	Time frame
1	Inception workshop and report	EA PROFONANPE Project Steering Committee	\$ 5,000	Within first two months of project start up in one of the pilot areas Report within one month of the IW
2	Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	Project Coordinator	None	Annually
3	Quarterly Reports	Project Coordinator (EA) PROFONANPE	None	Quarterly
4	Annual Progress Reports	PCT (EA) PROFONANPE	None	Within two months of the next year.

#	Type of M&E activity	Responsible	Budget US\$	Time frame
5	Meetings of the Project Steering Committee (PSC)	Project Coordinator (EA) PROFONANPE	None	
6	Late-term Workshop and report	PCT PSC PROFONANPE External consultants	\$ 7,500	Six months before the end of project implementation, in one of the pilot areas report within one month of the workshop
7	Final Report	PCT PROFONANPE	None	At least one month before the end of the project
8	Manual of environment and social safeguards implementation Training workshop aimed to PC and local partners	PCT PROFONANPE	\$ 20,000	
9	Monitoring Visits to Field Sites	PCT	\$ 20,000	To be determined annually by PCT
10	External Final evaluation	PROFONANPE	\$ 25,000	This expense is covered by the IE fee.
11	Audits	PROFONANPE	\$ 32,000	This expense is covered by the IE fee.
TOTAL				US\$ 109,500

E. Include a results framework for the project proposal, including milestones, targets and indicators, including one or more core outcome indicators of the Adaptation Fund Results Framework, and in compliance with the Gender Policy of the Adaptation Fund.

Project Strategy	Objectively Verifiable Indicators				
	Indicator	Baseline	Target	Means of Verification	Risks/Assumptions
GOAL: Contribute to increase the adaptive capacity of the productive systems of the Andean rural communities and to reduce the vulnerability of the Peruvian Andean ecosystems (Andean forests, Andean moor and Andean wetlands).	No. of risk-exposed Andean people	45,200 people	8,900 people	(See below)	(See below)
	No. of hectares conserved and/or under restoration process	321,120 ha degraded ⁵²	10,000 ha under restoration process		
COMPONENT 1: Development and implementation of monitoring system for Andean ecosystems	No. of integrated monitoring systems designed for Andean ecosystems	0	1	Document supporting the integrated monitoring system	(See below)
	No. of public officials trained in Andean ecosystem monitoring	0	60	List of participating in training courses	
	No. of local people trained in Andean ecosystem monitoring	0	60	List of participating in training courses	
	% of women trained in Andean ecosystem monitoring	0	30%	List of participating in training courses	
	% of young people trained in Andean ecosystem monitoring	0	30%	List of participating in training courses	

⁵² MINAM (2022): annual estimate of degradation at national level (<https://geoservidor.minam.gob.pe/monitoreo-y-evaluacion/restauracion-de-areas-degradadas/>)

Project Strategy		Objectively Verifiable Indicators				
		Indicator	Baseline	Target	Means of Verification	Risks/Assumptions
OUTCOME 1. Mapping and monitoring Andean ecosystems to support decision making at a national and subnational level.	OUTPUT 1.1. Monitoring tools to measure hydrological ecosystem services on Andean ecosystem implemented.	No. of PAs with plots installed for monitoring of water regulation in Andean ecosystems	1	6	Plots Reports of evaluation	SERNANP has no interest in installing monitoring plots.
	OUTPUT 1.2. Monitoring system of degradation and deforestation of Andean forests designed and piloted	MINAM's National Forest Conservation Program with operational monitoring system for Andean forests	0	1	Monitoring system	MINAM's PNCB has no interest in development monitoring system for Andean forests
COMPONENT 2: Implementation of best practices for landscape protection and restoration of Andean ecosystems in conservation mosaics.		No. of hectares under restoration process	321,120 ha degraded	10,000 ha under restoration process	SERNANP's Monitoring report	SERNANP does not have the capacity to carry out assessments of the state of ecosystems in PAs.
		No. of peasant communities / settlements that implement conservation and restoration practices.	0	2 PC 10 settlements	Agreements signed	Local population not interested in participating in the project
OUTCOME 2. Enhancing the resilience capacity of Andean ecosystems in three prioritized conservation mosaics.	OUTPUT 2.1. Rural communities implement conservation and restoration practices in degraded areas inside and outside (buffer zones) of	No. of peasant communities / settlements that implement conservation and restoration practices	0	2 PC 10 settlements	Agreements signed	Local population not interested in participating in the project
		No. of families directly involved in the project	0	100 families	List of participating	Local population not interested in participating in the project
		No. of persons directly involved in the project	0	500 persons		
		No. of women directly involved in the project	0	100 persons		

Project Strategy		Objectively Verifiable Indicators				
		Indicator	Baseline	Target	Means of Verification	Risks/Assumptions
	prioritized protected areas.	No. of young people directly involved in the project	0	100 young people		
	OUTPUT 2.2. Incorporation of the climate change adaptation and disaster risk reduction approach in planning instruments of three conservation mosaics of Andean ecosystems	SINANPE Director Plan with a climate change adaptation and disaster risk reduction approach incorporated	0	1	Proposal document supporting the incorporation of the approach in SINANPE's Director Plan.	SERNANP has no interest in incorporating the approach in SINANPE's Director Plan
	OUTPUT 2.3. Preliminary conditions prepared for the start of the "Natural Heritage Initiative of Peru – Andes", based on previously agreed upon conditions	No. of Andean ecosystem PAs included in the Natural Heritage Initiative of SERNANP	0	At least 6	Proposal document supporting the "Peru's Natural Heritage Initiative – Andes"	SERNANP and MINAM have no interest in extending the initiative to Andean ecosystems NGOs and Cooperation International have not interest to support a creation of Transition Fund for Andean ecosystem PAs
COMPONENT 3: Increasing resilience and sustainability of local productive systems in rural communities in Andean ecosystem landscapes.		No. of peasant communities / settlements that implement practices to improve the resilience of productive chains	0	2 PC 25 settlements	Agreements signed	Local population not interested in participating in the project
OUTCOME 3. Enhancing the resilience capacity of productive activities in rural communities of the	OUTPUT 3.1. Rural communities have productive technical capacities to reduce the vulnerability of	No. of families receiving technical assistance to reduce vulnerability in productive chains	0	100 families	List of participating	Local population not interested in participating in the project Municipalities and/or regional government not
		No. of women receiving technical assistance to reduce vulnerability in productive chains	0	150 woman		

Project Strategy		Objectively Verifiable Indicators				
		Indicator	Baseline	Target	Means of Verification	Risks/Assumptions
three prioritized conservation mosaics.	prioritized protected areas (buffer zone)	No. of young people receiving technical assistance to reduce vulnerability in productive chains	0	150 young people		interested in support the activities of the project National companies not interested in doing business with local producers/associations
		No. of local woman farmers/associations with business plans	0	3 woman associations	Agreements signed	
		No. of local young farmers/associations with business plans	0	3 young people associations		
	OUTPUT 3.2. Design, evaluation, and implementation of adaptation measures of productive chains linked to the market.	No. of production chains strengthened with market-linked adaptation measures	0	3 production chains	Agreements signed	

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

Project Objective(s) 53	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Increase the adaptive capacity of the productive systems of the Andean rural communities and to reduce the vulnerability of the Peruvian Andean ecosystems (Andean forests, Andean moor and Andean wetlands)	Number of hectares under restoration process	<u>Outcome 5:</u> Increased ecosystem resilience in response to climate change and variability-induced stress	<u>5. Natural Assets Protected or Rehabilitated</u>	1,614,084
Increase the adaptive capacity of the productive systems of the Andean rural communities and to reduce the vulnerability of the Peruvian Andean ecosystems (Andean forests, Andean moor and Andean wetlands)	Number of risk-exposed Andean communities protected through adaptation measures	<u>Outcome 6:</u> Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas.	<u>6.2. Number of beneficiaries including estimations for direct and indirect beneficiaries</u>	1,715,500
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
<u>Outcome 1</u> Mapping and monitoring Andean ecosystems to support decision making at a national and subnational level.	No. of integrated monitoring systems designed for Andean ecosystems. No. of PAs with plots installed for monitoring of water regulation in Andean ecosystems. MINAM's National Forest Conservation Program with operational monitoring system for Andean forests	<u>Output 5:</u> Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	693,000
<u>Outcome 2</u> Enhancing of the resilience capacity of Andean ecosystems in three prioritized conservation mosaics.	No. of hectares under restoration process No. of peasant communities / settlements that implement	<u>Output 5:</u> Vulnerable ecosystem services and natural resource assets strengthened in response to climate	5.1. No. of natural resource assets created, maintained or improved to withstand	1,614,084

⁵³ The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

	conservation and restoration practices.	change impacts, including variability	conditions resulting from climate variability and change (by type and scale)	
Outcome 3 Enhancing the resilience capacity of productive activities in rural communities of the three prioritized conservation mosaics.	No. of peasant communities / settlements that implement practices to improve the resilience of productive chains	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 (tangible and intangible) created or strengthened in support of individual or community livelihood strategies. 6.2.1. Type of income sources for households generated under climate change scenario	1,715,500

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

Detailed activities

Component/Outcome/Output Activities/Task		UNIT	QTY.	UNIT COST (USD)	TOTAL (USD)	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total Amount (USD)
Component 1. Development and implementation of monitoring system in Andean ecosystems										
Outcome 1. Mapping and monitoring of forests and other andean ecosystems to support decision making at a national and subnational level										
Output 1.1. Monitoring system of the climate change impact on Andean ecosystem implemented.										
Activity 1.1.1 Design of integrated monitoring system of Andean ecosystems	Integrated Monitoring System Design	National Consultant per Month	16	\$2,500	\$40,000	\$20,000	\$20,000	\$0	\$0	\$40,000
	Meetings Multisectorial Working Group	Meeting	12	\$250	\$3,000	\$1,500	\$1,500	\$0	\$0	\$3,000
	Peru-Colombia Workshop	Workshop (participant cost - travel, accomodation and subsistence; meeting conference room, buffet lunch; snack breaks; basic audio-visual equipment; water and coffee)	2	\$2,500	\$5,000	\$2,500	\$2,500	\$0	\$0	\$5,000
Activity 1.1.2 Installation and monitoring of hidrological monitoring plots	Identification of hydrological monitoring sites	Consultant per month	2	\$1,500	\$3,000	\$3,000	\$0	\$0	\$0	\$3,000
	Institutional arrangements for hydrological monitoring	Plot (technical assitant, flight, local travel, hotel, meals)	10	\$1,500	\$15,000	\$15,000	\$0	\$0	\$0	\$15,000

	Implementation of hydrological monitoring plots (1)	Plot (materials, equipment, technical assistant, local travel, hotel meals)	10	\$10,000	\$100,000	\$50,000	\$50,000	\$0	\$0	\$100,000
	Capacity building for local actors	Workshop per Plot (materials, meals)	10	\$800	\$8,000	\$4,000	\$4,000	\$0	\$0	\$8,000
	Technical assistant for iMHEA network Peru	Junior Consultant per Month	36	\$1,333	\$48,000	\$8,000	\$16,000	\$16,000	\$8,000	\$48,000
	National workshop iMHEA Peru	Workshop (participant cost - travel, accommodation and subsistence; meeting conference room, buffet lunch; snack breaks; basic audio-visual equipment; water and coffee)	4	\$5,000	\$20,000	\$5,000	\$5,000	\$5,000	\$5,000	\$20,000
	Downloading, quality control and data processing, operation and maintenance of monitoring sites	Plot (flight, local travel, hotel, meals, meetings, materials for equipment maintenance or replacement)	10	\$3,000	\$30,000	\$0	\$0	\$15,000	\$15,000	\$30,000
OP1.2 Monitoring system of degradation and deforestation of Andean forests designed and piloted.										
Activity 1.2.1 Conceptual design of the Andean Forests Module of the PNCB	Conceptual design - documentation of experience and Andean forest biophysical and geographic characterization	National Consultant per month	6	\$2,500	\$15,000	\$15,000	\$0	\$0	\$0	\$15,000
		Mosaic (flight, local travel, hotel, meals)	3	\$5,000	\$15,000	\$15,000	\$0	\$0	\$0	\$15,000

	National technical Workshop	Workshop (02 PNCB experts, flights, local travel, hotel, meals; meeting conference room, lunch; snack breaks; basic audio-visual equipment; water and coffee)	6	\$2,500	\$15,000	\$15,000	\$0	\$0	\$0	\$15,000
Activity 1.2.2 Design and operation of the Andean Forests Module of the PNCB	Review and development of technical aspects for mapping and monitoring.	Consulting (1 lead + 2 assistants x 2 month)	1	\$17,000	\$17,000	\$17,000	\$0	\$0	\$0	\$17,000
	Development of the methodology for the mapping of Andean forests.	Consulting (1 lead + 2 assistants x 3 month)	1	\$33,000	\$33,000	\$33,000	\$0	\$0	\$0	\$33,000
	Development of a Pilot for the elaboration of the Map of Andean forests.	Consulting (1 lead + 2 assistants x 2 month)	1	\$17,000	\$17,000	\$0	\$17,000	\$0	\$0	\$17,000
	Development of a Pilot for the Monitoring of Andean forests.	Consulting (1 lead + 2 assistants x 2 month)	1	\$17,000	\$17,000	\$0	\$17,000	\$0	\$0	\$17,000
	Identification of technological requirements and capacities for the insertion of forest mapping in the GEOBOSQUES platform.	Consulting (1 lead + 2 assistants x 3 month)	1	\$33,000	\$33,000	\$0	\$33,000	\$0	\$0	\$33,000
	Incorporation of Andean Forest Mapping and Monitoring information into GEOBOSQUES.	National Consultant x month	6	\$2,500	\$15,000	\$0	\$0	\$15,000	\$0	\$15,000
	Software for monitoring system -	Bidding	1	\$100,000	\$100,000	\$0	\$0	\$100,000	\$0	\$100,000

	PNCB: ArcGIS & ENVI software									
	Monitoring System Hardware - PNBC: Workstation / Laptop	Bidding	1	\$20,000	\$20,000	\$0	\$0	\$20,000	\$0	\$20,000
	Software and Hardware for pilot Regional Government	Software License, Workstation	1	\$33,000	\$33,000	\$0	\$0	\$33,000	\$0	\$33,000
	Technical support for pilot Regional Government	Consulting: 1 consultat x 6 month	1	\$11,000	\$11,000	\$0	\$0	\$11,000	\$0	\$11,000
Communication										
	Design communication material	Consulting (1 consultant x 4 month)	1	\$10,000	\$10,000	\$10,000	\$0	\$0	\$0	\$10,000
	Organization and development of 02 national events (start and close Project Event)	National Event	2	\$5,000	\$10,000	\$5,000	\$0	\$0	\$5,000	\$10,000
Knowledge Management										
Knowledge Management Products		Consulting per year (1 consultant x 4 month)	4	\$10,000	\$40,000	\$10,000	\$10,000	\$10,000	\$10,000	\$40,000
Taller de Incepción		Participant cost - travel, accomodation and subsistence; meeting conference room, buffet lunch; snack breaks; basic audio-visual equipment; water and coffee	1	\$5,000	\$5,000	\$5,000	\$0	\$0	\$0	\$5,000
Project Travel		Travel (flight, local travel, hotel, meals)	30	\$500	\$15,000	\$3,750	\$3,750	\$3,750	\$3,750	\$15,000
TOTAL COMPONENT 1						\$237,750	\$179,750	\$228,750	\$46,750	\$693,000
Component 2. Implementation of best practices for landscape protection and restoration of Andean ecosystems in conservation mosaics.										

Outcome 2. Enhancing of the resilience capacity of Andean ecosystems in three prioritized conservation mosaics.										
Output 2.1 Rural communities Implement conservation and restoration practices in degraded areas inside and outside (buffer zones) of prioritized protected natural areas.										
Activity 2.1.1 Implementation of protection, restauration and livestock management	Design of a financing strategy for restoration activities	Senior National Consultant x month	12	\$3,500	\$42,000	\$0	\$42,000	\$0	\$0	\$42,000
	GIS baseline of intervention areas	Consulting per PNA (1 consultant x 3 month)	7	\$6,000	\$42,000	\$42,000	\$0	\$0	\$0	\$42,000
	Diagnosis and management plan livestock and equine	Consulting per site (1 consultant x 4 month)	4	\$10,000	\$40,000	\$40,000	\$0	\$0	\$0	\$40,000
	Implementation of improved pasture plots	Plot	21	\$16,008	\$336,164	\$112,055	\$112,055	\$112,055	\$0	\$336,164
	Vet First Aid Kit	First Aid Kit	15	\$2,084	\$31,260	\$10,420	\$10,420	\$10,420	\$0	\$31,260
	Conservation agreements with Communities	Agreement	15	\$1,014	\$15,210	\$15,210	\$0	\$0	\$0	\$15,210
	Restauration training workshops	Workshop	210	\$1,042	\$218,820	\$72,940	\$72,940	\$72,940	\$0	\$218,820
	Restoration	Hectare	105	\$2,606	\$273,630	\$91,210	\$91,210	\$91,210	\$0	\$273,630
	Fuel por local movilization	Year	3	\$24,000	\$72,000	\$24,000	\$24,000	\$24,000	\$0	\$72,000
Output 2.2 Incorporation of the climate change adaptation and disaster risk reduction approach in planning instruments of three conservation mosaics of Andean ecosystems										
Activity 2.2.1 Conceptual design of functional landscape	National Consultant x month		12	\$2,500	\$30,000	\$15,000	\$15,000	\$0	\$0	\$30,000
	Travel of 1 international expert (flight,hotel, meals, local travel)		2	\$2,000	\$4,000	\$2,000	\$2,000	\$0	\$0	\$4,000

	Workshop (meeting conference room, buffet lunch; snack breaks; basic audio-visual equipment; water and coffee)	2	\$1,500	\$3,000	\$2,000	\$1,000	\$0	\$0	\$3,000
Activity 2.2.2 Design of instruments or methodological tools	Senior National Consultant x month	6	\$3,500	\$21,000	\$10,500	\$10,500	\$0	\$0	\$21,000
	Workshop (meeting conference room, buffet lunch; snack breaks; basic audio-visual equipment; water and coffee)	2	\$1,000	\$2,000	\$0	\$2,000	\$0	\$0	\$2,000
Activity 2.2.3 Incorporation in protected area planning documents	National Consultant x month	12	\$2,500	\$30,000	\$0	\$0	\$30,000	\$0	\$30,000
	Mosaic (national flight, local travel, hotel, meals, local workshop)	3	\$10,000	\$30,000	\$0	\$0	\$30,000	\$0	\$30,000
Output 2.3 Preliminary conditions prepared for the start of the “Natural Heritage Initiative of Peru – Andes”, based on previously agreed upon conditions									
Activity 2.3.1 Conceptual design	Senior National Consulting x month	4	\$3,500	\$14,000	\$0	\$14,000	\$0	\$0	\$14,000
Activity 2.3.2 Operational design	Senior National Consulting x month	8	\$3,500	\$28,000	\$0	\$28,000	\$0	\$0	\$28,000
	Mosaic (national flight, local travel, hotel, meals, local workshop, local interview)	3	\$10,000	\$30,000	\$0	\$30,000	\$0	\$0	\$30,000

Activity 2.3.3 Financial structuring of the Transition Fund	Senior National Consulting x month	6	\$3,500	\$21,000	\$0	\$0	\$21,000	\$0	\$21,000
	Senior International Consulting x month	4	\$5,000	\$20,000	\$0	\$0	\$20,000	\$0	\$20,000
	Travel of 1 international expert (flight, hotel, meals, local travel)	2	\$2,000	\$4,000	\$0	\$0	\$4,000	\$0	\$4,000
	Workshop (meeting conference room, buffet lunch; snack breaks; basic audio-visual equipment; water and coffee)	2	\$1,500	\$3,000	\$0	\$0	\$3,000	\$0	\$3,000
	International meeting to Brasil, Colombia, Mexico (2 persons: flight, local travel, hotel, meals)	6	\$3,000	\$18,000	\$0	\$0	\$18,000	\$0	\$18,000
Activity 2.3.4 Create of the Trust Fund	Design of a leveraged fund strategy	1	\$23,000	\$23,000	\$0	\$0	\$23,000	\$0	\$23,000
	Senior National Consultant x month	12	\$3,500	\$42,000	\$0	\$0	\$21,000	\$21,000	\$42,000

	National Meeting (meeting conference room, buffet lunch; snack breaks; basic audio-visual equipment; water and coffee)	3	\$5,000	\$15,000	\$0	\$0	\$0	\$15,000	\$15,000	
Communication										
Local communicator	Mosaic (assistant x 42 month)	3	\$20,000	\$60,000	\$17,143	\$17,143	\$17,143	\$8,571	\$60,000	
Communication material/products	Mosaic (editing & diagraming and printing)	3	\$20,000	\$60,000	\$15,000	\$15,000	\$15,000	\$15,000	\$60,000	
Knowledge Management										
Knowledge Management Products	Consulting per mosaic (consultant x 3 month & edition and diagraming)	3	\$15,000	\$45,000	\$0	\$15,000	\$15,000	\$15,000	\$45,000	
Project Travel	Travel (flight, local travel, hotel, meals)	40	\$1,000	\$40,000	\$10,000	\$10,000	\$10,000	\$10,000	\$40,000	
TOTAL COMPONENT 2					\$479,477	\$512,267	\$537,767	\$84,571	\$1,614,084	
Component 3. Increasing resilience and sustainability of local productive systems in rural communities in landscapes of Andean ecosystems.										
Outcome 3 Enhancing the resilience capacity of productive activities in rural communities of the three prioritized conservation mosaics.										
Output 3.1 Rural communities have productive technical capacities to reduce the vulnerability of prioritized protected areas (buffer zone)										
Activity 3.1.1 Diagnosis of MIDAGRI / PRODUCE / MIDIS training offer/services	National Consultant x month	3	\$2,500	\$7,500	\$7,500	\$0	\$0	\$0	\$7,500	
Activity 3.1.2 Diagnosis of training needs (local population and municipalities)	Consultants x month (1 national lead + 3 local consultant)	5	\$8,000	\$40,000	\$40,000	\$0	\$0	\$0	\$40,000	

	Mosaic (national flight, local travel, hotel, meals, local meetings / workshop / interview)	3	\$10,000	\$30,000	\$30,000	\$0	\$0	\$0	\$30,000
Activity 3.1.3 Edition and diagramation of training material (spanish / quechua)	National Consultant x month	3	\$2,500	\$7,500	\$7,500	\$0	\$0	\$0	\$7,500
	Bedding: edition and diagramation	1	\$10,000	\$10,000	\$10,000	\$0	\$0	\$0	\$10,000
	Bedding: printing and distribution	1	\$37,750	\$37,750	\$0	\$37,750	\$0	\$0	\$37,750
Activity 3.1.4 Training of municipal promoters	National Consultant x month	6	\$2,500	\$15,000	\$0	\$15,000	\$0	\$0	\$15,000
	Mosaic (national flight, local travel, hotel, meals, local meetings / workshop / interview)	3	\$12,000	\$36,000	\$0	\$36,000	\$0	\$0	\$36,000
Activity 3.1.5 Implementation of EbA and NbP measure per moisa: sustainable grassland management (for livestock and equine cattle), integrated soil fertility management, irrigation management, and crop diversification	North Mosaic	1	\$200,000	\$200,000	\$0	\$133,333	\$66,667	\$0	\$200,000
	Center Mosaic	1	\$200,000	\$200,000	\$0	\$133,333	\$66,667	\$0	\$200,000
	South Mosaic	1	\$200,000	\$200,000	\$0	\$133,333	\$66,667	\$0	\$200,000
Output 3.2 Design, evaluation, and implementation of adaptation measures of productive chains linked to the market.									
Activity 3.2.1 Diagnostics of productive activities: including (i) economic analysis; (ii) identification of articulation/demand opportunities for chain prioritization; (iii) identification of productive reconversion opportunities including economic analysis (ecobusiness and R+I+D promotion); (iv) Identification and implementation of opportunities for Associativity; (v) identification of public financing (MIDAGRI	Consultants x month (1 national lead + 3 local consultant)	6	\$8,000	\$48,000	\$48,000	\$0	\$0	\$0	\$48,000
	Mosaic (local travel, hotel, meals, local meetings / workshop)	3	\$12,000	\$36,000	\$36,000	\$0	\$0	\$0	\$36,000

and/or PRODUCE and/or MIDIS programs)										
Activity 3.2.2 Diagnosis of training needs (local population and municipalities)		Consultants x month (1 national lead + 3 local consultant)	3	\$8,000	\$24,000	\$24,000	\$0	\$0	\$0	\$24,000
		Mosaic (local travel, hotel, meals, local meetings / workshop)	3	\$10,000	\$30,000	\$30,000	\$0	\$0	\$0	\$30,000
Activity 3.2.3 Edition and diagramation of training material (spanish / quechua)		National Consultant x month	3	\$2,500	\$7,500	\$7,500	\$0	\$0	\$0	\$7,500
		Bedding: edition and diagramation	1	\$10,000	\$10,000	\$10,000	\$0	\$0	\$0	\$10,000
		Bedding: printing and distribution	1	\$37,750	\$37,750	\$0	\$37,750	\$0	\$0	\$37,750
Activity 3.2.4 Implementation of adaptation measures	Sustainable livestock and/or guinea pig breeding and/or local biogardens	North Mosaic	1	\$148,000	\$148,000	\$0	\$98,667	\$49,333	\$0	\$148,000
	Sustainable livestock and/or guinea pig breeding and/or cultivation of native tubers	Center Mosaic	1	\$148,000	\$148,000	\$0	\$98,667	\$49,333	\$0	\$148,000
	Sustainable agriculture and/or ecotourism	South Mosaic	1	\$148,000	\$148,000	\$0	\$98,667	\$49,333	\$0	\$148,000
Communication										

Local communicator	Mosaic (assistant x 42 month)	3	\$20,000	\$60,000	\$17,143	\$17,143	\$17,143	\$8,571	\$60,000
Design and implementation of communication strategy	Consulting	1	\$17,000	\$17,000	\$0	\$17,000	\$0	\$0	\$17,000
Communication material/products	Mosaic (editing & diagraming and priting)	3	\$35,000	\$105,000	\$26,250	\$26,250	\$26,250	\$26,250	\$105,000
Knowledge Management									
Knowledge Management Products	Consulting per mosaic (consultant x 3 month & edition and diagraming)	3	\$20,000	\$60,000	\$15,000	\$15,000	\$15,000	\$15,000	\$60,000
Desing of Manual of environment and social safeguards	Consulting (includes all cost)	1	\$20,000	\$20,000	\$20,000	\$0	\$0	\$0	\$20,000
Final project workshop	Participant cost - travel, accomodation and subsistence; meeting conference room, buffet lunch; snack breaks; basic audio-visual equipment; water and coffee	1	\$7,500	\$7,500	\$0	\$0	\$0	\$7,500	\$7,500
Project Travel	Travel (flight, local travel, hotel, meals)	50	\$500	\$25,000	\$6,250	\$6,250	\$6,250	\$6,250	\$25,000
TOTAL COMPONENT 3					\$	\$	\$	\$	\$
					335,143	904,143	412,643	63,571	1,715,500
Project Activities Cost (PAC)					\$	\$	\$	\$	\$
					1,052,370	1,596,160	1,179,160	194,893	4,022,584
Project Execution Cost (PEC 9.5%)					\$	\$	\$	\$	\$
					109,176	109,176	109,176	54,588	382,116
Implementing Entity Fees (8.5 %)					\$	\$	\$	\$	\$
					73,648	142,317	109,826	16,129	341,920
Total Finance Request					\$	\$	\$	\$	\$
					1,235,194	1,847,653	1,398,162	265,610	4,746,620

Budget Notes

1. Consultant rates
 - Local consultant = \$800 per month (50%)
 - Junior national consultant = \$1300 per month
 - National consultant = \$2500 per month
 - Senior national consultant = \$3500 per month
 - Senior international consultant = \$5000 per month

2. Workshop
 - Local workshop: include lunch and/or breaks, office material and/or basic audio-visual equipment
 - National workshop: include flight/bus to participant, hotel, meal, meeting conference room, lunch, breaks; basic audio-visual equipment.

3. Implementation of hydrological monitoring plot
 - Flight Lima – PNA - Lima, local travel, hotel, meals.
 - Building materials: cement, wood, etc.
 - Equipment: Arduino & flow meter, rain sensor, etc.
 - Meals for local support
 - Compliance with ESMP (to the design and implementation of hydrological monitoring plots).

4. Software and Hardware for PNCB and Regional Government
 - Acquisition of Arc GIS and ENVI software and license for PNCB and Regional Government
 - Acquisition of Workstation and laptop to PNCB and Regional Government

5. Implementation of protection and restoration actions:
 - Technical assistance service for local partner organizations in each of the mosaics, for the implementation of field actions. Include fuel and maintenance for 4x4 trucks
 - Conservation agreements with the communities: meetings to elaborate a detailed work plan, establish agreements for the implementation of activities (restoration and economic), prioritization of restoration areas, focal points in the community for coordination, and to inform about the grievance mechanism.
 - Training workshops for restoration: delimitation and prioritization of areas to be restored or protected, acquisitions of materials for seedling production, replanting of pastures, and conservation of wetlands.
 - Restoration: acquisition and transportation of mesh and wooden posts to prevent the entry of livestock, transportation of seedlings to planting sites, reseedling of grasslands, feeding for communal work.
 - Improved pasture plots: acquisition of improved grass seeds, materials for the plot (irrigation hose, sprinkler, mesh, posts, etc.), feeding for communal work

- Compliance with ESMP (to establish agreement with communities, and to the design and implementation of restoration activities)
6. Field work for diagnostics, agreements, training, etc., included in activities carried out by national consultants
- Includes domestic flights from Lima to the project intervention sites of the consultants, PNCB staff or iMHEA network, local transportation within the city and to the communities, lodging, and meals. It also includes lunch and/or refreshments for local people, authorities (local, municipal or regional) or technicians participating in workshops or work meetings.
 - The amount of money has been considered per intervention area (conservation mosaic) and involves moving around several sites at different distances from each other.
 - Compliance with ESMP (to consult with local population)
7. Implementation of good practices to reduce vulnerability of production chains
- The budget is distributed in similar amounts for each intervention zone.
 - Practices to be implemented include: the sustainable grassland management (for livestock and equine cattle), integrated soil fertility management, irrigation management (efficient irrigation systems or construction of qochas), and crop diversification (agrobiodiversity conservation).
 - The investment for each practice will be defined at the beginning of the project in coordination with the local population.
 - Compliance with ESMP (to consult with local population and to the design and implementation of activities)
8. Implementation of adaptation measures to prioritized chains
- The budget is distributed in similar amounts for each intervention zone.
 - Practices to be implemented include: (a) livestock management (semi-stabling, sanitary management, use of improved pastures, henification, use of organic feed supplements and complements, and value added - transformation); (b) crop management (conservation agriculture, bio-gardens, exchange of potato varieties and other crops used in the area resistant to climate change conditions, and value added - transformation); and (c) land use planning and exchange of good practices among producers.
 - The investment for each practice will be defined at the beginning of the project in coordination with the local population.
 - Compliance with ESMP (to consult with local population and to the design and implementation of activities)
9. Communication products and/or training materials
- Texts and graphic design ideas for the communication materials are created by a communications assistant. Subsequently, a graphic designer and editor are hired for the final elaboration of the product. Finally, translation and printing of the materials are contracted.
 - Texts of the training materials are elaborated by technical experts. Subsequently, a designer and graphic editor are contracted for the final elaboration of the product. Finally, translation and printing of the materials are contracted.
 - The budget is distributed in similar amounts for each intervention zone.

Implementing Entity management fee use

The following table presents the breakdown of the expenses that will be covered by the costs of the Implementing Entity with respect to M&E functions.

Description	Profonanpe services	Estimated Cost of Profonanpe Services (USD)	%
Development and Preparation	<ul style="list-style-type: none"> • Provide technical support for Project preparation. • Detailed screening against technical, financial, social and risk criteria. • Assist in the determination of Implementation Arrangements and negotiation with other sectors. • Assist in verifying complementarity with other projects. • Verify quality of preparation. • Obtain clearances from Adaptation Fund • Respond to information requests, arrange revisions, etc. 	\$ 17,096	5
Implementation and Supervision	<ul style="list-style-type: none"> • Provide technical and operational support for Project team. • Technical support in preparing TORs and verifying expertise for technical positions. • Regular reporting. • Verify technical validity of all reports. • Support and follow-up to project procurements • Project financial follow-up • Carry-out supervision missions and field visits. • Receipt, allocation and reporting to the AF of financial resources. • Oversight and monitoring of AF funds. • Participate as necessary during Project activities. • External Final evaluation • Audits 	\$ 256,440	75
Final Evaluation and Closing	<ul style="list-style-type: none"> • Undertake technical analysis, validate results and compile lessons. • Disseminate technical findings. • Support and follow-up to project procurements. • Project financial follow-up. • Final evaluation and Implementation Completion and Results Report. 	\$ 68,384	20
TOTAL		\$ 341,920	100

Execution costs

Item	UNIT	QTY.	UNIT COST	TOTAL	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total Amount (USD)
Project Coordinator (60%)	Month	42	\$ 4,555	\$ 114,786	\$ 32,796	\$ 32,796	\$ 32,796	\$ 16,398	\$ 114,786
Technical Coordinator (70%)	Month	42	\$ 3,500	\$ 102,900	\$ 29,400	\$ 29,400	\$ 29,400	\$ 14,700	\$ 102,900
M&E Assitant (12%)	Month	42	\$ 3,500	\$ 17,640	\$ 5,040	\$ 5,040	\$ 5,040	\$ 2,520	\$ 17,640
Administrative /Accounting (60%)	Month	42	\$ 3,500	\$ 88,200	\$ 25,200	\$ 25,200	\$ 25,200	\$ 12,600	\$ 88,200
Technical Advisor (50%)	Month	42	\$ 911	\$ 19,110	\$ 5,460	\$ 5,460	\$ 5,460	\$ 2,730	\$ 19,110
Office (rent, material, running cost, bank costs)	Month	42	\$ 940	\$ 39,480	\$ 11,280	\$ 11,280	\$ 11,280	\$ 5,640	\$ 39,480

TOTAL	\$ 382,116	\$109,176	\$109,176	\$109,176	\$ 54,588	\$ 382,116
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H. Include a disbursement schedule with time-bound milestones.

Item	Upon signature of Agreement*	One Year after Project Start**	Year 3	Year 4	Total
Schedule d date	August 24	August 25	August 26	August 27	
Project Funds	\$ 1,161,546	\$ 1,705,336	\$ 1,288,336	\$ 249,481	\$ 4,404,700
Implementing Entity Fees	\$ 73,648	\$ 142,317	\$ 109,826	\$ 16,129	\$ 341,920
Total	\$ 1,235,194	\$ 1,847,653	\$ 1,398,162	\$ 265,610	\$ 4,746,620

* Use projected start date to approximate first year disbursement

** Subsequent dates will follow the year anniversary of project start

Item	Year 1	Year 2	Year 3	Year 4
Disbursement	1st disbursement – upon agreement signature	2nd disbursement – One Year after project start ▪ Upon First Annual Report Upon financial report indicating disbursement of at least 70% of funds	3rd disbursement - Two years after project start ▪ Upon Second Annual Report Upon financial report indicating disbursement of at least 70% of funds	4th disbursement – Third Year after Project Start ▪ Upon Third Annual Report Upon financial report indicating disbursement of at least 70% of funds
Milestone (by end of the year)	<ul style="list-style-type: none"> • Installation and monitoring of hydrological monitoring plots- 25% • Conceptual design of the Andean Forests Module of the PNCB – 25% • Design and operation of the Andean Forests Module of the PNCB – 0% • Conservation and Restoration Practices – 25% • PdP Andes – 20% • Good practices to reduce vulnerability of productive activities – 20% • Production chains linked to sustainable markets – 20% 	<ul style="list-style-type: none"> • Installation and monitoring of hydrological monitoring plots- 50% • Conceptual design of the Andean Forests Module of the PNCB – 100% • Design and operation of the Andean Forests Module of the PNCB – 50% • Conservation and Restoration Practices – 50% • PdP Andes – 50% • Good practices to reduce vulnerability of productive activities – 50% • Production chains linked to sustainable markets – 50% 	<ul style="list-style-type: none"> • Installation and monitoring of hydrological monitoring plots- 100% • Design and operation of the Andean Forests Module of the PNCB – 75% • Conservation and Restoration Practices – 75% • PdP Andes – 100% • Good practices to reduce vulnerability of productive activities – 80% • Production chains linked to sustainable markets – 80% 	<ul style="list-style-type: none"> • Design and operation of the Andean Forests Module of the PNCB – 100% • Conservation and Restoration Practices – 100% • Good practices to reduce vulnerability of productive activities – 100% • Production chains linked to sustainable markets – 100%

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

A. Record of endorsement on behalf of the government⁵⁴⁵⁵

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

<i>Name: Berioska Quispe Estrada Position: General Director of Climate Change and Desertification Ministry: Ministry of the Environment of Peru</i>	<i>Date: 08,08,2024</i>
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⁵⁴ 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.

⁵⁵ 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.

B. Implementing Entity certification

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

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (.....list here.....) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.



Name & Signature: Anton Willems Delanoy
Implementing Entity Coordinator

Date: (08, 08, 2024)

Tel.: (511) 218 1097

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