Ayninacuy Project Final Evaluation Report

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Acronym List

ANP	Área Natural Protegida / Protected Natural Area
ARMA	Autoridad Regional Ambiental del Gobierno Regional de Arequipa / Regional Environmental Authority of the Regional Government of Arequipa
IDB	Inter-American Development Bank
CAF	Development Bank of Latin America
UNFCCC	United Nations Framework Convention on Climate Change
CONDESAN	Consorcio para el Desarrollo Sostenible de la Ecorregión Andina / Consortium for the Sustainable Development of the Andean Ecoregion
COPASA	Cooperación para el Proceso de Autodesarrollo Sostenible de Arequipa / Cooperation for the Sustainable Development Process of Arequipa
ENCC	Estrategia Nacional ante el Cambio Climático / National Strategy on Climate Change
AF	Adaptation Fund
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GORE Arequipa	Gobierno Regional de Arequipa / Regional Government of Arequipa
IPCC	Intergovernmental Panel on Climate Change
M&E	Monitoring & Evaluation
MINAM	Ministerio del Ambiente del Perú / Ministry of Environment of Peru
NDC	Nationally Determined Contributions
PLANAA	Plan Nacional de Acción Ambiental / National Environmental Action Plan
PPR	Project Performance Report
REAPERU	Ramírez Enríquez y Asociados
RIE	Entidad Implementadora Regional / Regional Implementing Entity
RNSAB	Reserva Nacional de Salinas y Aguada Blanca / Salinas and Aguada Blanca National Reserve
RPSCC	Reserva Paisajística Subcuenca de Cotahuasi / Cotahuasi Sub-basin Landscape Reserve
SAT	Sistema de Alerta Temprana / Early Warning System
GIAHS	Globally Important Agricultural Heritage Systems
USD	Dollar of the United States of America

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Executive Summary

1. This report is the final evaluation of the AYNINACUY Project: "Strengthening the livelihoods of vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru" which was executed over 33 months by Cooperation for the Sustainable Development Process of Arequipa (COPASA) and the Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN); it was implemented by the Development Bank of Latin America (CAF), and funded through a grant by the Adaptation Fund (AF) in the amount of USD 2,941,446.00.

2. This report is divided in eight sections: project description; objectives and methodology of evaluation; evaluation of outcomes; evaluation of risks to sustainability; processes influencing achievement of outcomes; project contribution to achieving the Adaptation Fund targets, objectives and impact; evaluation of M&E systems; and conclusions, lessons learned and recommendations.

3. The objective of this project was to develop a comprehensive strategy to strengthen alpaca breeding for fiber production, reducing their vulnerability and increasing the adaptive capacity of the highland Andean peasant communities in the provinces of Arequipa, Caylloma, Castilla, La Union and Condesuyos to respond to the impacts of climate change.

4. The final evaluation process started in April 2022. It involved the review of project documents and deliverables and in-person interviews with key actors. The main findings of the evaluation are summarized below:

- Relevance: Satisfactory. Project outcomes are aligned to the FA objectives and climate change adaptation priorities identified at the national level. However, although the project outcomes were aligned to the adaptation priorities of the region of Arequipa stipulated in the ERCC 2008-2018, their alignment to the priorities defined in the ERCC 2019-2030 is indirect in nature.
- Effectiveness: Satisfactory. Although the impact of COVID-19, among other barriers, was present during a significant part of its execution, the project succeeded in meeting its goals under Component 1 in a highly satisfactory manner. However, activities related to capacity-strengthening (Component 2) had to be suspended due to sanitary restrictions, and this was reflected in the final percentage of beneficiaries.
- Efficiency: Satisfactory. Despite the different challenges the project had to face, including the effects of the COVID-19 pandemic during most part of its execution period, 81.05% of the budget was successfully executed, and a portion of the project's goals was achieved in a highly satisfactory manner (mainly in Component 1). However, budget execution in Component 2 was moderately satisfactory, due to the suspension of activities related to capacity strengthening as a result of sanitary restrictions. This was in line with the effectiveness analysis.
- Financial and economic risks: It is likely that the project outcomes will continue, on account of a series of initiatives implemented in the last year that follow and multiply the climate change adaptation actions carried out by AYNINACUY.

- Socio-political risks: It is moderately likely that the project outcomes will continue, because, although the project has developed the capacities of the community and local government officials, the country is currently facing a political crisis that has a social impact on the most vulnerable population.
- Institutional and governance risks: The project outcomes are likely to continue, given that Peru has a strong institutional framework for matters related to climate change adaptation. In addition to this, the useful knowledge generated by the AYNINACUY Project can be applied to the design and execution of future climate change adaptation projects, both in Arequipa and in other highland Andean regions of the country.
- Environmental risks: The project outcomes are moderately likely to continue, on the basis that, although the environmental risks associated to climate change for the area of intervention are still uncertain and require localized vulnerability analyses, there are instruments at national and local level aligned to the objectives of the project.

5. The evaluation of M&E systems of the AYNINACUY Project is satisfactory according to the different dimensions used to analyze this criterion. Although the project did not have a document detailing the M&E plan, the Project Performance Reports (PPR) were used as basis. These reports are required annually by AF, but they were prepared on a quarterly basis to have updated information on the project's progress, which allowed to make decisions to improve performance.

6. The overall rating for the project, according to the Guidelines for AF Project Final Evaluations, is "satisfactory".

1. Project Description

The AYNINACUY Project: "Strengthening the livelihoods of vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru" was executed over 33 months by Cooperation for the Sustainable Development Process of Arequipa (COPASA) and the Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN). It was implemented by the Development Bank of Latin America (CAF), and funded through a grant by the Adaptation Fund (AF) in the amount of USD 2,941,446.00 (Table 1).

Table 1. General project information

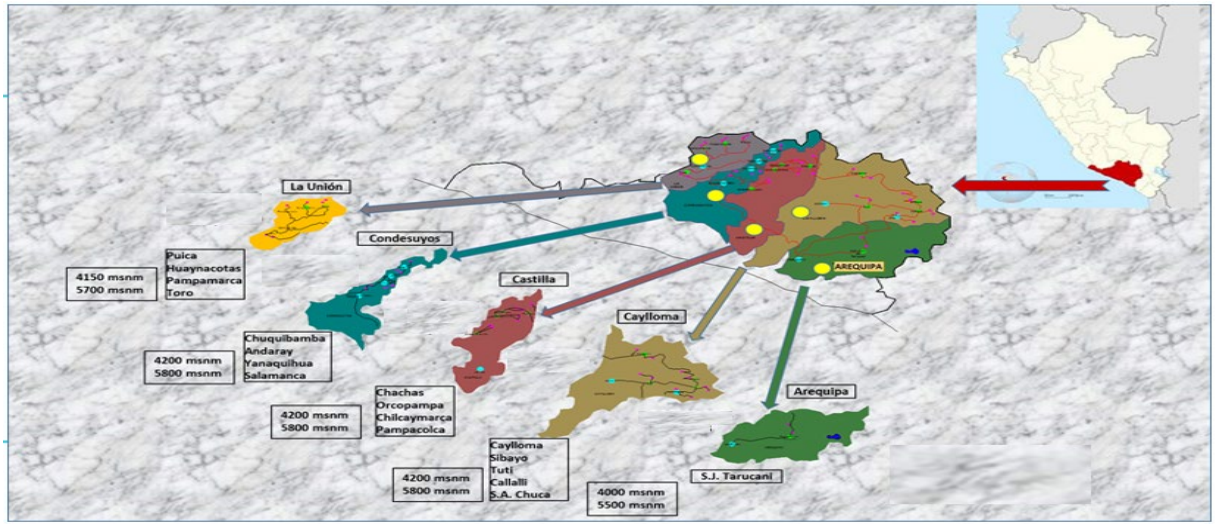
Project ID in the Adaptation Fund	PER/RIE/Rural/2015/1
Project/Programme Title	AYNINACUY: Strengthening the livelihoods of vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru
Project/Programme Category	Regular Project
Country	Peru
Sector	Rural Development
Name of Implementing Entity	Development Bank of Latin America (CAF)

Type of Executing Entity (MIE, NIE or RIE)	Regional Implementing Entity (RIE)
Executing Entities	Technical Executing Entity: Cooperation for the Sustainable Development Process of Arequipa (COPASA) Administrative Executing Entity: Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN)
Amount of Financing Approved (USD)	USD 2,941,446.00
Date of Approval by AF	March 17, 2017
Project Start Date	October 15, 2018
Original Closing Date	April 15, 2021
Closing Date Extension	July 15, 2021

Source: Prepared by the authors on the basis of the AYNINACUY Completion Report (CAF, 2022).

The objective of this project was to develop a comprehensive strategy to strengthen alpaca breeding for fiber production, reducing their vulnerability and increasing the adaptive capacity of the highland Andean peasant communities in the provinces of Arequipa, Caylloma, Castilla, La Union and Condesuyos (Figure 1) to respond to the impacts of climate change. As these communities are almost exclusively dependent on alpaca fiber production, the project seeks to promote breeding and improve fiber production, in addition to providing access to drinking water and housing in the fiber-producing communities who live in extreme poverty. The project included the implementation of modules as part of the early warning system (SAT), improvement to dams and canals to optimize water use and expand wetlands in highland Andean areas, rebuilding of latrines to improve sanitary conditions and reduce the mortality of pregnant alpacas and newborn offspring, installation of protective fences, and cultivation of pastures for feeding.

Figure 1. Location of the AYNINACUY Project's beneficiary communities



Source: COPASA, 2019 quoted in CAF, 2022.
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The need for this project derived from the fact that the breeding of alpacas in vulnerable highland Andean communities in Peru has been seriously affected by climate change. To face the effects of climate change and achieve its goal, the project had two components:

a. **Implementation of measures to strengthen livelihoods and income sources in peasant communities in the areas of intervention**, which included activities organized by axis—animal protection and health, water management, and protection of human health.

b. **Strengthening and development of community and institutional capacities to reduce climate-related risks**, which included activities organized by axis—governance, management of risk and climate change, strengthening of capacities and gender approach.

Budget information per project component is detailed in Table 2.

Table 2. Project components and funding (USD)

Component Name	Original Budget (2016)	Revised Budget (2019)	Executed Cost (2021)	Absolute Variance	Percent Variance
COMPONENT 1: Implementation of measures to strengthen livelihoods and income sources in peasant communities in the areas of intervention	2,140,300.00	2,091,746.46	1,839,481.62	-48,553.54	-2.26%
COMPONENT 2: Strengthening and development of community and institutional capacities to reduce climate-related risks	330,061.00	246,006.32	116,969.71	-84,054.68	-25.46%
Unforeseen Events		126,303.75			
Indirect Costs (Professional Services, Tickets and Per Diems, Visibility and Dissemination, Transport and Monitoring, Environmental Management Evaluation)	253,200.00	259,504.47	251,116.53	+6,304.47	+2.48%
TOTAL	2,723,561.00	2,723,561.00	2,207,567.86	0	0%

Source: Prepared by the authors on the basis of the AYNINACUY Completion Report (CAF, 2022).

2. Objectives and Methodology of Evaluation

This document represents the "Final Evaluation Report" of the AYNINACUY Project: "Strengthening the livelihoods of vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru", which was funded by non-reimbursable AF funds. As part of the commitments undertaken under the project with AF, a project evaluation must be performed by an Independent External Evaluator at the end of the execution period.

This evaluation encompasses the period between October 2018 and July 2021, dates on which the execution was started and completed, respectively. Taking into account the minimum requirements specified in the Guidelines for AF Project Final Evaluations[1], the objectives of this report include:

- Evaluation of achievement of project outcomes, with particular consideration of achievements related to the proposed adaptation measures,
- Evaluation of risks to sustainability of project outcomes at project completion and progress towards impacts,
- Evaluation of processes influencing achievement of project outcomes, including preparation, country ownership, stakeholder involvement, financial management, supervision and backstopping of the AF implementing entity, and project start-up and implementation delays,
- Evaluation of contribution of project achievements to the AF goal, impact and objectives,
- Evaluation of the implemented Monitoring and Evaluation systems.

Annex 1 provides a project evaluation matrix detailing all evaluation components, information sources, and data gathering and analysis methodology. Project evaluation is largely based on existing secondary information, contained specifically in the documents developed within the Project:

- AYNINACUY Project Proposal: Strengthening the livelihoods of vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru,
- First Annual Project Performance Report (PPR) dated October 15, 2018 - October 15, 2019,
- Second Annual Project Performance Report (PPR) dated October 16, 2019 - October 15, 2020,
- Third Annual Project Performance Report (PPR) III dated October 16, 2020 - October 15, 2021,
- Quarterly Project Performance Reports,
- Environmental and social management evaluation reports,
- AYNINACUY Project: Strengthening the livelihoods of vulnerable highland communities in the provinces of Arequipa, Caylloma, Condesuyos, Castilla and La Union in the Region of Arequipa, Peru - Closure Report
- AYNINACUY Project - Lessons Learned Systematization Report,
- Audit report on the project's income statement.

Moreover, the evaluation is complemented with primary information sources, which included in-person interviews with beneficiaries, authorities and the technical executing entity.

3. Evaluation of Outcomes

3.1. Relevance

According to the Guidelines for AF Project Final Evaluations, a project is relevant provided that its objectives and outcomes are consistent with the AF objectives, and the priorities of the country and region where the project is implemented (Adaptation Fund, 2011). The project's relevance on the basis of these criteria is analyzed below:

[1] Available at: https://www.adaptation-fund.org/document/guidelines-for-projectprogramme-final-evaluations/

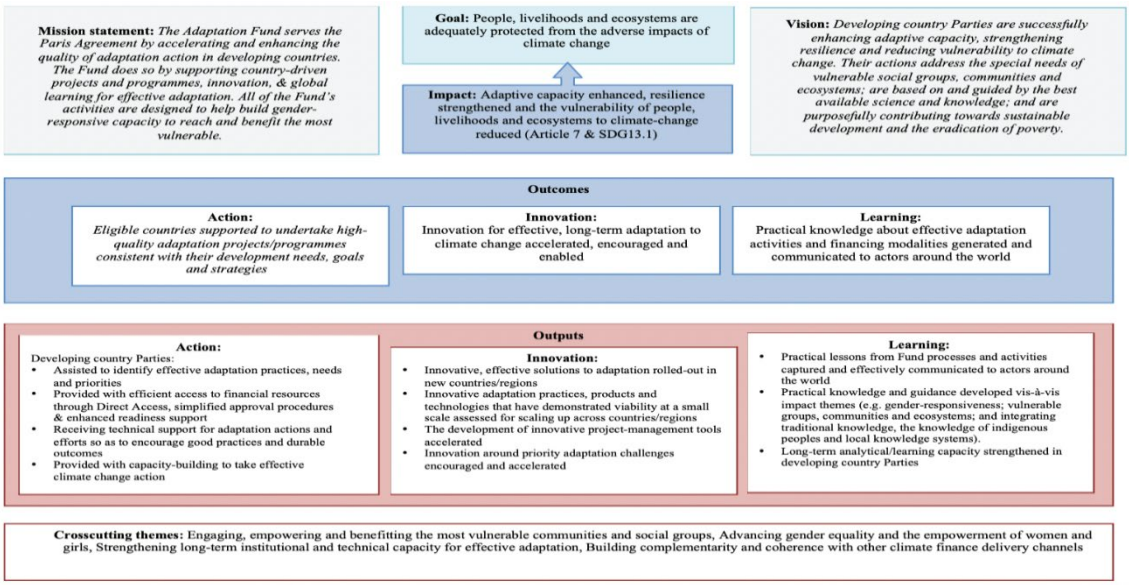
The relevance of the AYNINACUY Project is **satisfactory** according to the different approaches used to analyze this criterion, including the alignment of project outcomes to the FA objectives and climate change adaptation priorities identified at the national level. However, although the project outcomes were aligned to the adaptation priorities of the region of Arequipa stipulated in the ERCC 2008-2018, their alignment to the priorities defined in the ERCC 2019-2030 is indirect in nature. The AYNINACUY Project is aligned to the general objective of the new ERCC concerning the reduction of climate-induced damage and losses suffered by the population and their livelihoods, but the ERCC does not directly include cattle-raising as part of its priority guidelines. Therefore, the AYNINACUY Project is crucial for the highland Andean peasant communities in the provinces of Arequipa, Caylloma, Castilla, La Union and Condesuyos, as it strengthens alpaca breeding for fiber production, reducing their vulnerability and increasing their adaptive capacity to respond to climate change.

3.1.1. Alignment of Project Outcomes to the Adaptation Fund Objectives

The AF objective is to contribute to the implementation of adaptation measures in developing countries particularly vulnerable to the effects of climate change, in order to increase their resilience and reduce their vulnerability. Part of the AF objectives aim at involving and empowering the most vulnerable population groups, placing special emphasis on the importance of the gender-approach in AF-funded projects (Figure 2).

The AYNINACUY Project implemented in Peru aligns to the AF objectives and contributes to the reduction of vulnerability in highland Andean populations and the increase of their livelihoods resilience. Moreover, the project has contributed to the empowerment of women within their community. Chapter 6 provides detailed information on how project outcomes align to AF objectives.

Figure 2. Summary framework of Adaptation Fund's Medium Term Strategy, 2018-2022



Source: Translated from Adaptation Fund, 2018.

3.1.2. Alignment of Project Outcomes to Climate Change Adaptation Priorities in Peru and the Region of Arequipa

During the design of the AYNINACUY Project, the country's climate change adaptation priorities were established in the National Environmental Action Plan - PLANAA Peru 2011-2021, the Climate Change Adaptation and Mitigation Action Plan and Peru's NDCs. Using the objectives of these plans as reference, the project was aligned to the country's adaptation priorities, contributing to the reduction of vulnerability in rural communities and their livelihoods. However, management instruments and adaptation priorities in Peru and the region have gradually changed.

To date, Peru has a National Adaptation Plan—an instrument that provides guidelines on adaptation to climate change in the country. The plan focuses on reducing exposure and vulnerability, and increasing the adaptive capacity of the Peruvian population and their livelihoods through the implementation of 92 adaptation measures grouped in five thematic areas: water, agriculture, fishing and aquaculture, forests, and health (MINAM, 2021).

The AYNINACUY Project is aligned to the National Adaptation Plan since its main objective is to reduce climate change vulnerability in alpaca breeding to increase the adaptive capacity of highland Andean peasant communities and their livelihoods. The project activities are related to the agriculture sector and have contributed to the implementation of three adaptation measures in the sector—one related to "agriculture and livestock systems", and one to "water for agricultural use" (Table 3).

Table 3. Alignment of the AYNINACUY Project outcomes to the adaptation measures of Peru's NDC, updated to December 2020

Thematic Area/Component	Adaptation Measure	AYNINACUY Project Contribution
Agriculture/ Productive Agricultural and Livestock Systems	Management of natural grasslands to ensure offspring feeding and reduce their vulnerability to climate change.	Under the animal protection and health axis of Component 1 of the project, 216 wire mesh fences were installed (300% of goal) to preserve natural and cultivated pastures. This allowed to recover areas affected by overgrazing, rotate grazing areas, preserve pastures for forage-scarcity season (August to November), and protect cultivated pastures.
Agriculture/ Productive Agricultural and Livestock Systems	Management and conservation of cultivated pastures as food supplement for breeding in vulnerable areas facing hazards associated to climate change.	Under the animal protection and health axis of Component 1 of the project, 72 ha of improved pastures were planted (100% of goal), as well as 900 ha of forage grains (100% of goal), which yielded 77,760 MT (80 MT/ha) of pastures and grains for the production of forage, 891 households benefitting from forage grain production, and 1,080 MT of improved grasses (4 MT/ha).
Agriculture/ Water for Agricultural Use	Implementation of interventions related to water sowing and harvesting to ensure agricultural water safety in hydrographic basins	Under the water resource management axis of Component 1 of the project, 360 households benefitted from rustic dams or "*qochas*" (100% of goal), used by the beneficiaries to sow and harvest water. One (1) was implemented at each community, and it supplies water to the natural pastures of ten households. In addition, the improvement of 20,000 ml of rustic water canals

	vulnerable to climate change.	and the installation of 73 reservoirs with sprinkler irrigation system (200% and 102% of the goal, respectively) yielded 1,080 MT of forage, which was used during the pasture-scarcity period between June and October.

Source: Prepared by the authors on the basis of the AYNINACUY Completion Report (CAF, 2022).

With regard to adaptation priorities in Arequipa, during the design of the project, the Regional Strategy on Climate Change 2008-2018 was in effect in the area, and it had identified the vulnerability of alpacas in the highland Andean areas due to the scarcity of water and natural pastures, which resulted in malnutrition, diseases and a significant reduction of the camelid livestock capital in the region, which was already extremely impoverished (Regional Government of Arequipa, 2009). Accordingly, the outcomes of the AYNINACUY Project are aligned to the adaptation priorities established in the aforementioned document.

However, the region has a Regional Strategy on Climate Change in place, updated for the 2019-2030 period. Its adaptation objective for 2030 reads: "*to reduce the damages, the potential alterations and consequent losses, presently and in the future, arising from the hazards associated to climate change that loom over the populations and their livelihoods, the water resources and basins, ecosystems, agricultural and livestock activities, road infrastructure, and education; and to draw upon the opportunities that climate change brings about in the region of Arequipa*" (Regional Government of Arequipa, 2021, p.47). Although the AYNINACUY Project is aligned to the general objective of the ERCC 2018-2030 of Arequipa concerning the reduction of climate-induced damage and losses suffered by the population and their livelihoods, Arequipa's ERCC does not directly include cattle-raising as part of its priority guidelines.

3.2. Effectiveness

According to the Guidelines for AF Project Final Evaluations, a project is effective provided its real outcomes at the end of the project are commensurate with the original project objectives. If the project objectives were modified as part of a continuous improvement and/or adaptive management process, the effectiveness evaluation also analyzes if the final outcomes of the project are consistent with the changes made (Adaptation Fund, 2011). The relevance of the AYNINACUY Project on the basis of these criteria is analyzed below.

The effectiveness of the AYNINACUY Project is **satisfactory** according to the different approaches used to analyze this criterion. Although the impact of COVID-19 was present during a significant part of the project's execution, as were other hardships resulting from the distance between the beneficiary communities, the logistics for the transport of goods and materials, weather conditions, etc., the project succeeded in meeting its goals under Component 1 in a highly satisfactory manner. However, activities related to capacity-strengthening (Component 2) were suspended due to the sanitary restrictions, and this was reflected in the final number of beneficiaries. It is worth noting the project's strategy to use radio programs to reach more beneficiaries and strengthen capacities, given that the radio is the main means of communication in highland Andean rural communities.

3.2.1. Effectiveness of Project Objectives

The objective of this project was to reduce vulnerability and increase the adaptive capacity of the Andean peasant communities in the provinces of Arequipa, Caylloma, Castilla, La Union and Condesuyos to respond to the effects of climate change. The expected impact was to increase resilience against climate variability and change at community, national and regional level; and its indicator is the number of beneficiaries. The project's initial goal was to benefit a total of 240,467 people (68,848 direct beneficiaries and 171,619 indirect beneficiaries) (CAF, 2017). It is worth mentioning that this figure was obtained from the national census of 2007, which considered very thick data, and districts outside the project's scope.

According to the third and last Annual Project Performance Report, when the project's activities were completed, the total number of beneficiaries was 80,665, out of which 23,087 were direct beneficiaries and 63,841 indirect beneficiaries (Table 4). Accordingly, the project's objective effectiveness analysis was low, meeting 33.5% of the established goal. However, it is important to mention that the number of reported beneficiaries only includes the population that benefitted from individual and community activities, and it does not include the 40,500 beneficiaries who were trained through radio programs or who received copies of printed guides.

Table 4. Performance of project objective indicators under the AF Results Framework

		Initial Goal			**Goal Reached at Project Completion**		
		Total Beneficiaries	Direct Beneficiaries	Indirect Beneficiaries	Total Beneficiaries	Direct Beneficiaries	Indirect Beneficiaries
Indicator: No. of Beneficiaries	Total	240,467	68,848	171,619	80,665	16,824	63.841
	% of Beneficiary Women	47.00%	49.00%	48.00%	2.70%	41.00%	3.50%
	% of Beneficiary Youths	0.00%	0.00%	0.00%	2.00%	2.00%	2.00%

Source: The authors, on the basis of the first and third Annual Project Performance Report (PPR).

It is important to note that the number of beneficiaries estimated during the project's design included the entire rural population of Arequipa, encompassing 29 districts. The information was obtained from the census performed in 2007, and contained very thick data. Moreover, according to the results framework, most goals were decided not on the basis of the number of beneficiaries, but the number of infrastructure (number of built sheds, of fences, etc.).

In addition to this, the project faced several administrative, technical, operating and logistical challenges that affected its effectiveness. Among the main barriers faced were the adverse weather conditions that led to declarations of emergencies and road closures, which in turn were an impediment to access communities and

transport goods. The project start was concurrent with the process to appoint new local authorities and the execution of work agreements had to be re-addressed.

On the other hand, during the second year of project implementation, one of the biggest challenges faced was the COVID-19 sanitary crisis, which affected the project's activities over a period of 17 months and became its main limiting factor. The impact of COVID-19 on the project was reduced through agreements that had been previously signed with local and community authorities, the good coordination with local authorities, and the presence of Technical Field Specialists – Yachachiq, who stayed permanently at the beneficiary communities. The activities that were affected the most were those related to Component 2 and capacity strengthening, which had to deal with sanitary restrictions imposed by the government, the closure of educational institutions, and the halting of activities by organizations attached to the Ministry of Education. However, all communities within the project's area of influence were successfully trained in matters related to adaptation to climate change through 11 programs broadcasted over the radio, which is the main means of communication in rural areas.

Accordingly, the project's effectiveness on the basis of total number of beneficiaries is considered moderately satisfactory.

3.2.2. Effectiveness per Project Component

With regard to the effectiveness per project component, Component 1 of the AYNINACUY Project had a highly positive performance—the established goals were met and, in some cases, exceeded. The outcomes of this component include 72 ha of improved pastures planted, construction and improvement of 342 sheds for animal protection, and installation of 216 wire mesh fences to preserve natural and cultivated pastures (Table 5).

Table 5. Effectiveness of Component 1: Application of measures to strengthen livelihoods and income sources in vulnerable communities

COMPONENT/OUTPUT		Original Goal	Outcome	Completion %
COMPONENT 1: APPLICATION OF MEASURES TO STRENGTHEN LIVELIHOODS AND INCOME SOURCES IN VULNERABLE COMMUNITIES				
Outcome 1.1 ANIMAL FEEDING AND PROTECTION				
1.1.1	Sheds built and/or improved	270	342	**126%**
1.1.2	Number of protective fences installed	72	216	**300%**
1.1.3	Hectares of high-altitude forage planted	900	900	**100%**
1.1.4	Hectares of improved pastures planted	72	72	**100%**
1.1.5	Hectares of clover planted in wetlands	36	36	**100%**
1.1.6	Number of dosed camelids	10,000	20,000	**200%**

COMPONENT/OUTPUT		Original Goal	Outcome	Completion %
Outcome 1.2 WATER RESOURCES MANAGEMENT AXIS				
1.2.1	Lineal meters of improved rustic canals for irrigation and wetlands expansion.	10,000	20,000	**200%**
1.2.2	Number of installed pressurized irrigation modules	72	73	**102%**
1.2.3	Number of irrigation water reservoirs	72	73	**102%**
1.2.4	Number of dams built to preserve and expand wetlands	36	36	**100%**
Outcome 1.3 PROTECTION OF HUMAN HEALTH AXIS				
1.3.1	Number of healthy housing	72	72	**100%**
1.3.2	Installed water purification systems	72	72	**100%**

Source: The authors, on the basis of the project proposal to the Adaptation Fund and PPRs.

As stated in the preceding section, Component 2, related to capacity strengthening and development, was the most affected by the impact of COVID-19. Consequently, this component's performance is moderately positive (Table 6). The outcomes achieved by this component include the signing of all agreements scheduled for the first year of project execution, and this allowed the activities to continue, despite the hurdles brought about by the pandemic. It is important to note that the suspension of activities due to COVID-19 restrictions had been foreseen, and it was duly documented in the Project Performance Reports (PPRs).

Table 6. Effectiveness of Component 2: Strengthening and development of community and institutional capacities to reduce climate-related risks

COMPONENT/OUTPUT		Original Goal	Outcome	Completion %
COMPONENT 2: STRENGTHENING AND DEVELOPMENT OF COMMUNITY AND INSTITUTIONAL CAPACITIES TO REDUCE CLIMATE-RELATED RISKS				
Outcome 2.1 GOVERNANCE AXIS				
2.1.1	Number of province agreements	5	5	**100%**
2.1.2	Number of district agreements	18	18	**100%**
2.1.3	Number of community agreements	36	36	**100%**
Outcome 2.2 RISKS AND CLIMATE CHANGE MANAGEMENT AXIS				
2.2.1	Number of disaster drills, at province level	5	0	**0%**

COMPONENT/OUTPUT		Original Goal	Outcome	Completion %
2.2.2	Number of early warning modules installed in the communities	36	35	**97.2%**
2.2.3	Number of educational institutions that received backstopping for the preparation of their prevention and disaster response plans, as a climate change adaptation measure	5	0	**0%**
2.2.4	Number of advisory sessions for the creation and strengthening of community and district civil defense platforms (preliminary survey and start-up)	18	0	**0%**
Outcome 2.3 KNOWLEDGE MANAGEMENT AXIS				
2.3.1.	Number of agreements, programmes, projects that give continuity to the project's activities and achievements	59	59	**100%**
2.3.2.	Number of publications on lessons learned in COPASA's website and of organizations that include a similar section in their corresponding websites	1	1	**100%**
2.3.3	Number of technical guides produced	13	12	**92.3%**
2.3.4	Number of participants in learning and training sessions	6,776	5,584	**82.4%**

Source: The authors, on the basis of the project proposal to the Adaptation Fund and PPRs.

With regard to the technical guides, the guide on risk adaptation and prevention in educational institutions was not produced because a guide on this matter had already been prepared by the Ministry of Education around the time the project was scheduled to start its execution. Duplicating the effort was not necessary.

Accordingly, Component 1 goals were met and exceeded, and the project's effectiveness at meeting goals per component is considered satisfactory.

Although the project is deemed to have obtained a moderately satisfactory effectiveness rating according to the number of beneficiaries indicator and the AF guidelines, it is important to note that Component 1 indicators were surpassed by the project using less economic resources than originally planned, resulting from cost efficiencies. In conclusion, taking into account the project's effectiveness with regard to number of beneficiaries and goals achieved, the project's general effectiveness is considered to be satisfactory.

3.3. Efficiency

According to the Guidelines for AF Project Final Evaluations, a project is efficient provided it was designed and implemented using the best possible cost to meet its objectives (Adaptation Fund, 2011). It is also important to analyze the project's expense distribution during its execution.

The efficiency of the AYNINACUY Project is **satisfactory** according to the different approaches used to analyze this criterion. Despite the fact that the effects of the COVID-19 pandemic were present during most part of the

execution period, 81.05% of the budget was successfully executed, and a portion of the project's goals was achieved in a highly satisfactory manner (mainly in Component 1). However, budget execution in Component 2 was moderately satisfactory, due to the suspension of activities related to capacity strengthening as a result of sanitary restrictions. This was in line with the effectiveness analysis.

The total cost of the AYNINACUY Project was estimated at USD 2,941,446.00, and it was fully financed by the Adaptation Fund grant. The project's total budget includes a USD 217,885.00 project management fee paid to the Implementing Entity (CAF), which was used to cover CONDESAN's fiduciary management fee, mission trips, audit of the CAF account, and payment to the external consultant who reviewed the final evaluation; and USD 2,723,561.00, used for project implementation. Table 7 shows the detailed budget distribution per component, before and after budget modification. A budgetary adjustment was performed in November 2019 following the recommendation of the Advisory Steering Committee, which pointed out that the budget included in the original proposal was prepared in the 2015-2016 period, and that several of the market costs considered initially had changed. CONDESAN (Administrative Executing Entity) conducted an assessment of prices of materials based on updated prices, and an assessment of salary increase based on market costs, upon request of COPASA (Technical Executing Entity) and in compliance with the CAF guidelines for the procurement of goods. This review was submitted during the Advisory Steering Committee meeting held in November 29, 2019. No significant change was made following these budgetary adjustments or reclassifications, as higher budget items were offset by reductions in other items (Table 7), in line with AF policies.

It is also important to note that, although indirect costs for the 30 months of budget execution increased to 9.52% of the total budget, the executed amount was 9.22%, and even covered the expenses of the three additional months requested to AF. Thus, the AF rule of not exceeding 9.5% of the total budget in indirect costs was met.

Table 7. Initial budget, revised and executed per component (USD)

OUTPUTS	BUDGET (AF PROPOSAL, 2016)	ADJUSTED BUDGET (2019)	TOTAL EXECUTED (2021)	EXECUTION %
DIRECT COSTS USD				
Component 1: Application of measures to strengthen livelihoods and income sources in vulnerable communities				
Animal Feeding and Protection Axis	1,390,100.00	1,349,189.87	1,288,681.40	95.52%
Water Resources Management Axis	385,600.00	353,887.51	228,473.20	64.56%
Protection of Human Health Axis	364,600.00	388,669.08	322,327.02	82.93%
SUBTOTAL COMPONENT 1, USD	**2,140,300.00**	**2,091,746.46**	**1,839,481.62**	**87.94%**

OUTPUTS	BUDGET (AF PROPOSAL, 2016)	ADJUSTED BUDGET (2019)	TOTAL EXECUTED (2021)	EXECUTION %
Component 2: Strengthening and development of community and institutional capacities to reduce climate-related risks				
Governance Axis	1,400.00	1,791.42	-	0.00%
Risks and Climate Change Management Axis	33,200.00	34,765.20	7,269.96	20.91%
Knowledge Management Axis	295,461.00	209,449.70	109,699.75	52.38%
SUBTOTAL COMPONENT 2, USD	**330,061.00**	**246,006.32**	**116,969.71**	**47.55%**
Unforeseen Events		**126,303.75**	**-**	**0.00%**
TOTAL DIRECT COSTS, USD	**2,470,361.00**	**2,464,056.53**	**1,956,451.33**	**79.40%**
INDIRECT COSTS USD				
Professional services	161,490.00	175,015.75	198,194.28	113.24%
Tickets and per diems	8,700.00	8,685.26	626.67	7.22%
Visibility and dissemination	12,500.00	12,403.46	230.07	1.85%
Transport	5,510.00	-	-	0.00%
Environmental management monitoring and evaluation	65,000.00	63,400.00	52,065.51	82.12%
TOTAL INDIRECT COSTS	**253,200.00**	**259,504.47**	**251,116.53**	**96.77%**
TOTAL COST (DIRECT + INDIRECT), USD	**2,723,561.00**	**2,723,561.00**	**2,207,567.86**	**81.05%**

Source: The authors, on the basis of the project proposal to the Adaptation Fund (CAF, 2017) and the AYNINACUY Completion Report (CAF, 2022).

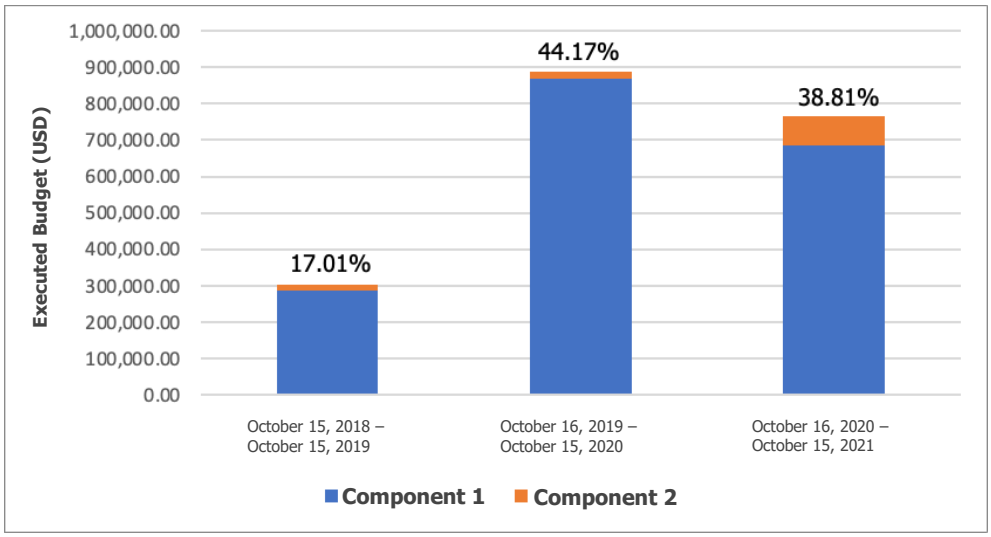
The general level of financial execution of the AYNINACUY Project as of November 30, 2021, is high (81.05%). As shown in Table 7, the execution percentages per component match the effectiveness level mentioned in the previous section. The budget execution of Component 1, which successfully met the established goals, amounted to 87.94%. In turn, Component 2 activities were affected, and even suspended, due to the COVID-19 restrictions imposed by the government, and its budget execution amounted to 47.55%.

This shows that Component 1 accounted for 76.80% of the adjusted budget, and represented 83.33% of the total financial execution at the end of the project. This evidences that the project substantially prioritized activities that sought to strengthen livelihoods and income sources in vulnerable communities. And it is further proof that the

AYNINACUY Project aimed at achieving concrete, tangible outcomes that had an immediate impact on the beneficiaries' quality of life and livelihoods.

Concerning the budget execution variation over time, Figure 3 shows how budget was executed over the project's implementation timeframe. As the figure shows, 44.17% of budget execution occurred during the second reporting period, between October 16, 2019, and October 15, 2020, and 38.81% was executed during the third period, between October 16, 2020, and October 15, 2021. The low budget execution in the first year of project implementation (17.01%) is explained by start-up delays caused by several factors, such as the appointment of new local authorities in the Regional Government and climate emergencies (for more details, see section 5.6).

Figure 3. Budget execution distributed over time during project implementation, per component



Source: Prepared by the authors, on the basis of the AYNINACUY Completion Report (CAF, 2022).

In Component 1, the budget execution level during the second and third period was similar; the second period being slightly higher is due to the priority given to sowing improved pastures, which allowed to reach the goal of 72 hectares established for the project. In the case of Component 2, budget execution was at its highest in the third period, when a significant number of activities took place under the knowledge management axis.

3.4. Outcome Evaluation Summary

Table 8 shows a consolidated summary of the ratings for each criteria used to evaluate the outcomes of the AYNINACUY Project.

Table 8. Summary of outcome achievement evaluation on the AYNINACUY Project

EVALUATION CRITERION	RATING	COMMENTS
Relevance	Satisfactory (S)	Project outcomes are aligned to the FA objectives and climate change adaptation priorities identified at the national level. However, although the project outcomes were aligned to the adaptation priorities of the region of Arequipa stipulated in

EVALUATION CRITERION	RATING	COMMENTS
		the ERCC 2008-2018, their alignment to the priorities defined in the ERCC 2019-2030 is indirect in nature.
Effectiveness	Satisfactory (S)	Although the impact of COVID-19, among other barriers, was present during a significant part of its execution, the project succeeded in meeting its goals under Component 1 in a highly satisfactory manner. However, activities related to capacity-strengthening (Component 2) had to be suspended due to sanitary restrictions, and this was reflected in the final percentage of beneficiaries.
Efficiency	Satisfactory (S)	Despite the different challenges the project had to face, including the effects of the COVID-19 pandemic during most part of the execution period, 81.05% of the budget was successfully executed, and a portion of the project's goals was achieved in a highly satisfactory manner (mainly in Component 1). However, budget execution in Component 2 was moderately satisfactory, due to the suspension of activities related to capacity strengthening as a result of sanitary restrictions. This was in line with the effectiveness analysis.

Source: The authors.

On the basis of the outcomes presented in Table 8 and, bearing in mind that, according to the Guidelines for AF Project Final Evaluations (Adaptation Fund, 2011), relevance and effectiveness are considered to be critical criteria and, therefore, the overall outcomes rating of the project may not be higher than the lowest rating on the aforementioned criteria, the overall evaluation of the project outcomes is considered to be **satisfactory**.

4. Evaluation of Risks to Sustainability

According to the Guidelines for AF Project Final Evaluations, sustainability is understood as the likelihood of the achieved outcomes continuing after funding from the AF ends (Adaptation Fund, 2011).

4.1. Financial and Economic Risks

The evaluation of financial and economic risks to the sustainability of the AYNINACUY Project outcomes is **satisfactory** because it is **likely** that the project outcomes will continue, on account of a series of initiatives implemented in the last year that follow and multiply the climate change adaptation actions carried out by AYNINACUY. Specifically, the Multisector Plan against Frost and Cold Spells 2019-2021 and the Investment Project of the Regional Government of Arequipa: "Improving services to support the alpaca fiber productive chain in the Provinces of Arequipa, Castilla, Condesuyos and La Union, Arequipa Region" are currently under execution.

At the national and regional government level, there is a clear interest to continue investing in the reduction of vulnerability in highland vulnerable populations. Accordingly, the regional government of Arequipa has taken note

of the AYNINACUY Project experiences, and has interest in complementing the development of its initiatives as part of its activities (see Annex 2).

At the national government level, the Multisector Plan against Frost and Cold Spells 2019-2021 is currently under implementation. It promotes a multisector approach to the territories that are most vulnerable to these phenomena, and proposes to close all housing, school, shed and cultivated pastures priority gaps in their entirety through sustainable interventions directly delivered to the population that is the most vulnerable to frost and cold spells. The Multisector Plan against Frost and Cold Spells 2019-2021 has a national scope and in Arequipa it is focused on ten districts of the provinces of Arequipa, Caylloma, La Union and Condesuyos. To execute this plan, the Ministry of Agriculture directly approaches district and province governments, and community leaders, and makes arrangements to build new sheds aimed at cattle management activities, like fiber or wool shearing, flock classification, sanitary management, and protection of South American camelids during the cold season. These activities are mainly financed under budget programme 068: Vulnerability reduction and response to emergencies caused by disasters, and it has a budget of S/. 2,125,590,095.11, which is allocated to the government sectors and levels according to their results (Presidency of the Council of Ministers, 2020).

At the regional government level, the Investment Project of the Regional Government of Arequipa: "Improving services to support the alpaca fiber productive chain in the Provinces of Arequipa, Castilla, Condesuyos and La Union, Arequipa Region" is currently under execution. Its beneficiaries will be 1,728 breeders of South American camelids (Regional Government of Arequipa, 2019). The main components and objectives of this Investment Project is to improve the quality of alpaca fiber through efficient technological management, genetics management, control and implementation of animal health campaigns, training in productive and reproductive management, feeding, grasslands and pastures management, construction of dams and infiltration trenches, and to manage the adequate organization of alpaca breeders. This project is funded by resources of the Regional Government through the formulation of Public Investment Projects. The project investment amounts to S/. 6,659,320.00 over a three-year period.

4.2. Socio-political Risks

The evaluation of socio-political risks to the sustainability of the AYNINACUY Project outcomes shows that it is moderately **likely** that the project outcomes will continue, because, although the project has developed the capacities of the community and local government officials, the country is currently facing a political crisis that has a social impact on the most vulnerable population. At the time of project completion, new authorities were appointed in the Regional Government of Arequipa. However, this did not restrict COPASA's activities as Technical Executing Entity. On the contrary, the appointment of the new director would benefit the project's sustainability thanks to his knowledge on this subject and his relationship with different political authorities.

4.2.1. Socio-political Risks that may jeopardize sustainability

The project included a series of measures to reinforce sustainability through a community-driven, highly participatory process, inductions, and capacity-building among beneficiaries, the community authority and local government officials. They are expected to lead the initiative and support similar new projects. However, although

the project's execution strategies provided, to a large extent, a solid sustainability framework for most of its lines of intervention, there are external factors that can pose a risk (partially) to the sustainability of project outcomes.

During the project's implementation period (2018-2021), Peru had three different presidents, which evidences the political crisis currently faced by the country. On the other hand, according to the National Institute of Statistics and Data Processing, in the last five years, the population living in a situation of poverty increased by 8.3%, affecting 30.1% of the country's population, mainly those living in rural areas, in 2020 (INEI, 2021). However, it is important to mention that the increase in poverty is associated to the suspension of most economic activities as a result of the mandatory social lockdown ordered by the government in response to the COVID-19 pandemic in the country.

The current administration, led by President Pedro Castillo, has not been able to overcome the political crisis and alleviate the impoverishment of the rural population. Since Pedro Castillo took office as the president of Peru in July 2021, four different Cabinets have been installed. Moreover, the government has been involved in corruption and influence peddling accusations, and 76% of the Peruvian population disapprove of the president's performance (RPP, 2022) and have organized protests demanding his resignation. In view of the current political situation, it is evident that a high political risk exists. It has no direct effect on the project's outcomes, but it does not contribute to outcome sustainability either, as it affects the management by local governments.

4.2.2. Level of Stakeholder Ownership, Interest and Awareness

The AYNINACUY Project was set in motion by a request submitted to CAF by Cooperation for the Sustainable Development Process of Arequipa (COPASA), jointly with the Regional Government of Arequipa (GORE Arequipa), seeking to address the problems faced by highland Andean alpaca breeding communities caused by the impact of climate change. The proposal's design, structuring and approval process began after receiving the non-objection of the Ministry of Environment (MINAM), focal point of Peru with AF. After the project proposal was approved by the Adaptation Fund Board, Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN) was selected through an evaluation process to act as Administrative Executing Entity, given that it had sufficient fiduciary capacity to support the project by managing international cooperation resources. Simultaneously, COPASA acted as the project's Technical Executing Entity. CONDESAN is a non-governmental organization with offices in Ecuador and Peru engaged in the conservation of mountain ecosystems and the wellbeing of rural communities in the Andean region. COPASA is a deconcentrated body of the Regional Government of Arequipa that seeks to support sustainable comprehensive development in the region.

The project's design focused on climate change adaptation and the development of capacities among local officials and community members by providing training in several activities that complement and increase the resilience of alpaca breeding as a form of livelihood. At the time of project completion, new authorities were appointed in the Regional Government. However, the appointment of COPASA's new director would benefit the project's sustainability thanks to his knowledge on this subject and his relationship with different political authorities.

With regard to community involvement, 11 consultative processes were developed as part of the project's design encouraging the beneficiaries' approval of the project and field data gathering. Owing to the data gathered by stakeholders in the field, the project was able to adequately address the needs of the highland Andean population,

including a gender-approach to identify women's needs. Moreover, the diversification of activities arising from the project can generate new sources of income for the beneficiaries. By combining them with the involvement of women and youths, they could improve their livelihoods in the short term (see Annex 2).

4.3. Institutional and Governance Risks

The evaluation of institutional and governance risks to the sustainability of the AYNINACUY Project outcomes indicates that the project outcomes are **likely** to continue, on account of Peru's strong institutional framework on matters related to climate change adaptation. In addition to this, the useful knowledge generated by the AYNINACUY Project can be applied to the design and execution of future climate change adaptation projects, both in Arequipa and in other highland Andean regions of the country.

In Peru, climate policies have become stronger in recent years. At the start of the project, the country's climate governance instruments were the National Environmental Action Plan - PLANAA Peru 2011-2021, the Climate Change Adaptation and Mitigation Action Plan and Peru's NDCs. However, today, Peru has a broad policy and regulatory environmental framework with considerable experience in the development of specific climate change policies. Numerous related public policy instruments are in place, the main ones being the Framework Law on Climate Change (Law No. 30754), seeking to include adaptation measures into sectoral and subnational planning and budgeting; and the National Adaptation Plan for Climate Change, with medium- and long-term horizons (2030 and 2050), which describes adaptation measures to be implemented under the country's climate commitment. Moreover, at the regional government level, Arequipa has a Regional Strategy on Climate Change, which includes an adaptation goal by 2030 related to reducing vulnerability in the rural population. In connection to this, there is an institutional and governance framework to backstop the sustainability of the efforts made by the AYNINACUY Project and successfully strengthen alpaca breeding for fiber production, reducing their vulnerability and increasing the adaptive capacity of highland Andean peasant communities of the provinces of Arequipa, Caylloma, Castilla, La Union and Condesuyos.

As mentioned in section 4.1., the Multisector Plan against Frost and Cold Spells 2019-2021 (at the national level) and the Investment Project of the Regional Government of Arequipa: "Improving services to support the alpaca fiber productive chain in the Provinces of Arequipa, Castilla, Condesuyos and La Union, Arequipa Region" are currently under execution. Their activities are aligned to those of the AYNINACUY Project, contributing to the sustainability of its outcomes. It is worth mentioning that the useful knowledge acquired through the AYNINACUY Project can be applied to the design and execution of future climate change adaptation projects, both in Arequipa and in other highland Andean regions, and even in other countries facing similar problems.

4.4. Environmental Risks

The evaluation of environmental risks to the sustainability of the AYNINACUY Project outcomes indicates that the project outcomes are **moderately likely** to continue, on the basis that, although the environmental risks associated to climate change in the area of intervention are still uncertain and require localized vulnerability analyses, there are instruments at national and local level aligned to the objectives of the AYNINACUY Project

that will continue to implement adaptation measures to reduce the vulnerability of the population and its livelihoods.

Peru has a framework in place for the implementation of adaptation measures to face the effects of climate change. The National Adaptation Plan is one of its instruments, and provides guidelines on climate change adaptation, focused on reducing risks and vulnerability and increasing adaptation capacity. It has two time horizons: year 2030 and 2050.

Peru's current climate policy is advocating the creation of guidelines to combat the effects of climate change, as part of the goal to reduce vulnerability of the population and its livelihoods. Accordingly, the intervention of the AYNINACUY Project contributed to the strengthening of the conditions to reduce the risks associated to climate change. The reference used for the design of the project was the Regional Strategy on Climate Change in the Region of Arequipa (2009), which identifies the impacts of climate change in the area of influence of the project. However, no vulnerability evaluation (scientific-based) was performed for the AYNINACUY Project and, therefore, it was not possible to obtain a baseline.

Taking into account the results of the 6th IPCC report on the subject of adaptation, global warming—which will reach 1.5ºC in the short term—would cause inevitable climate hazards and multiple risks to ecosystems and human beings (IPCC, 2022). However, environmental risks associated to climate change in the area of intervention are still uncertain and require localized vulnerability analyses. Regardless, the AYNINACUY Project has contributed to vulnerability reduction and increase of the adaptive capacity of the beneficiary population, which reduces potential environmental risks.

4.5. Summary of Risks to Sustainability

Table 9 shows a consolidated summary of the ratings for each risk to the sustainability of the outcomes of the AYNINACUY Project.

Table 9. Summary of risks to sustainability

DIMENSION OF SUSTAINABILITY	RATING	COMMENTS
Financial Resources	Likely (L)	A series of initiatives implemented in the last year follow and multiply the climate change adaptation actions carried out by AYNINACUY. Specifically, the Multisector Plan against Frost and Cold Spells 2019-2021 and the Investment Project of the Regional Government of Arequipa: "Improving services to support the alpaca fiber productive chain in the Provinces of Arequipa, Castilla, Condesuyos and La Union, Arequipa Region" are currently under execution.
Socio-political	Moderately likely (ML)	Although the project has developed the capacities of the community and local government officials, the country is currently facing a political crisis that has a social impact on the most vulnerable population. On the other hand, at the time of project completion, new authorities were appointed in

DIMENSION OF SUSTAINABILITY	RATING	COMMENTS
		the Regional Government of Arequipa. However, the appointment of COPASA's new director would benefit the project's sustainability thanks to his knowledge on this subject and his relationship with different political authorities.
Institutional Framework and Governance	Likely (L)	Peru has a strong institutional framework on matters related to climate change adaptation. In addition to this, the useful knowledge generated by the AYNINACUY Project can be applied to the design and execution of future climate change adaptation projects, both in Arequipa and in other highland Andean regions of the country.
Environmental	Moderately likely (ML)	Although the environmental risks associated to climate change in the area of intervention are still uncertain and require localized vulnerability analyses, there are instruments at national and local level aligned to the objectives of the AYNINACUY Project that will continue implementing adaptation measures to reduce the vulnerability of the population and its livelihoods.

Source: The authors.

Bearing in mind that, according to the Guidelines for AF Project Final Evaluations, all the risk dimensions to sustainability and linkages are critical and, therefore, overall rating for sustainability cannot be higher than the lowest rated dimension, on the basis of the outcomes presented in Table 9, the overall sustainability of the project's outcomes is considered to be **moderately likely**.

5. Processes influencing achievement of outcomes

5.1. Project Design

The project's design, which took place in 2015 and 2016, focused on climate change adaptation and the development of capacities among local officials and community members by providing training in several activities that complement and increase the resilience of alpaca breeding as a form of livelihood. The AYNINACUY Project was set in motion by a request submitted to CAF by Cooperation for the Sustainable Development Process of Arequipa (COPASA), jointly with the Regional Government of Arequipa (GORE Arequipa), seeking to address the problems faced by highland Andean alpaca breeding communities caused by the impact of climate change. Following the non-objection of the Ministry of Environment (MINAM), focal point of Peru with AF, the process to design, structure and approve the proposal began, and lasted approximately a year and a half.

The design took into account the experience and lessons learned by other projects implemented in the area or the country, on related matters. Some projects considered for the AYNINACUY Project planning included:

- Highlands Irrigation Project - The World Bank (2010-2016): The project aimed at increasing agricultural production, improving water efficiency by rehabilitating the agricultural irrigation infrastructure, promoting the development of the Organization of Autonomous Water Users, among other activities.

- Conservation and Sustainable Use of High-Andean Ecosystems through Compensation of Environmental Services for Rural Poverty Alleviation and Social Inclusion - Global Environment Facility (GEF) (2015-2020): The project restored 4,000 ha of wetlands in Lima and Ancash, with emphasis on associations of basin users and the development of alternative payments for environmental services.

- Sustainable Management of Agro-Biodiversity and Vulnerable Ecosystems Recuperation in Peruvian Andean Regions through Globally Important Agricultural Heritage Systems (GIAHS) Approach - Food and Agriculture Organization of the United Nations (FAO) (2017-2021): This project focused on the comprehensive management of forests, water and land resources, and maintenance of ecosystem services in Andean regions in the departments of Huancavelica, Junin, Apurimac, Huanuco, Ayacucho and Cajamarca.

- Financing clean and efficient cookstoves in Andean communities - Inter-American Development Bank (IDB) (2015-2018): The project's objective was to install 2500 ecoefficient cookstoves in the departments of Ayacucho and Ancash.

Furthermore, the project design also included the experience gained by COPASA, an entity that has been implementing projects in the AYNINACUY Project area of intervention since 1985. Projects implemented by COPASA that were taken into account for the design of the project include the Climate Change Adaptation Programme (2006-2007) and the Local Government Strengthening Programme (2015-2018).

Moreover, the reference used for the design of the AYNINACUY Project was the Regional Strategy on Climate Change in the Region of Arequipa (2009), which identifies the impacts of climate change in the area of influence of the project. However, no vulnerability evaluation (scientific-based) was performed for the project and, therefore, it was not possible to obtain a baseline.

Project structuring activities included field visits, 11 consultative processes, and a start-up workshop to present the project. They were divided in three stages and the project structuring activities included prior consultation processes that sought to record the main concerns and problems of the highland Andean population, and entailed the participation of mayors, leaders of affected communities, representatives of public organizations, community authorities, women organizations, irrigation organizations, livestock organizations, among other stakeholders.

After the project proposal was approved by the AF, the Consortium for the Sustainable Development of the Andean Ecoregion (CONDESAN) was selected through an evaluation process to act as Administrative Executing Entity, given that it had sufficient fiduciary capacity to support the project by managing international cooperation resources. Simultaneously, COPASA acted as the project's Technical Executing Entity, owing to its knowledge of the local situation and its vast experience working in the area. The roles and responsibilities of each institution were defined in detail through a binding implementation agreement issued by CAF's Legal Consultancy department and entered into by CAF – COPASA and CONDESAN.

Pursuant to AF regulations, a Project Start-up Workshop was held on October 15, 2018, in Arequipa, in order to start the execution of the project. The objective of this workshop was to socialize and help all participating stakeholders, beneficiaries and institutions to understand and take ownership of the project's objectives and goals.

In doing so, the objectives and components of the project were clearly understood and validated by the beneficiary population.

5.2. Country Ownership

As mentioned in section 3.1, the AYNINACUY Project contributes to the achievement of the country's adaptation-related objectives. However, the National Adaptation Plan—instrument that currently defines the climate change adaptation guidelines in Peru—did not exist at the time of its design, or during the early years of execution. Instead, the design of the AYNINACUY Project observed the country's climate change adaptation priorities that were established in the National Environmental Action Plan - PLANAA Peru 2011-2021, the Climate Change Adaptation and Mitigation Action Plan and Peru's INDCs. Using the objectives of these plans as reference, the project was aligned to the country's adaptation priorities, contributing to the reduction of vulnerability in rural communities and their livelihoods, and successfully obtained the non-objection of the Ministry of the Environment.

During the execution of the project, government representatives participated through an Advisory Steering Committee, an entity of consultative nature in charge of providing guidance and supervision to ensure the project's adequate development and compliance with its objectives. This Committee was comprised of representatives of the Office of the Regional Government of Arequipa, the Ministry of Environment (MINAM), the Regional Environmental Authority of the Regional Government of Arequipa (ARMA), COPASA—the Technical Executing Entity, CONDESAN—the Administrative Executing Entity, and CAF, and also of representatives of key institutions, such as the National Service of State-Protected Natural Areas (SERNANP). The Committee held meetings from time to time to respond to annual reports on project performance and follow-up, as well as to COPASA's and the project team's requests of budget reallocation and activity improvement.

Moreover, the AYNINACUY Project was executed in direct coordination with the local governments of 18 districts within its area of influence, who expressed their deep commitment and provided their valuable support during the pandemic through the supervision of Yachachiq, the provision of transportation, and storage of goods and materials. The implementation of the project involved stakeholders such as the Regional Government of Arequipa, local authorities, Andean camelid breeders associations, the districts' health centers, rural associations and communities, and the civil society.

Finally, it is important to mention the participation of the Yachachiq, professionals who live and belong to the community, who also speak Quechua. The permanent presence or stay by these specialists in the beneficiary districts reduced the time needed for integration with the community and made the work easier, especially once the measures to reduce the impact of the COVID-19 pandemic were imposed.

5.3. Stakeholder Participation

As was mentioned in the preceding sections, the project engaged with a large number of stakeholders through the exchange of information, and their participation was integrated into the design, implementation and follow-up of project activities. The experience and knowledge of the executing entities, governmental organizations and Yachachiq was key to achieving a successful design and implementation. Moreover, by gathering field data, the

opinions of the beneficiaries in the area of intervention were taken into account, particularly the opinion of those who are the most vulnerable.

During the first field visits under the AYNINACUY Project, it was observed that women had limited participation in the project's activities. For this reason, the gender mainstreaming approach was a key project axis, and several strategies were implemented under it. As a first step, women who were head of the family were prioritized as project beneficiaries. The bathroom infrastructure installed with the support of the project contributed to women's dignity and sanitation. Gas stoves installed with AYNINACUY reduced the exposure of women, adolescents and girls to the adverse weather conditions that they had to endure when gathering firewood outside their houses, as well as to toxic gases released when burning firewood. These activities reduced the vulnerability of women, adolescents and girls.

The participation of women was also achieved by listening to and understanding their needs. Therefore, upon request of the women in the community, and within the framework of Guide No. 11: Gender and adaptation to climate change, the chapter on Gender Violence was included, explaining the different types of violence and some measures to be taken when suffering any type of abuse. Moreover, during the workshops, women were empowered as female leaders of their community. In addition, a micro-program on gender equity was broadcasted through local radio stations in different communities.

5.4. Financial Management

The project has three financial audit reports prepared by the audit firm REAPERU – Ramírez Enríquez y Asociados, hired pursuant to the principles of due process for invitation to tender and selection, in line with CAF regulations. The financial audits took place annually and monitored the project's financial situation, assessing the consistency between the funds received and the payments made during the assessment period.

In each of the three reports, the auditors issued an opinion with no reservations regarding the project's income and expenses, clearly identifying the amounts transferred to CONDESAN and the disbursements applied to the project in each evaluation period. They also performed a field visit to evaluate the inventories in a sample of the beneficiary population. In addition, as part of their audit on the financial statements, the auditors also assessed the internal accounting control implemented by CONDESAN for its administration. The result was favorable in the three assessments, and no material/non-material weakness subject to reporting was observed. It is important to note that the financial audit also identified the budget update performed in November 2019, which is explained in section 3.3.

5.5. Supervision and support of implementing entity

Since the onset, the project created an ad hoc management unit for its execution. The work team in charge of the project was comprised of highly-qualified CAF personnel that devoted a great amount of time to push the project forward.

The Advisory Steering Committee was also created. Mainly, it had a consultative function and provided guidance and supervision to ensure the adequate development of the project and compliance with its objectives. This committee played a crucial role in the advancement of the project.

It is worth mentioning that the achievements were the result of a firm and clear commitment by all the agents involved, under CAF's efficient coordination.

5.6. Projects/Programmes start-up and implementation Delays

According to the budget expense analysis (section 3.3), during the project's first year of implementation, the executed amount was significantly lower than in subsequent years. This was mainly due to factors that delayed the start-up.

One of the causes for the implementation delay was that, although the project carried out an initial validation of COPASA's technical capacity, it did not assess its fiduciary capacity until AF approved the project, and a selection process had to be held, to assess potential administrative executing agencies that could support COPASA in matters related to fiduciary management. Following the assessment, CONDESAN was selected as administrative executing entity.

One further reason behind the implementation delay was that the area of influence of the AYNINACUY Project included some zones that belonged to two ANPs: Salinas and Aguada Blanca National Reserve (RNSAB) and Cotahuasi Sub-basin Landscape Reserve (RPSCC). This entailed additional requirements for project implementation and time invested to map all the permits needed to be able to execute the activities within such ANPs. This additional period took approximately five to six months.

Moreover, the project faced unexpected weather emergencies, caused by extreme rainfall, snow, and low temperatures that occurred every year and restricted access to communities, and resulted in authorities not giving priority to implementing the project in the communities. Eighty five percent of the communities were affected by weather conditions during the implementation of the project, and delays mostly occurred in the provinces of Condesuyos and La Union, which are the most distant and the most exposed to these hydro-climatological phenomena.

At the political level, at the time of project start-up, new authorities were appointed, and it was necessary to re-execute agreements with the new Regional Government and the 18 local governments benefitted by the project. This required additional coordination and the start-up of activities was significantly delayed. Despite these setbacks, the project successfully ratified five agreements at the province level, 18 at the local level, and 36 at the community level, guaranteeing the participation of authorities in meeting the commitments during the project's implementation.

It should also be mentioned that, during the first year of implementation, the technical team's learning curve for completing the processes and meeting CAF's procurement and hiring standards, required by the Administrative Executing Entity CONDESAN, and AF, resulted in a significant delay in handling the first purchases, personnel hiring, and supplier selection processes.

With regard to delays that took place during the execution of the project, from March to June 2020, the government ordered mandatory lockdown measures to reduce the impact of COVID-19. This situation hindered the completion of activities within the established timeframes. The restrictions continued in place during the second period to

purchase and deliver materials, and lasted until project completion in 2021. However, the project continued to coordinate with national, regional and local authorities to obtain the necessary permits to deliver and safeguard the materials in local warehouses during the lockdown period. In addition, health and biosafety protocols established by the government and CONDESAN were implemented, to protect the project's personnel and suppliers.

These measures permitted swiftly resuming the activities when the restrictions imposed by the National Government were lifted. Even so, the activities related to training and risk management in Component 2 were the most affected by the pandemic, because meetings and events were prohibited. Moreover, remote connectivity was not possible with distant communities and districts. In response and in view that the restrictions would continue, a decision was made at the end of the second year to change the training methodology. It was completed by broadcasting radio programs, because the radio is the main means of communication in the communities.

6. Project contribution to achieving the Adaptation Fund targets, objectives and impact

The Adaptation Fund goal is to assist developing-countries, under the Kyoto Protocol and the Paris Agreement, that are particularly vulnerable to the adverse effects of climate change, in meeting the costs of projects and programmes, in order to implement climate-resilient measures (Adaptation Fund, 2019). The objectives that are relevant to the AYNINACUY Project include: (a) Reduced exposure to risk, (2) Strengthened institutional capacity to reduce risks associated with climate, (3) Strengthened awareness of adaptation and climate risk reduction processes at local level.

Peru is considered a Non-Annex I country (developing country) under the Kyoto Protocol. Peru's National Strategy on Climate Change (ENCC) states that the country has seven out of nine characteristics recognized by the United Nations Framework Convention on Climate Change (UNFCCC) to be categorized as particularly vulnerable to Climate Change (MINAM, 2021). The main characteristics are: areas exposed to floods, droughts and desertification, and fragile mountain ecosystems, which match the project's initial justification.

The AYNINACUY Project has contributed to risk exposure reduction, particularly through the outcomes of Component 1. According to the National Adaptation Plan, it is crucial for producers to define and implement good agricultural and livestock practices to reduce their exposure to the effects of climate change. Taking into account that one of the identified risks is the high frequency of frost, the project has focused on providing infrastructure related to this, and the construction of 216 living fences.

Component 2 of the AYNINACUY Project contributed to the goal of strengthening the institutional capacity to reduce climate risks and raise awareness on this matter and on climate risks adaptation at the local level. The activities included workshops and initial agreements with local governments and communities. In addition, the project engaged the community aiming at entrusting them with responsibilities within the activities. This promoted the notion that knowledge should be preserved within the community and also shared internally. Moreover, several workshops were held on subjects such as composting toilets, improved cookstoves, or improved rural housing. A number of workshops were not held due to the COVID-19 restrictions or the distance between the impacted

communities, and thus they were broadcasted via radio, reaching a greater number of people. In addition, 12 guides related to Component 1 and Component 2 were published. The testimonials gathered in the field confirm that certain activities have been learned by the community (see Annex 2).

Taking all of the above into consideration, Table 10 shows the outcomes of the multi-dimensional analysis of the project's influence on AF outcome indicators, based on two areas: i) achievement of goals and outcomes, and ii) sustainability risks.

Table 10. Influence of the AYNINACUY Project on AF outcome indicators

Outcome Indicators	Influence of the AYNINACUY Project
Reduction of exposure levels per each hazard associated to climate change	The project has contributed to the reduction of exposure in the population and their livelihoods. This was achieved through the implementation of modules as part of the early warning system (SAT), improvement to dams and canals to optimize water use and expand wetlands in highland Andean areas, rebuilding of latrines to improve sanitary conditions and reduce the mortality of pregnant alpacas and newborn offspring, installation of protective fences, and cultivation of pastures for feeding.
Strengthening of institutional capacity on adaptation and resilience	The project included a series of measures to reinforce sustainability through a community-driven, highly participatory process, inductions, and capacity-building among beneficiaries, the community authority and local government officials.
Strengthening of outcome awareness and ownership	The project engaged a large number of stakeholders (governments, community, Yachachiq) through the exchange of information, and their participation was integrated into the design, implementation and follow-up of project activities.
Greater adaptation capacity in the sectors were it was developed	The project has contributed to strengthening the adaptive capacity of the beneficiary population and their livelihoods through training and knowledge-sharing.
Greater ecosystem resilience	The project has contributed to increasing the resilience of highland Andean wetlands by strengthening the technical knowledge on how to manage them, and pasture sowing.
Strengthened livelihoods of vulnerable communities	The project's main achievement has been strengthening the livelihoods of highland Andean vulnerable communities located in the area of intervention.
Improved policies and regulations that promote and enforce adaptation measures	Although the project did not have a direct effect on public policies and regulations, the AYNINACUY Project generated useful knowledge that can be applied to the design and execution of future climate change adaptation projects, both in Arequipa and in other regions of the country.

Source: The authors.

7. Evaluation of M&E Systems

According to the Guidelines for AF Project Final Evaluations, the evaluation of the monitoring and evaluation systems of a project must be based on the planning, design and implementation of the M&E system, baseline determination, and alignment to national M&E frameworks.

The evaluation of M&E systems of the AYNINACUY Project is **satisfactory** according to the different dimensions used to analyze this criterion. Although the project did not have a document detailing the M&E plan, the Project Performance Reports (PPRs) were used as basis. These reports are required annually by AF, but they were prepared in a quarterly basis to have updated information on the project's progress, which allowed to make decisions to improve performance. The project's baseline was determined using secondary information that was available. No vulnerability evaluation was performed on the project itself, due to financial constraints. Finally, with regard to the alignment with national M&E frameworks, during the project design and implementation stage there were no national frameworks that included indicators on climate change adaptation.

7.1. M&E System Plans, Design and Implementation

The monitoring and evaluation system of the AYNINACUY Project was based on gathering the necessary information to correctly and precisely complete the annual reports (PPRs) requested by AF. In that regard, no document detailing the procedures for project outcome monitoring and evaluation was prepared as part of the project. However, PPRs were prepared on a quarterly basis to perform a more detailed follow-up of project activities and make decisions to improve performance (corrective measures) and adapt to changing needs, mainly unforeseen events such as the restrictions resulting from the COVID-19 pandemic.

The monitoring and evaluation activities were implemented by the Project Team and CAF acting as Implementing Entity, and by local authorities, pursuant to official CAF procedures and in line with the practices of International Financial Institutions. The indicators shown in the Project Outcomes Matrix were the basis for the project's monitoring and evaluation system.

Project outcome monitoring and evaluation was performed by output, with a direct relation to the project's results framework. Similarly, beneficiaries were recorded per output and counted up based on the minutes kept at CONDESAN's offices in Lima. These minutes were used to compare the advancement against the project's goals. It is worth mentioning that the focus of the project was on households identified as impoverished or extremely impoverished, and women "head of family" were prioritized. It is also important to note that, as stated in the minutes, the beneficiaries undertook to look after and safeguard the received goods, and not to sell them.

According to the project's proposal, the monitoring and evaluation activities were included in the budget plan under indirect costs, and included the Monitoring and Evaluation Specialist fee and the Environmental and Social Specialist fee, as well as costs associated to Environmental Reports and audits. Costs associated to the work of the CAF team were not included in the project proposal and were covered by the fee they received for managing the project. The execution of the budged allocated to monitoring and evaluation was satisfactory, as it successfully achieved a 96.77% completion rate and fulfilled the established activities.

7.2. Project baseline

The project's baseline was determined using secondary information that was available. During project design, in the year 2015, it was observed that the infrastructure proposed by the project had not been implemented by the

government in the area of influence. Therefore, a "zero" baseline was considered. As was mentioned in the preceding paragraphs, prior consultation processes were carried out during 2015 and 2016 to gather the main concerns and problems faced by the highland Andean population. However, by the time the project implementation started in 2017, the government had already implemented interventions in the area of influence, and the intervention scope was modified to include a requirement: in order to be selected, the beneficiaries could not already own the infrastructure to be implemented by the project.

With regard to the climate change vulnerability baseline, the reference used for the design of the project was the Regional Strategy on Climate Change in the Region of Arequipa (2009), which identifies the impacts of climate change in the area of influence of the project. However, no vulnerability evaluation (scientific-based) was performed for the project due to financial constraints.

7.3. Alignment of project M&E frameworks to national M&E frameworks

During the project design and implementation stages there were no national frameworks that included indicators on climate change adaptation. Therefore, project indicators were defined taking into account the most relevant information on the matter, mainly technical knowledge of implementing and executing agencies.

8. Conclusions, lessons learned and recommendations

8.1. Conclusions

As a result of all the items included in the evaluation, it was determined that the **outcomes** of the project are **satisfactory**. The relevance of the project is satisfactory, because its outcomes are aligned to FA objectives and climate change adaptation priorities identified at the national level. Project effectiveness was satisfactory, due to the impact of COVID-19, among other barriers, which were present during a significant part of its execution and, although the project succeeded in meeting its goals under Component 1 in a highly satisfactory manner, activities related to capacity-strengthening (Component 2) had to be suspended due to sanitary restrictions. On the other hand, project efficiency was satisfactory, given that the overall budget execution was 81.05%, and the achievement of goals of Component 1 was highly satisfactory.

Similarly, the **sustainability** of project outcomes is **moderately likely**. Financial sustainability is likely because a number of initiatives were implemented in the last year to follow and multiply the climate change adaptation actions carried out by AYNINACUY. Specifically, the Multisector Plan against Frost and Cold Spells 2019-2021 and the Investment Project of the Regional Government of Arequipa: "Improving services to support the alpaca fiber productive chain in the Provinces of Arequipa, Castilla, Condesuyos and La Union, Arequipa Region" are currently under execution.

On the other hand, socio-political sustainability is moderately likely because, although the project has developed the capacities of the community and local government officials, the country is currently facing a political crisis that

has a social impact on the most vulnerable population. Furthermore, at the time of project completion, new authorities were appointed in the Regional Government of Arequipa. However, the appointment of COPASA's new director would benefit the project's sustainability thanks to his knowledge on this subject and his relationship with different political authorities.

With regard to institutional and governance sustainability, they were found to be likely, given that Peru has a strong institutional framework on matters related to climate change adaptation. In addition to this, the AYNINACUY Project generated useful knowledge that can be applied to the design and execution of future climate change adaptation projects, both in Arequipa and in other regions of the country.

Environmental sustainability, in turn, was found to be moderately likely, because, although the environmental risks associated to climate change in the area of intervention are still uncertain and require localized vulnerability analyses, there are instruments at national and local level aligned to the objectives of the AYNINACUY Project that will continue implementing adaptation measures to reduce the vulnerability of the population and its livelihoods.

Among the processes influencing the achievement of outcomes, the project had the support of the Regional Government of Arequipa and the Ministry of Environment since the design stage. It is important to mention that the design took into account the experience and lessons learned by other projects implemented in the area or the country, on related matters. Project structuring activities included field visits, consultative processes, and a start-up workshop to present the project. However, no climate change vulnerability evaluation was performed for the project itself that could be used as baseline.

Country ownership was high. Since its design, the AYNINACUY Project stood by the country's climate change adaptation priorities and aligned its outcomes accordingly, contributing to the reduction of vulnerability in rural communities and their livelihoods. During the execution of the project, government representatives participated through an Advisory Steering Committee, an entity of consultative nature in charge of providing guidance and supervision to ensure the project's adequate performance and compliance with its objectives. This Committee was comprised of representatives of the Office of the Regional Government of Arequipa, the Ministry of Environment (MINAM), the Regional Environmental Authority of the Regional Government of Arequipa (ARMA), the Technical Executing Entity COPASA, the Administrative Executing Entity CONDESAN, CAF, and other key institutions. Moreover, the project was executed in direct coordination with the local governments of 18 districts within its area of influence. Its implementation involved stakeholders such as the Regional Government of Arequipa, local authorities, Andean camelid breeders associations, the districts' health centers, rural associations and communities, and the civil society.

The participation of stakeholders was remarkably broad. The beneficiaries' participation during the design and implementation of the project was key to achieve successful outcomes. Women's participation, advocated through the project's gender mainstreaming approach, was notable. It was achieved by listening to and understanding their needs, encouraging their empowerment as women leaders of their community.

Good financial management was also a key aspect of the achievement of outcomes. In the financial audits performed annually to monitor the project's financial situation, the auditors issued an opinion with no reservations regarding the project's income and expenses, clearly identifying the amounts transferred to CONDESAN and the

disbursements applied to the project in each evaluation period. In addition, the auditors also assessed the internal accounting control implemented by CONDESAN for its administration.

It is worth mentioning that the project's goals were also achieved through a firm and clear commitment by all the agents involved, under CAF's efficient coordination.

Taking the above into consideration, it is worth mentioning that the AYNINACUY Project is aligned to AF strategic framework, because it is remarkably consistent with its objective, goals and most strategic priorities.

8.2. Lessons learned and recommendations

Table 11 lists the lessons learned that were identified by the project evaluation. It also includes recommendations for future projects.

Table 11. Lessons learned and recommendations

Lesson Learned	Recommendations
The generation of field data was a key factor when planning the AYNINACUY Project. Consultative processes were developed to encourage the beneficiaries' approval of the project and field data gathering.	Similarly to the one carried out in the AYNINACUY Project, it is advisable to develop a consultative process to validate the project's scope, the socio-environmental characteristics of the area, and the needs of beneficiary communities. Their situation should be reflected in the budget to be funded.
Due to the project's scope, which extends across highly vulnerable communities that are far from each other, field visits were restricted due to the team's time constraints and the logistical challenges faced when visiting the most remote communities.	It is advisable to consider not only the location of the beneficiary communities, but also their geographical distribution and the distance between them. This will help understand the logistical effort that will be required, both for the implementation and the follow-up of activities in these communities.
The project start date was concurrent with the process to appoint new local authorities and the agreements had to be re-executed with the new Regional Government and the 18 local governments benefitted by the project. These required additional coordination and the start-up of activities was significantly delayed.	It is advisable to take into account the political scenario, especially in a country like Peru, where socio-political risks are high.
The area of influence of the AYNINACUY Project included some zones that belonged to two ANPs: Salinas and Aguada Blanca National Reserve (RNSAB) and Cotahuasi Sub-basin Landscape Reserve (RPSCC). This entailed additional requirements for project implementation and time invested to map all the permits needed to be able to execute the activities within such ANPs, which in turn delayed the project's start-up.	It is advisable to identify the relevant legal framework during the project's design stage in order to avoid delays related to regulatory compliance.
The technical team's learning curve for completing the processes and meeting CAF's procurement and hiring standards, required by the Administrative Executing Entity CONDESAN, and Adaptation Fund, resulted in a	It is advisable to include training sessions aimed at strengthening the logistics capacities of the implementing team during the project's start-up stage.

significant delay in handling the first purchases, personnel hiring, and supplier selection processes.	
The number of beneficiaries estimated during the project's design included the entire rural population of Arequipa, encompassing 29 districts. The information was obtained from the census performed in 2007, and contained very thick data. Moreover, according to the results framework, most goals were decided not on the basis of the number of beneficiaries, but the number of infrastructure (number of built sheds, of fences, etc.).	If no updated population data and data at community level is available, it would be advisable to establish a conservative beneficiary goal. On the other hand, it is important to evaluate the relevance of defining a global beneficiary goal when the project's specific goals relate to infrastructure.
One of the biggest challenges faced by the project was the COVID-19 sanitary crisis, which affected the project's activities over a period of 17 months and became its main limiting factor. The impact of COVID-19 on the project was reduced through agreements that had been previously signed with local and community authorities, the good coordination with local authorities, and the presence of Technical Field Specialists – Yachachiq, who stayed permanently at the beneficiary communities.	Similarly to how it was done in the AYNINACUY Project, it is advisable to sign agreements with local and community authorities to ensure their participation and support in case of unforeseen events that fall beyond the scope of responsibility of the project implementers.
No vulnerability evaluation (scientific-based) was performed for the AYNINACUY Project and, therefore, it was not possible to obtain a baseline.	It is advisable to include vulnerability analyses within the activities of future projects to define and use a baseline for the vulnerability situation of the beneficiary population and their livelihoods. Moreover, it is also advised to perform a new vulnerability analysis at the end of the project to compare it against the initial situation and verify that the project contributed to the reduction of vulnerability.

Source: The authors.

For more information on the lessons learned during the project, please see the document titled "Systematization of Lessons Learned in the AYNINACUY Project".

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10. Annex 1: Evaluation Matrix

Attachment

Annex 2: Interviews

Attachment

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