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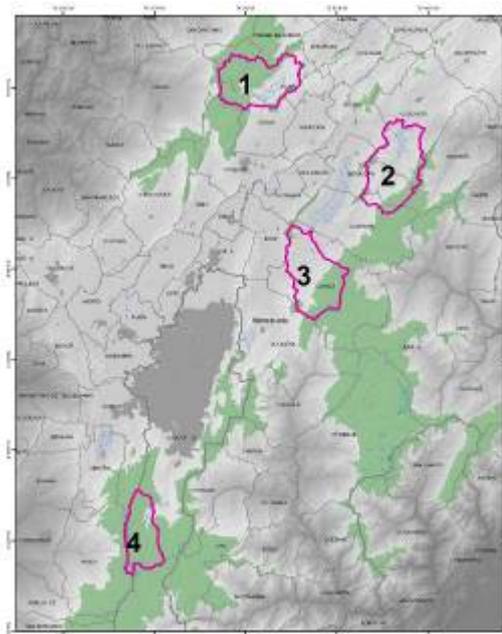
MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT
CONSERVATION INTERNATIONAL
INTER-AMERICAN DEVELOPMENT BANK
GLOBAL ENVIRONMENT FACILITY

TERMINAL EVALUATION

GRT/CX-14525-CO Project: “Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero”, Colombia

GEFSEC ID: 4610
IDB ID: CO-G1002
No. GRT/CX-14525-CO
GEF Focal Area: SCCF

Partner entities: **MADS, CAR, CORPOGUAVIO, EAAB, IDEAM**



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COLOMBIA

***GRT/CX-14525-CO Project: "Adaptation to Climate
Impacts in Water Regulation and Supply for the Area of
Chingaza - Sumapaz - Guerrero"***

**TERMINAL
EVALUATION**

TABLE OF CONTENTS

INDEX OF TABLES		III
INDEX OF ANNEXES		IV
LIST OF ACRONYMS		V
1	EXECUTIVE SUMMARY	VII
1.1	<i>Key aspects of the evaluation approach and methodology</i>	vii
1.2	<i>Project Description</i>	vii
1.3	<i>Summarized evaluation ratings</i>	viii
1.4	<i>Main findings</i>	viii
1.4.1	Analysis of the design, execution, and relevance	viii
1.4.2	Impact, Effectiveness, and Efficiency	x
1.4.3	Sustainability	x
1.5	<i>Summary of lessons learned and recommendations</i>	xii
2	BASIC INFORMATION	14
3	INTRODUCTION	15
3.1	<i>Purpose of the evaluation</i>	15
3.2	<i>Scope and methodology</i>	15
3.3	<i>Structure of the Evaluation Report</i>	19
4	PROJECT DESCRIPTION	20
5	FINDINGS	22
5.1	Relevance	22
5.1.1	Theory of change	22
5.1.2	Project alignment with development issues	23
5.1.3	Relation between the Project and national and international regulations	28
5.1.4	Analysis of Environmental and Social Safeguards	31
5.1.5	Results Framework and identified risks	33
5.1.6	Monitoring and evaluation	37
5.1.7	Relevant stakeholders, and Project coordination by CI, IDB and the partners	39
5.2	Impact	43
5.2.1	Project Impact Indicators	44
5.2.2	Outcome Indicators of Component 1	47
5.2.3	Outcome Indicators of Component 2	48
5.3	Effectiveness	50
5.3.1	Effectiveness of Component 1 outputs	50
5.3.2	Effectiveness of Component 2 outputs	53

5.4	Efficiency: comparison between physical achievements and budget/execution	57
5.5	Sustainability	61
5.5.1	Social and Institutional Sustainability	61
5.5.2	Ecological Sustainability	62
5.5.3	Financial Sustainability	63
6	LESSONS LEARNED, CONCLUSIONS, AND RECOMMENDATIONS	67
6.1	<i>On the design and relevance</i>	67
6.2	<i>On the effectiveness and efficiency</i>	68
6.3	<i>On the impact and sustainability</i>	70
7	BIBLIOGRAPHY	72
8	ANNEXES	74

INDEX OF TABLES

TABLE 1	<i>PROGRAM AND FINANCIAL COSTS (IN THOUSAND USD)</i>	VII
TABLE 2	<i>SUMMARIZED PROJECT EVALUATION RATINGS</i>	VIII
TABLE 3	<i>RISKS TO THE PROJECT EXECUTION UPDATED BY THE IA IN THE PIR</i>	XI
TABLE 4	<i>LESSONS LEARNED AND MOST RELEVANT RECOMMENDATIONS</i>	XII
TABLE 5	<i>EVALUATION RATINGS KEY</i>	16
TABLE 6	<i>IDENTIFICATION OF DEVELOPMENT ISSUES THAT RESULTED IN THE DESIGN OF THE PROJECT</i>	23
TABLE 7	<i>ADJUSTMENTS TO THE ORIGINAL PROJECT RESULTS MATRIX</i>	25
TABLE 8	<i>RISKS IDENTIFIED AT PROJECT DESIGN</i>	33
TABLE 9	<i>RISKS TO THE PROJECT EXECUTION UPDATED BY THE IA IN THE PIR</i>	34
TABLE 10	<i>FULFILLMENT OF THE PROJECT IMPACT INDICATORS</i>	44
TABLE 11	<i>FULFILLMENT OF THE OUTCOME INDICATORS OF COMPONENT 1</i>	48
TABLE 12	<i>FULFILLMENT OF THE OUTCOME INDICATORS OF COMPONENT 2</i>	49
TABLE 13	<i>FULFILLMENT OF COMPONENT 1 OUTPUT INDICATORS</i>	51
TABLE 14	<i>FULFILLMENT OF COMPONENT 2 OUTPUT INDICATORS</i>	53
TABLE 15	<i>AREAS RESTORED AND REHABILITATED BY THE GEFAM PROJECT (HA)</i>	56
TABLE 16	<i>BUDGET EXCHANGE BETWEEN PROJECT COMPONENTS AS OF DECEMBER 1, 2020 (USD)</i>	58
TABLE 17	<i>COMPARISON BETWEEN THE BUDGET CONTEMPLATED IN THE POM VS. THE BUDGET EXECUTED BY THE PROJECT AS OF DECEMBER 1, 2020 (USD)</i>	59
TABLE 18	<i>SOURCES AND AMOUNTS OF CO-FINANCING (AS OF DECEMBER 1, 2020)</i>	60
TABLE 19	<i>PEOPLE/ORGANIZATIONS INTERVIEWED, FROM AUGUST 24 TO NOVEMBER 10, 2020</i>	80
TABLE 20	<i>IDENTIFICATION OF COMPLEMENTARY DEVELOPMENT ISSUES THAT RESULTED IN THE DESIGN OF THE PROJECT</i>	83
TABLE 21	<i>SUMMARY OF ADJUSTMENTS MADE TO THE RESULTS MATRIX BY RECOMMENDATION OF THE IDB SPD DIVISION</i>	86
TABLE 22	<i>MONITORING SYSTEM METHODOLOGY ESTABLISHED FOR THE SYSTEM COMPONENTS ON DIFFERENT SPATIAL SCALES</i> .	98
TABLE 23	<i>KEY PROJECT STAKEHOLDERS</i>	102
TABLE 24	<i>AGREEMENTS SIGNED WITHIN THE FRAMEWORK OF THE PROJECT WITH GEF FUNDS</i>	112
TABLE 25	<i>AGREEMENTS SIGNED WITHIN THE FRAMEWORK OF THE PROJECT WITHOUT GEF FUNDS</i>	114

INDEX OF ANNEXES

ANNEX 1: INTERVIEW QUESTIONNAIRE	75
ANNEX 2: LIST OF PEOPLE AND ORGANIZATIONS INTERVIEWED.....	79
ANNEX 3: COMPLEMENTARY DEVELOPMENT PROBLEMS COVERED BY THE PROJECT	82
ANNEX 4: REVIEW AND ADJUSTMENT OF THE RESULTS MATRIX	85
ANNEX 5: FOCUS ON THE DIFFERENTIAL AND GENDER APPROACH	90
ANNEX 6: LINKS OF PUBLICATIONS MADE BY THE PROJECT	94
ANNEX 7: DETAILED PROJECT MONITORING STRATEGY.....	96
ANNEX 8: KEY PROJECT STAKEHOLDERS.....	101
ANNEX 9: COOPERATION AGREEMENTS SIGNED BY CI WITHIN THE FRAMEWORK OF THE PROJECT EXECUTION ...	111
ANNEX 10: DETAIL OF THE ADAPTATION PROJECTS TO BE SUBMITTED TO PRIORITIZED SOURCES OF FINANCING .	115
ANNEX 11: MAP OF THE PROJECT INTERVENTION AREAS AND PICTURES OF THE ACTIVITIES	119

LIST OF ACRONYMS

AWP	Annual Work Plan
C	Component
CAR	<i>Corporacion Autonoma Regional de Cundinamarca</i> (Regional Autonomous Corporation of Cundinamarca)
CC	Climate Change
CF	Carbon Footprint
CI	Conservation International
CONPES	Colombia's National Council for Economic and Social Policy
COP	Conference of the Parties
CORPOGUAVIO	<i>Corporacion Autonoma Regional del Guavio</i> (Regional Autonomous Corporation of Guavio)
CSO	Civil-Society Organization
EA	Executing Agency
EAAB	<i>Empresa de Acueducto, Alcantarillado y Aseo de Bogota</i> (Bogota water and sewerage utility)
ECDDBC	Colombia's Low-Carbon Development Strategy
EEV	Economic and ecological valuation
GEF	Global Environment Facility
GEFAM	GEF Project "Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero"
GHG	Greenhouse Gas
GoCO	Government of Colombia
GP	Grant Proposal
IA	Implementing Agency
IAvH	<i>Instituto de Investigacion de Recursos Biologicos Alexander von Humboldt</i>
IDB/Bank	Inter-American Development Bank
IDEAM	Colombia's National Institute of Hydrology, Meteorology and Environmental Studies
INE/RND	Division of Environment, Rural Development and Disaster Risk Management
LDCF	Least Developed Countries Fund
LL	Lesson learned or finding
LMTs	Landscape Management Tools
M&E	Monitoring and Evaluation
MADR	Colombia's Ministry of Agriculture and Rural Development
MADS	Colombia's Ministry of Environment and Sustainable Development (formerly MAVDT)
MAVDT	Colombia's Ministry of Environment, Housing and Territorial Development
MoU	Memorandum of Understanding
MTE	Mid-Term Evaluation
N.a.	Not applicable
NF	Natura Foundation
NGO	Non-Government Organization
OP	Operations Plan
PCPs	Procurement and Contracting Plans
PCU	Project Coordination Unit
PDD	Project Design Document
PIF	Project Identification Form
PIR	Project Implementation Report
PMR	Project Monitoring Report
PND	Spanish acronym for National Development Plan
PNN	Spanish acronym for National Natural Parks of Colombia
POM	Project Operational Manual
PP	Procurement Plan

PROJECT	"Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza-Sumapaz-Guerrero" Project
REDD	Reduced Emissions from Deforestation and Degradation
RFCE	Request for CEO Endorsement
SC / PSC	Steering Committee / Project's Steering Committee
SCCF	Special Climate Change Fund
SD	Sustainable Development
SDA	Bogota District Secretariat of the Environment
SNNCM	Spanish acronym for National System of Standardization, Certification and Meteorology
TAC	Technical Advisory Committee
TC	Technical Cooperation or Technical Committee
tCO	Tons of carbon
TCA	Technical Cooperation Agreement
TCD	Technical Cooperation Document
tCO _{2e}	Tons of carbon equivalent
TE	Terminal Evaluation
TNC	The Nature Conservancy
ToR	Terms of Reference
UAESPNN	Special Administrative Unit of the National Natural Parks System
UNFCCC	United Nations Framework Convention on Climate Change
UPRA	Farming Rural Planning Unit

1 EXECUTIVE SUMMARY

1.1 Key aspects of the evaluation approach and methodology

The general objective of the Project is “to strengthen the hydrological buffering and regulation capacity of the upper areas of the watersheds located in the Chingaza-Sumapaz-Guerrero Conservation Corridor, which supply drinking water to the metropolitan area of Bogota and the adjoining municipalities.”

The methodology was designed to be as inclusive as possible and the evaluation approach prioritized the participation of different stakeholders which have been involved in the Project. The following data gathering and analysis methods were used in the evaluation: (i) document review; (ii) partially structured interviews (virtual), (iii) questionnaires; and (iv) presentation of preliminary results. However, due to the COVID-19 pandemic, adjustments had to be made to perform the evaluation virtually, which involved a logistical effort with very positive results in relation to the interviews and focus groups, but there was no field-verification - instead, a triangulation was made with the different stakeholders and fulfillment reports were implemented.

The evaluation covers five dimensions: relevance, impact, effectiveness, efficiency, and sustainability. A description of the ratings used is provided in *Table 5*.

1.2 Project Description

The Project was structured based on two technical components:

Component 1: Knowledge management

Component 2: Adoption of adaptation measures to address the impacts of climate variability and change on the water balance of the areas.

The estimated project costs by component are shown in *Table 1*.

Table 1: Program and financial costs (in thousand USD)

CATEGORY	IDB-GEF	LOCAL COUNTERPART CONTRIBUTION	ASSOCIATED FUNDS	TOTAL
Component 1. Knowledge management	450	1,109	300	1,859
Component 2. Adaptation measures, M&E, and audit	3,344	9,100	10,650	23,094
• Adaptation measures	2,807			
• Monitoring and evaluation	472			
• Project audit	65			
Project coordination and management	422	1,200	1,350	2,972
TOTAL COST	4,216	11,409	12,300	27,925

Source: IDB 2014.

1.3 Summarized evaluation ratings

The purpose of the Terminal Evaluation (TE) is to provide an independent in-depth evaluation of the achievements made through the implementation of the Project. The TE follows the guidelines, rules, and proceedings established by the IDB and GEF in the Guidelines for GEF Agencies conducting Terminal Evaluations, GEF Evaluation Office Ethical Guidelines.

Below are the ratings for each dimension analyzed, as required in the ToR (the ratings key is provided in Table 5)

Table 2 *Summarized project evaluation ratings*

EVALUATION OF OUTCOMES	RATING
Relevance	Highly satisfactory (HS)
Impact	Highly satisfactory (HS)
Effectiveness	Highly satisfactory (HS)
Efficiency	Highly satisfactory (HS)
Sustainability	Likely (L)

NB: The higher the number, the better the rating.

Source: GEF 2018 form with 2020 evaluation results

1.4 Main findings

1.4.1 Analysis of the design, execution, and relevance

This Project harmonized the needs and priorities of local and regional beneficiaries and stakeholders, adapted to a changing context through outstanding adaptive planning, and its outcomes are clearly linked with development issues and are consistent with national and international legislation. The activities conducted to accomplish the Project objective are as follows:

- *Fact sheets that paved the way for the implementation of the technical assistance process to support municipalities in updating their land use schemes and the CARs in mainstreaming CC-related issues into the environmental determinants. Likewise, all of the outcomes of C1 were shared with the rest of the project partners, which enabled building their knowledge of adaptation issues in the relevant watersheds.*
- *Design and implementation of a monitoring system with one year worth of records covering three components: i) hydrometeorological, ii) eco-hydrological, and iii) community component. This was done in cooperation with the beneficiary families that were willing to participate. A new component was incorporated during the final phase to measure the impact on the communities' wellbeing (socioeconomic component), in order to assess changes. Prior to the implementation of adaptation measures, during the seasons of greater drought, families reported lower incomes and difficulty in accessing basic education, health, and food services. With the adaptation measures in place, income stability improved greatly due to the diversification of production through high-yield alternatives specifically for the dry season.*
- *Two activities: i) a diploma in "Climate Change and Land Use Planning" was implemented for public officials in the municipalities, corporations, some ministries, and private companies, and ii) socialization processes were carried out within the communities to educate the community members and local organizations (sharing of experiences and involving local organizations in the implementation of some of the adaptation measures).*

- *Design and implementation of adaptation measures in relation to ecological restoration, rehabilitation and recovery, diversification and redeployment of production, and efficient water management, together with supplementary measures like the monitoring system and capacity-building.*

The Project objectives remained unmodified, in spite of the following contextual changes that affected the Project:

- *Enactment of the Paramos Law no. 1930 of 2018, which categorized paramos as strategic ecosystems and laid down guidelines seeking to secure their integrity, preservation, restoration, and sustainable use, and the development of knowledge in relation to them. But this Law has not been regulated, so even if it does permit low-impact activities, these activities are not clearly defined, so in practice it does limit the implementation of productive activities in paramos. Contrary to what had been contemplated at the design stage, during the MTE it was decided not to implement productive systems in two units/watersheds (#1 Guandoque and #4 Chisaca) due to the CAR not agreeing to their implementation in those paramo areas; consequently, only ecological restoration activities were conducted there.*
- *Change of directors at CORPOGUAUVIO and CAR, and change of municipal mayors - key personnel of trust. Change of the MADS Minister and of other staff at the participating public institutions.*
- *When the Project was designed, IDEAM's Third National Communication on CC had not been released, so the design followed the AR4 methodology, which had to be afterwards updated to align it with the AR5 methodology.*
- *The COVID-19 pandemic brought the Project's field work to a complete halt between May and August; now it has resumed with some limitations.*
- *Due to the devaluation of the Colombian peso, there are more financial resources from the GEF funding in local currency, which have been invested in supporting the development plans of municipalities, among other things. However, this has also posed a problem for the recognition of the co-financing funds.*

As regards environmental and social safeguards, the Project worked on critical ecosystems (OP-703 B9), two hydrological units delimited as paramos – the Guandoque and Chisaca watersheds -, and two other units delimited as high-Andean forests – the San Francisco and Chipata watersheds. In these watersheds, the Project performed forest restoration and rehabilitation, promoted lower-impact sustainable activities and production, and a more efficient use of water, among other activities.

Not only did the Project comply with national regulations and multilateral environmental agreements (B2), but it also proposed a regulation for section 10 of the Paramos Act (Law 1930-2018), defining low-impact farming activities.

With the implementation of agro-ecological practices as an adaptation measure, the use of agrochemicals was significantly reduced, and the reuse of organic waste for the production of organic fertilizers, biofertilizers, and compost (B11) was promoted.

Women's organizations were engaged to support the on-site implementation of the adaptation measures promoted by the Project (OP-761). In this regard, the family unit was strengthened in relation to the distribution of activities and roles, within and outside the household. Capacity building was provided to two women's businesses in Chisaca - "Colectivo PISOA" and "Colectivo Las Margaritas". Production proposals were designed with women to showcase new production alternatives involving productive roles within families, e.g. nurseries for the production and trading of succulents. The Project also worked with other formal organizations of women: i) two agreements were signed with AMUSES for the implementation of adaptation measures related to the ecological restoration of the San Francisco watershed (B2), ii) capacity

building was provided to AMEG (Association of Entrepreneurial Women from Guatavita) for the production of functional milk products (functional yoghurt with honey and pollen, blueberries, etc.), and iii) an agreement was signed with Mujer y Tierra for the implementation of adaptation measures related to the ecological restoration of the Chisaca watershed (B9). Given the importance of adopting a differential and gender-focused approach in the design and implementation of adaptation measures, Annex 5 summarizes the problems faced and the conceptual and methodological approach used to reduce the inequalities that render women, children, and adults particularly vulnerable.

As regards water regulation and supply, all the adaptation measures promoted by the Project contribute to reducing the impacts of CC on the watersheds (OP-704).

The GEFAM Project worked with children and young people to perform an audiovisual systematization of adaptation measures on the social media (OP-102). IDEAM and MADS are leading the creation of dissemination material about the Project's outcomes; this material is currently being designed and will be presented in 10 series of publications which are expected to be ready in February of 2021. Annex 5 includes a list of publications and information related to the Project.

The Project did not conduct any kind of archaeological study, but they do exist for this area, as we could learn from interviews conducted with the Project coordinators. The Project did not detect any archaeological site within its area of influence, and it did not perform high-impact activities or found any trace or sign of their existence during the execution stage (OP-703 B9).

1.4.2 Impact, Effectiveness, and Efficiency

There has been a transformational change in the beneficiaries and in the institutions and partners involved, which is fully attributable to the Project according to the interviews held. The Project has also developed an intervention methodology that can be replicated in other projects in Colombia and worldwide. However, the Project's impact indicators had to be adjusted as a result of the analysis performed during the MTE, given that the percentage of area where activities were implemented was less than 5% of the area of the hydrological units, so impacts at the watershed level are not easily measurable due to scale issues - as opposed to impacts at the level of sites and even of hydrological units of the 5th order.

This Project has met the output targets and exceeded others. It is worth mentioning that the targets for restoration and rehabilitation using GEF funds have been met and are expected to be exceeded, and expectations have been exceeded in terms of targets met using co-financing funds.

The Project has successfully linked its results to the achievement of its objectives and to a proper management of its budget, adapting its timeframes to the prevailing circumstances/context related to a delay in the implementation of Component 2 but, especially, to the COVID-19 pandemic.

1.4.3 Sustainability

The five projects that are being designed and that were contemplated at the design stage will secure the continuation of the activities started by the Project. The Project's sustainability is also supported by a proposal for long-term monitoring and by the transformational change seen in the beneficiaries and the partner institutions/organizations.

Table 3: Risks to the Project Execution updated by the IA in the PIR

RISK	RATING	RISK MITIGATION STRATEGY	TERMINAL EVALUATION COMMENT
<p><i>Overall, for the 2019-2020 period, the Project risk is rated as: Moderate (with the main risk being related to mobility limitations as a result of the COVID-19 situation)</i></p>			<p><i>This risk declined (unlikely)</i></p>
<p>The limited participation of key stakeholders - i.e. MADS, the government of the state of Cundinamarca, CARs EAAB, municipal governments of Tausa, Cogua, Sesquile, Guatavia and Guasca - may hamper the achievement of objectives and goals</p>	L	<p>This risk has been mitigated through close coordination and consultation with local organizations and partners, ensuring their participation in all phases of project design and implementation. Coordination activities have been key to the successful implementation of the Project activities, and have been prioritized to ensure long-term sustainability (e.g. the municipalities and communities being the owners of the investments made by the Project).</p>	<p><i>These risks declined.</i></p> <p>These risks are virtually nil since, based on the interviews, the Project found great acceptance among the different participants, and has successfully implemented its activities and achieved the desired outcomes and impact.</p> <p>(unlikely)</p>
<p>Local communities not adopting adaptation measures to address climate change and climate variability or not supporting them</p>	L	<p>This risk is closely related to the previous one because the communities' willingness to adopt and support measures is also proportional to their level of information and involvement in the design, execution, and evaluation of such measures. This risk is also related to the additional benefits that the measures could bring to their current livelihoods. The specific risk mitigation activities that have been implemented include the generation and dissemination of outcomes aimed at building local stakeholders' capacities through consultation and training workshops.</p>	<p>(unlikely)</p>
<p>The fact that adaptation measures cannot be implemented in the Guerrero paramo area due to the latent conflict generated by the GoC recently declaring it a PA without adequate consultation with the local communities</p>	L	<p>This situation became more critical due to the lack of an Environmental Management Plan for these areas. However, in the second half of 2019, the Project's Technical Team reached out to the management of the Local Environmental Authority (CAR) and the municipalities of Cogua and Tausa to discuss the possibility of conducting some restoration activities in publicly-owned lands. As a result, ecological restoration measures were implemented for water regulation in publicly-owned lands in the municipality of Tausa within the Guandoque hydrological unit.</p>	<p><i>This risk decreased.</i></p> <p>The Paramos Law no. 1930 of 2018 was the specific limitation that prohibited conducting productive activities; however, the Project solved this by conducting restoration activities in publicly-owned areas.</p> <p>(unlikely)</p>
<p>Not being able to achieve the restoration objectives due to mobility and fieldwork constraints related to the COVID-19 health emergency</p>	M	<p>As of the date of this report, the Project's co-financing institutions have reported a physical counterpart contribution of more than 4,000 ha restored by CORPOGUAVIO and 4,182 ha by CAR, thus meeting the restoration target set by the counterparts. As for the ecological restoration target involving GEF resources, there is the risk of not meeting it (263 ha of 300 ha have been restored so far). This risk has to do with the impossibility to go to the field due to the COVID-</p>	<p><i>This risk declined</i></p> <p>The restoration objectives financed with GEF resources are being met. However, the Guandoque Watershed #1 is socially complex</p>

RISK	RATING	RISK MITIGATION STRATEGY	TERMINAL EVALUATION COMMENT
		19 mobility restrictions. Some of these restrictions are expected to be removed during the second half of 2020. However, the restoration team is made of local professionals and facilitators who live in the municipalities targeted by the interventions, which helped partially solve the mobility restrictions issue. In addition, the Project has agreements for planting works in place with local associations, which also helped sustain the implementation of some restoration activities.	due to illegal mining and money laundering issues, and CAR is not welcome in the communities. (unlikely)

Source: IDB 2020 and interviews 2020.

1.5 Summary of lessons learned and recommendations

There follows a summary of the lessons learned and most relevant recommendations.

Table 4: Lessons learned and most relevant recommendations

LESSON LEARNED	RECOMMENDATION
The involvement of the main stakeholders in the identification of problems to be solved and the design of the Project was critical to the success of this Project. However, not all of the identified indicators are realistic and measurable over the Project term.	Although the Project design focused on solving the main development problems identified, it should clearly identify impact indicators that can be measured during the implementation phase. In addition, due to the existence of impacts that can only be effectively measured over the medium or long term, after the Project closing, their monitoring should be included in the activities to be undertaken to ensure sustainability (which institution/organization will be responsible for doing it).
The timely decisions taken by the Project's coordinators have been critical in implementing adaptive management and accomplishing a better use of the limited resources: the support received from local base organizations was fundamental for its success, it helped mitigate the effects of the pandemic in the Project's activities and promoted gender equality (OP-761)	It is advisable for projects - especially those that conduct on-site/field work - to prioritize local labor so that the project benefits can be sustained and multiplied over time, while creating an opportunity to foster and raise awareness about gender equality.
During the project design phase, it is important to especially consider the actors who will finally implement the proposed measures in order to incorporate their views and improve the execution.	The design of future projects should include a stage of consultation with all of the key stakeholders, especially those that will implement field activities - in this case, major offices.
It is necessary to closely monitor the legislation directly related to the project activities (paramos) and provide support to seize every opportunity to influence the formulation of sustainable public policies that improve people's lives at large.	Especially through its institutional partners, the Project should monitor government initiatives aimed at formulating or amending legislation related to the project activities at the national, regional, and local level, and provide technical support and cooperation in order to effectively influence policy-making and the improvement of people's lives at large. In this case, where the law has not been regulated, it is advisable for the Project to make an effort in this regard before it ends.
The Project should have supplemented the original impact indicators with an additional one, aligned with its implementation period, in sync with adaptive management practices.	It is advisable for projects to perform adaptive management by adjusting their design to timely correct any discrepancies in relation to the implementation. The design, like any planning

LESSON LEARNED	RECOMMENDATION
	instrument, is dynamic (non-static) and requires fine-tuning as the project unfolds.
The Executing and the Implementing Agency must consensually use one same risk matrix for the whole of the Project so that it serves as an effective input for planning and adaptive management	It is advisable that the IA and EA develop and adapt the project planning instruments together - in this case, the risks matrix - to appropriately address the threats and opportunities that arise in the context of the project and make the necessary adaptations to mitigate risks, avoid greater impacts, and harness opportunities
Resources from other components with completed activities that remain unused should be used to complete unfinished activities in other components or to finance adaptive management activities	If Component 1 has remaining resources, they could be transferred and used to either complete unfinished activities in Component 2, or implement supplementary activities that foster a transformational change
The initiatives supporting the sustainability of the activities started by the Project in the high mountain should be advanced	It is critical for the GEFAM to strive to develop the 5 projects rightly contemplated in the design of the Project, so as to ensure the continuation of the activities undertaken
TCs and SCs should focus on the Project's strategic decision-making	The design must clearly define the roles and responsibilities of each of the project operation/execution bodies as a clear scheme that facilitates the accomplishment of the defined objectives
It is important that the outputs generated in this Project be available to the general public and disclosed on electronic media	All of the accomplished outputs should be posted online
The procurement and financial reporting processes in this project are complex and suffered delays	The EA should revise and streamline its administrative procedures, tracking the different processes and their durations in order to identify "bottlenecks" and find solutions that are aligned with the Project's technical component
It is important to plan – from the design of the operation – to hire a person from the EA (CI in this case) to work at the Ministry (MADS) and be in charge of the decisions directly impacting the planned outputs	The design of the project should contemplate having a person directly working at the key entities to achieve the proposed outcomes, which will also create visibility for the project
The initiatives supporting the sustainability of the activities in the high mountain and paramos started by the Project should be advanced, along with integrated territorial planning at both the landscape and site level, also creating hydrological connectivity	The GEFAM should strive to develop the 5 projects rightly contemplated in the design of the Project to ensure the continuation of the activities undertaken. Many of the people interviewed agree that some of the activities that need to be carried out in the future are those described in Chapter 6, Recommendation 11.
The management plans should be incorporated in the action and development plans at the local, regional, and national level	The Project should strive and have the management plans and the community needs incorporated in the different development and action plans at all levels
The co-financing targets should get clearly set out from the beginning of the operation (design)	The targets to be met using co-financing funds should be clear from the design stage to contribute to the accomplishment of the proposed objectives and promote the sustainability of activities

2 BASIC INFORMATION

In USD

IDB project number **CO-G1002**; GEFSEC ID: **4610**

Title: GRT/CX-14525-CO Project: "**Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero**"

Grant Agreement number: No. GRT/CX-14525-CO

Country: Colombia

Executing Agency: Ministry of Environment and Sustainable Development (MADS) with support from Conservation International (CI)

Sector/Subsector: Least Developed Countries Fund (LDCF)/Special Climate Change Fund (SCCF)

Board approval date: 08/30/2012

Agency approval date: 05/01/2014

Eligibility date: 04/01/2015

Agreement execution date: 08/14/2014

Date of first disbursement: 09/23/2015

Amount of the Investment Grant Agreement

Original amount: 4,215,750 (Global Environment Facility Grant - SCCF)

Actual amount: 4,215,750

Co-financing: Cash 10,900,000 - In-kind 1,409,000

Total project cost: 16,524,575

Execution months

From Agency approval: 60

From the execution of the Investment Grant Agreement: 57

Disbursement periods

Original date of final disbursement: 12/14/2019

Current date of final disbursement: 02/14/2021

Cumulative extension (months): 12

Special extension (months): 6

Disbursements (06/30/2020)

Total amount of disbursements up to date: 3,810,696.42

Co-financing disbursed and recorded up to date: 11,400,000

3 INTRODUCTION

3.1 *Purpose of the evaluation*

Terminal Evaluations (TE) provide an independent, comprehensive, and systematic explanation of a project's performance at the end of its life cycle. They consider the whole of the effort, from the design of the project to its implementation and termination, and also take into account its sustainability likelihood and potential impacts. They are conceived to identify problems in the design and during the execution of a project, evaluate the achievement of objectives, outcomes, and outputs, identify and record lessons learned, as well as provide recommendations on specific actions to be taken to improve the design and execution of other projects. This evaluation provides an opportunity to learn about and get an indication of the success or fail of a project into the future.

3.2 *Scope and methodology*

TEs follow the guidelines, rules, and proceedings established in the Guidelines for GEF Agencies conducting Terminal Evaluations, GEF Evaluation Office Ethical Guidelines, and the Guidelines on the Project and Program Cycle Policy (2020 update, GEF 2020).

This Evaluation was carried out fully virtually due to the COVID-19 pandemic, which required making adjustments that demanded a logistical effort with very positive results in relation to the interviews and focus groups. However, there was no field-verification - instead, a triangulation was made with the different stakeholders and fulfillment reports were implemented. Though virtual techniques had already been used before the pandemic for cases where a face-to-face interview was not feasible, the impact of the Evaluation being carried out virtually was mitigated through a properly structured interview (Annex 1) and an empathic handling of the time allocated to it, which created an enabling environment for interviewees to express their opinions openly and comfortably (under full confidentiality).

The Evaluation uses the *relevance, effectiveness, efficiency, sustainability, and impact* criteria. Below are the general evaluation questions. Based on these, a set of questions were formulated exhaustively covering each of the aforesaid criteria included in the Terms of Reference (ToR) (Annex 1).

- ***Relevance or pertinence.*** Were the designed and prioritized lines of action and strategies (quality of design and alignment with challenges and opportunities) appropriate to the development problem to be solved? And what about the Project's monitoring mechanisms? How consistent is the Project with the main objectives of the GEF focal area and with the environmental and development priorities at the local, regional, and national level? What things were right and what were wrong, and what gaps were there in the Project's design and management? What internal and external factors affected the achievement of the intended objectives? Is the Project still relevant considering the changes in its context?
- ***Impact:*** Is there evidence that the Project will contribute to, or enable progress toward, reduced environmental stress or improved ecological status? What has been the impact of the Project activities (achievement of objectives, verifiable changes in threats or changes in feasibility factors, replicability)?

- **Effectiveness:** To what extent have the intended Project outcomes and objectives been achieved? Are Project activities/have Project activities been aligned with the schedule of activities? Has the Project purpose been fulfilled, or will it be fulfilled considering the current performance? Has there been any unplanned effect/result? What were key issues/barriers that affected the Project execution? Is the Project's gender strategy aligned with the GEF's Gender Equality policy, and how do the proposed gender indicators align with the Project's vertical structure as executed so far?
- **Efficiency:** Are disbursements and Project expenses aligned with budget plans? Was the Project efficiently implemented in accordance with national and international rules and standards? How do the investments made compare with the outcomes achieved (cost-effectiveness)?
- **Sustainability:** Are there financial, institutional, socioeconomic, or environmental risks that may jeopardize the sustainability of project outcomes in the long term?

The Evaluation must provide information based on credible, trustworthy, and useful evidence. The Evaluation uses a participatory and consultative approach which ensures close cooperation with government officials, especially from the GEF operational focal point, the IDB country office, the project team, the GEF/IDB Regional Technical Advisor, and key stakeholders (Annex 2 Interviewees).

Table 5: Evaluation ratings key

RELEVANCE (R), EFFECTIVENESS (E), EFFICIENCY (Ef), AND IMPACT (I) RATINGS	SUSTAINABILITY (AND RISK ¹) RATINGS
6: Highly satisfactory (HS): no shortcomings.	4. Likely (L): negligible risks that affect sustainability.
5: Satisfactory (S): minor shortcomings.	3. Moderately likely (ML): moderate risks.
4: Moderately satisfactory (MS): moderate shortcomings.	
3: Moderately unsatisfactory (MU): significant shortcomings.	2. Moderately unlikely (MU): significant risks.
2: Unsatisfactory (U): significant shortcomings.	
1: Highly unsatisfactory (HU): severe shortcomings.	1. Unlikely (U): severe risks.

Note: HS= The project had no shortcomings in the achievement of its objectives. S= The project had minor shortcomings in the achievement of its objectives. MS= The project had moderate shortcomings in the achievement of its objectives. MU= The project had significant shortcomings in the achievement of its objectives. U= The project had major shortcomings in the achievement of its objectives. HU= The project had severe shortcomings in the achievement of its objectives.

L= There are no or negligible risks that affect this dimension of sustainability. ML= There are moderate risks that affect this dimension of sustainability. MU= There significant risks that affect this dimension of sustainability. U= There are severe risks that affect this dimension of sustainability.

HU= The project had severe shortcomings in the achievement of its objectives in terms of relevance, efficacy or efficiency.

Source: Adapted from GEF 2008.

The aforesaid dimensions were rated based on the evaluator's criteria using the ratings key of the "Guidelines for GEF Agencies conducting Terminal Evaluations", which is provided in Table 5.

There follows an overview of some relevant aspects to consider when addressing the evaluation dimensions:

¹ Risk is considered contrary to sustainability; unlikely risk therefore entails the smallest risk.

RELEVANCE

- Theory of change and environmental and social safeguards.
- Project alignment with national development problems and policies through its design. Deviations; proposed adjustments required for the technical, financial, economic, institutional, and monitoring framework for the execution.
- Contextual changes are examined and assumptions are reviewed.
- Project alignment with national and international regulations and with the GEF.
- Degree of Project cooperation and complementarity with local partners and stakeholders (environmental corporations, community base organizations) or with other projects and initiatives in Colombia and/or worldwide, emphasizing the commitments and responsibilities undertaken by them.
- Detecting deviations from the design and proposed adjustments required in the technical, financial, economic, and institutional areas for the execution of the Project.
- Updating the risks identified and the Risk Management Matrix (RMM).

EFFICIENCY

- Planned vs. accomplished outputs/indicators, by component.
- Results are assessed in terms of accomplished outputs vs. indented objectives. Are Project activities aligned with the schedule of activities defined by the half-yearly reports and annual work plans? Are Project disbursements and expenses aligned with expected budget plans? And with the Project's monitoring mechanisms?

EFFICACY

- Physical achievements vs. budget/execution.

IMPACT

- Analysis of project impact indicators.

SUSTAINABILITY

- Likelihood of continued benefits after the intervention ends.
- Achieved degree of cooperation and complementarity with other projects and initiatives in Colombia and/or worldwide, with a view to identifying potential partnership arrangements and joint interventions with other institutions to achieve value-added outputs.

LESSONS LEARNED, CONCLUSIONS, AND RECOMMENDATIONS

Lessons learned can be defined as the knowledge gained over a process, or one or more experiences, through reflection and a critical analysis of results and critical factors or conditions which may have contributed to or hindered their success. Lessons learned focus on the hypothesis that establishes a causal link between the outcomes sought and things that have worked or have not worked towards their achievement. Lessons learned enable identifying trends in cause-effect relations limited to a specific context, and suggest practical and useful recommendations for the replication of the new knowledge in another context and in the design and/or execution of other projects or initiatives seeking similar outcomes (publications.iadb.org/publications/spanish/document/Lecciones-aprendidas.pdf).

The added value of the lessons learned and their derived recommendations is, therefore, that they enable identifying, for a given context: 1. success factors (efficacy, efficiency, sustainability), 2. deficiencies or shortcomings in policies, strategies, programs, projects, projects, methods, and techniques, 3. potential solutions to recurring problems through the identification of new courses of action, 4. potential solutions for success replication, and 5. potential courses of action for risk mitigation.

The Project's lessons learned will be identified/gathered as the Evaluation develops. This process takes place throughout the intervention. The lessons learned emerge from the review and analysis of the project documents, as well as from the analysis of information and from interviews made with the different actors. The lessons learned are obtained from the collected evidence, from which conclusions are derived and recommendations are provided to strengthen, cure, or mitigate a finding.

Recommendations should aim at the scope of the Project's impact. Also, conclusions derived from all of the data gathered and tests performed will be included. Recommendations will be brief suggestions for critical interventions that must be specific, quantifiable, achievable, and relevant. A table of recommendations is included in the executive report.

INTERVIEWS

A program of interviews has been designed to get the opinions and perceptions of at least the following actors regarding the Project's performance (the final list of interviewees was agreed with the Project Coordinator) (see Annex 2 Interviewees):

- *Ministry of Environment and Sustainable Development*
- *Project Coordination*
- *BID Team*
- *Project partners*
- *Beneficiaries*
- *Project base group*
- *Others considered relevant*

In addition, the consultant conducted interviews with the consulting firms and individual consultants in charge of conducting Project-specific studies and activities.

3.3 *Structure of the Evaluation Report*

After the introduction, the second chapter of the Evaluation Report is structured around a description of the contents and purpose of the Project, as well as the context in which it was designed, relevant background, immediate objectives, and main stakeholders.

The following chapter provides an overview of findings, broken down into findings on the project design and formulation and findings on the project results. This second chapter describes the relevance, impact, effectiveness, efficiency, and sustainability of the Project in Colombia.

The last chapter deals with the lessons learned, conclusions, and recommendations.

4 PROJECT DESCRIPTION

The objective of the Project is “to strengthen the hydrological buffering and regulation capacity of the upper areas of the watersheds located in the Chingaza-Sumapaz-Guerrero Conservation Corridor, which supply drinking water to the metropolitan area of Bogota and the adjoining municipalities.” The proposed intervention of the Special Climate Change Fund (SCCF) aimed at showing how to incorporate climate change considerations to watershed management and planning programs related to high-mountain ecosystems. Most specifically, it aimed at supporting adaptation measures to establish sustainable water supply systems in Bogota and the adjoining municipalities, through activities that were carried out based on the following components (IDB, 2014):

“Component 1: Knowledge management. The objective is making climate change vulnerability a priority factor in land-use planning and watershed management. The accomplishment of this objective is measured based on the number of land management plans, land use plans (POT, by its Spanish acronym), and watershed management plans (POMCA, by its Spanish acronym) that incorporate climate change considerations (environmental determinants). This process must include the transfer of information and knowledge on climate impacts in hydrological regulation in the corridor and the effects on the local communities and other stakeholders, which will serve as a basis for a more effective environmental and hydrological management.”

The activities to be carried out as part of this component are: (i) formulation of high-resolution climate scenarios that serve as an input for watershed management; (ii) formulation of assessments of vulnerability to climate variability and change for high Andean ecosystems (above 2,600 masl), at a scale of 1/25,000, in terms of their capacity to supply and regulate water, focusing on priority areas that have been selected based on an assessment of their hydrological risk; (iii) the creation of a monitoring system to track the impact of the adaptation measures, seeking to reduce the vulnerability of the region to climate variability and changes in the water cycle, and (iv) training workshops and sessions aimed at improving stakeholders' current knowledge of climate change, including the discussion of successful adaptive management experiences.

“Component 2: Adoption of adaptation measures to address the impacts of climate variability and change on the water balance of priority areas. This component aims at increasing the adoption of climate change adaptation measures in land use and watershed planning and execution. Strategic adaptation measures will be financed to directly address the net effect of climate variability and change on water regulation and storage in three priority areas. Concrete activities that to be initially deployed in three prioritized hydrological units include: (i) restoration activities and establishment of the connectivity of natural ecosystems; (ii) design and implementation of re-vegetation activities and/or improved engineering to increase the water regulation capacity; (iii) adoption by farmers of climate-resilient land use management practices - agro-sylvopastoral systems, improved micro-irrigation and enhanced drought-resistant grasses in the local production systems – aimed at reducing the vulnerability posed by climate change on local hydrological conditions; and (iv) redesign and modification of hydraulic works in critical water supply areas to increase water storage capacity.”

Execution Model

“To ensure the effective coordination and a strategic alignment with the project’s partner institutions, a steering committee will be created. It will comprise high level representatives from the MADS, EAAB, IDEAM, CORPOGUAVIO and CAR. The roles and responsibilities of the

PSC will be formalized with interagency agreements established between its members and the MADS, and reflected in the Project Operational Manual (POM).” (IDB 2014)

The Project would have a Technical Committee for overall technical oversight. The TC would meet at least once every three months and would be comprised by the same institutions that form the PSC and additionally the Special Administrative Unit of the National Natural Parks System. IDEAM would preside over the TC in its capacity as representative of MADS.

CI Colombia would set up a Project Coordination Unit, which would include a National Project Coordinator (NPC), and an administrative and financial assistant, who were expected to be financed with Project resources, but were finally not. The NPC would report to CI’s-Colombia Executive Director and the Executing Agency which would supervise the project’s technical development. The consultants hired to work on the present project would report to the NPC. The technical units of CI-C and partner institutions would supervise consulting services.

CI, as the executing agency engaged by MADS, would be responsible for fulfilling all the contractual covenants derived from this Agreement, as provided by the Implementation Agreement.

5 FINDINGS

5.1 Relevance

*This Project is rated as **highly satisfactory (HS)**, since it harmonized the needs and priorities of local and regional beneficiaries and stakeholders, it adapted to contextual changes through outstanding adaptive planning, and its outcomes are clearly linked to the development issues and are consistent with national and international legislation.*

5.1.1 Theory of change

Analysis of the design

The theory of change of the GEFAM Project intended to strengthen the hydrological buffering and regulation capacity of the upper areas of the watersheds, in this case, through a pilot project located in the Chingaza-Sumapaz-Guerrero Conservation Corridor, which supplies drinking water to the metropolitan area of Bogota and the adjoining municipalities. The Project intended to achieve this objective by means of the following causal pathways (Chapter 4 describes the Project objectives and components, as well as the execution model):

- *Contributing to more effective environmental and hydrological management, providing inputs (environmental determinants) for land use and watershed management planning, with climate change as a priority issue.*
- *Creating a monitoring system to track the impact of the adaptation measures, with a view to reducing the vulnerability of the region to climate variability and shifts in the water cycle.*
- *Training stakeholders (beneficiaries, local, regional, and national organizations, and project partners) to enhance their knowledge of climate change issues.*
- *Adopting adaptation measures in the field to address the impacts of climate variability and change on the water balance.*

Analysis of the execution

This section on “Findings” evaluates the Project execution in terms of relevance, effectiveness, efficiency, impact, and sustainability, and compares the Project design vs. its execution in terms of alignment with development issues, link with national and international legal provisions, outcomes and risks, monitoring and evaluation, relevant stakeholders, and coordination.

There follows an overview of how the above-mentioned causal pathways were effectively implemented by the Project, confirming the hypothesis, based on the interviews conducted as part of the fieldwork and a review of the Project information:

- *Preparation of fact sheets that paved the way for the implementation of a technical assistance process to support municipalities in updating their land use schemes and assist the CARs in incorporating CC-related issues into the environmental determinants. Also, all of the outcomes of C1 were shared with the rest of the project partners, which enabled building their knowledge of the adaptation issues of the relevant watersheds.*
- *Design and implementation of a monitoring system with one year worth of records covering three components: i) hydrometeorological, through an agreement with Canal Clima, ii) eco-hydrological, through an agreement with Pontificia Universidad Javeriana, and iii) community-based component, involving the Project's beneficiary families that chose to participate. A new component was incorporated in the final phase to assess the impact on the communities' wellbeing*

(socioeconomic component), to measure change - e.g. difference in their income over the year as a result of a changing climate. Prior to the implementation of adaptation measures, during the seasons of greater drought, families reported lower incomes and difficulty accessing basic education, health and food services. With the adaptation measures in place, income stability improved greatly due to the diversification of production through high-yield alternatives specifically for the dry season.

- Two activities: i) a diploma in “Climate Change and Land Use Planning” implemented with Universidad Javeriana for public officials in the municipalities, corporations, some ministries, and private companies, and ii) socialization processes within the communities to educate the community members and local organizations (sharing of experiences and involving local organizations in the implementation of some of the adaptation measures).
- Design and implementation of adaptation measures related to ecological restoration, rehabilitation and recovery, diversification and redeployment of production, and efficient water management, together with supplementary measures like the monitoring system and capacity-building.

5.1.2 Project alignment with development issues

Analysis of the design: context

The “Request for CEO Endorsement” (GEF 2013) clearly identified the development problems intended to be solved and the Project's initial design was aligned to them (see Table 6; for further information on other development problems addressed by the Project see Annex 3).

Table 6 Identification of development issues that resulted in the design of the Project

ISSUE	DIAGNOSIS CLARITY	TARGETED BY THE TC?	EXPLANATION
Lack of information and mechanisms to inform the community about high-mountain ecosystem vulnerability to CC and CC consequences, and water supply variability and hydrological regulation	VC	Yes C1 Knowledge management	<p>IDEAM is the leading agency in the development of CC scenarios in Colombia. It produces, uses and discloses hydrometeorological information for decision-making, as well as for the development and implementation of adaptation measures and strategies across the country. However, with the global climate knowledge and hydrometeorological information that is currently available, it has only been possible to develop CC risk and vulnerability assessments on a national and a subnational scale (1:500,000 and 1:100,000, respectively). The existing climate scenarios and environmental and land vulnerability assessments need to be updated and adjusted to the scale of the Corridor (4 km x 4 km resolution). In addition, it is necessary to include other climate-related variables apart from precipitation and temperature (e.g. humidity, winds, and solar radiation) to establish how the water regulation capacity is affected in the high-mountain ecosystems in these new scenarios. High-resolution climate scenarios are necessary to establish how the water regulation capacity of the ecosystems responds to CC and variability alterations. These are still not available for this region, but the IPCC AR5 results are available with the required resolution.</p> <p>There is also limited knowledge of the detailed mechanisms that maintain or improve the hydrological regulation capacity of high-mountain ecosystems within the Corridor. This knowledge gap prevents decision-makers from adopting CC-resilient technologies and production systems, and limits the ability to promote the formulation of land plans that incorporate strategies to maintain the hydrological regulation capacity of watersheds within the Corridor.</p>

ISSUE	DIAGNOSIS CLARITY	TARGETED BY THE TC?	EXPLANATION
			<p>The lack of public mechanisms to disseminate weather forecasts and the results of climate models is also noticeable. As a result of this, most people are not aware of the availability of climate information, including data on wind patterns, relative humidity, evaporation rates, and other information that can be obtained through climate and meteorological simulation. On top of this, when this information is indeed available, it is not consistently and timely used by the municipalities, environmental authorities, community-based organizations, or local producers due to deficiencies in the monitoring systems and reporting mechanisms used to transfer the information.</p>
<p>Lack of proven land use practices (ecological restoration measures, local agricultural models, and improved water supply infrastructure) to improve ecosystems resiliency, favor water regulation and increase water production in the Corridor</p>	<p>VC</p>	<p>Yes C2 Adaptation measures to address the impacts of climate variability and change</p>	<p>The environmental restoration and protection measures implemented in disturbed, transformed and/or fragmented areas within the Corridor overlooked climate-related impacts. Other issues, like building resiliency against CC, improving biological connectivity in the high-mountain ecosystems, improving water yield, and/or strengthening the hydrological regulation capacity, have not been considered when preparing the land use management plans. In addition, the usual investments (i.e., the conservation and restoration program of EAAB and the IDB loan for water supply and sanitation services) do not include cost-effective adaptation measures seeking long-term water availability resilience.</p> <p>The existing water supply infrastructure of municipalities and rural villages needs to be improved. It is not efficiently operated and it largely requires greater water storage capacity to address the effects of climate change and variability (drought and overflow management during intense rainfall seasons). In addition, the land use plans, environmental management, and agricultural production systems in the Corridor do not consider measures to address the changing climatic conditions in the region. The prevailing production model in the Project area includes intensive agriculture and extensive livestock farming, which are incompatible with the environmental and hydrological characteristics of the region and cause severe damage to the high-mountain ecosystems, negatively affect the water balance, and reduce the hydrological regulation capacity of the watersheds. There are no proven production models that combine traditional practices with new technologies and knowledge to adopt CC-resilient production practices while increasing rural families' income, promoting an equitable income distribution among family members, and improving the resilience of high-mountain ecosystems. Finally, there is widespread ignorance about agricultural and livestock-farming practices that will reduce the impacts on high-mountain ecosystems and their water supply and regulation capacity.</p>
<p>Public and private agencies have insufficient knowledge and capacity to incorporate risk management and</p>	<p>VC</p>	<p>Yes 1.4 Public officials trained 1.5 Information and technical support 2.2 Restoration protocols for</p>	<p>There is limited capacity among the institutions working in the Corridor to integrate CC adaptation measures into their production, territorial, environmental, sectoral and local planning. This is reflected in the lack of adaptation and CC considerations present in the planning instruments used by the local and sub-national environmental authorities and community-based organizations. The reasons for this limitation include: a) CC adaptation is a relatively new concept to many governmental agencies and community-based organizations; b) the existing information related to CC has only been developed on gross scales (national and subnational) and does not reflect local conditions and needs; and c) the information related to CC has not always been available in a useful and timely manner. Therefore, the agencies have not undertaken CC-resilient</p>

ISSUE	DIAGNOSIS CLARITY	TARGETED BY THE TC?	EXPLANATION
adaptation into their planning and investments		strategic areas 2.6 Municipal and community-based organizations trained 2.7 Monitoring and evaluation system	investments. At the local level (municipalities and community-based organizations), decision-makers lack awareness and understanding of climate change and variability and their potential effects, which has prevented the integration of adaptation considerations into local land and environmental planning instruments. The people and communities that are most vulnerable to CC lack the information and capacities necessary to influence decision-making in connection with land-use planning and local municipal development. Therefore, their needs in relation to CC vulnerability and risk are not duly considered.

NB: VC= Very Clear C= Clear NC= Not Clear NM= Not Mentioned

Source: GEF 2013 and interviews 2020.

During the design phase, the Project was extensively discussed with Conservation International (CI), IDEAM, MADS, CAR, EAAB, and the IDB, among others.

Analysis of the execution: contextual change

The initial Project objectives were modified according to the Table below - see Annex 4 for a detailed explanation.

Table 7 **Adjustments to the original Project Results Matrix**

RECOMMENDED ACTIONS	ORIGINAL PROJECT MATRIX	PROPOSED ADJUSTED MATRIX
Impact Indicators <i>Proposed action:</i> Changing an indicator and adding a new one	<u>Indicator O.1</u> At least 10% increase in water yield.	<u>Indicator O.1</u> This indicator is kept, but reference is made to weaknesses in terms of the information available and assumptions made at Project formulation.
	N/A	<u>New Indicator O.2</u> <i>Increase of the rate between base and peak flows, under scenario RCP 6.0 by 2040, as per calibrated model, due to the adoption of climate change adaptation measures in the prioritized areas.</i>
	<u>Indicator O.2</u> Number of times the documents are downloaded (550)	<u>Indicator O.3</u> <i>Number of territorial entities and environmental authorities that invest in adaptation to climate change in High Mountain ecosystems according to the guidelines generated in the Project.</i> Target: ≥ 10 entities (8 territorial, 2 environmental authorities)
<u>COMPONENT 1. Knowledge Management</u>		
Outcome Indicator <i>Proposed action:</i> Changing the indicator	<u>Outcome Indicator 1, Component 1 (I.O.C.1.1)</u> Number of land use plans that incorporate cc considerations 2 (4) POT / POMCA	<u>Outcome Indicator 1, Component 1 (I.O.C.1.1)</u> <i>Number of instruments for development planning, territorial and environmental</i>

RECOMMENDED ACTIONS	ORIGINAL PROJECT MATRIX	PROPOSED ADJUSTED MATRIX
		<p>management (POTs, POMCA, PD or PMA) that incorporate cc considerations.</p> <p>Target: 12 in total; 2 (4) land use plans (POTs and POMCAs) and 10 (0) Environmental Management or Development Plans</p>
<p>Output Indicator</p> <p>Proposed actions:</p> <p>(i) Adjusting indicator 1.1.2</p> <p>(ii) Adding output indicator (1.1.5)</p>	<p><u>Output Indicator 1.1.2</u></p>	<ul style="list-style-type: none"> Output Indicator 1.1.2 (counterpart contribution adjusted to 5,000) Output Indicator 1.1.5 (New) <p>Number of documents evidencing delivery of information and technical support to incorporate CC considerations in development planning and territorial and environmental management (POT, POMCA, PD, PMA)</p>
<p><u>COMPONENT 2. Adoption of adaptation measures to address the impacts of climate variability and change</u></p>		
<p>Outcome Indicators</p> <p>Proposed actions:</p> <p>(i) Adjusting 1 indicator</p> <p>(ii) Combining the intermediate outcome Indicator with outcome Indicator 2</p>	<ul style="list-style-type: none"> <u>Outcome Indicator 1, Component 2 (I.O.C.2.1-1)</u> target 32 new projects (presented to MADS) <u>Outcome Indicator 2, Component 2 (I.O.C.2.1-2)</u> # of families that agree to allocate land for conservation and re-vegetation practices in critical areas for water supply 60 (300) <u>Intermediate Outcome Indicator.</u> # of families that incorporate CC measures in their production systems 60 	<ul style="list-style-type: none"> <u>Outcome Indicator 1, Component 2 (I.O.C.2.1-1)</u> Number of adaptation projects ready to be presented to prioritized funding sources <p>Target: 5</p> <ul style="list-style-type: none"> <u>Outcome Indicator 2, Component 2 (I.O.C.2.1-2)</u> Number of families that incorporate adaptation measures or climate-resilient management practices with a gender perspective in their production systems <p>Target: 60 (300)</p>
<p>Output Indicator</p> <p>Proposed actions:</p> <p>(i) Including two new indicators: 2.1.1 and 2.1.5</p> <p>(ii) Adjusting targets for indicators 2.1.1 (protocols target) and 2.1.2 number of ha restored with co-financing resources</p>	<ul style="list-style-type: none"> N/A N/A <u>Output Indicator 2.1.1</u> Restoration protocols ≥3. (Changed to 2.1.2) <u>Output Indicator 2.1.2</u> Restoration processes publicly-owned lands 250 (3900) (Changed to 2.1.3) <u>Output Indicator 2.1.3</u> Restored/re-vegetated areas with a gender focus ≥9 projects (changed to 2.1.4 and 	<ul style="list-style-type: none"> <u>Output Indicator 2.1.1 (new)</u> Adaptation project profiles formulated with municipalities and/or cooperatives for the implementation of adaptation measures. Target 32 <u>Output Indicator 2.1.5 (new)</u> Number of agreements signed with families to incorporate adaptation measures in their production systems Target: 60 <u>Output Indicator 2.1.2</u> Indicator remains the same Just new target: Restoration protocols 4 (45) <u>Output Indicator 2.1.3</u>

RECOMMENDED ACTIONS	ORIGINAL PROJECT MATRIX	PROPOSED ADJUSTED MATRIX
	modified it to express it in hectares) <ul style="list-style-type: none"> • <u>Output Indicator 2.1.4</u> Municipal organizations trained in CC (Changed to 2.1.6) • <u>Output Indicator 2.1.5</u> Monitoring and evaluation system (Changed to 2.1.7) 	<i>Areas restored that are critical for hydrological regulation in high mountain ecosystems (ha).</i> <u>Target:</u> 250 (4000) (under legal review). <ul style="list-style-type: none"> • <u>Output Indicator 2.1.4</u> <i>Rehabilitated areas that are critical for water supply (ha).</i> <u>Target:</u> 300 (98) ha • <u>Output Indicator 2.1.6</u> (Just changed number, the indicator stays the same) • <u>Output Indicator 2.1.7</u> (Just changed number, the indicator stays the same)

NB: Numbers between parentheses refer to the counterpart targets.

Source: GEFAM 2018, Hofstede 2018.

According to most of the interviewees who are familiar with this issue, the country also experienced socioeconomic and environmental changes that affected the Project, namely:

- *Enactment of the Paramos Law no. 1930 of 2018, which categorized paramos as strategic ecosystems and laid down guidelines seeking to secure their integrity, preservation, restoration, and sustainable use, and the development of knowledge related to them. But this Law has not been regulated, so even if it does permit low-impact activities, these activities are not clearly defined, so in practice it does limit the implementation of productive activities in paramos roughly above 2,800-3,000 masl. Contrary to what had been contemplated at the design stage, during the MTE it was decided not to implement productive systems in two units/watersheds (#1 Guandoque and #4 Chisaca) due to the CAR not agreeing to their implementation in those paramo areas. "If MADS does not regulate what is low impact, it is better not to move forward in this direction", so only restoration activities were conducted.*
- *The change of directors in CORPOGUAVIO and CAR, and the change of mayors and their key staff delayed the Project and required educating the new authorities about the Project and the problems it intended to solve.*
- *The change of the MADS Minister, as well as other staff at the participating public institutions, delayed the Project and required educating the new authorities about the Project and the problems it intended to solve.*
- *When the Project was designed, IDEAM's Third National Communication on CC had not been released, so the design followed the AR4 methodology, which had to be afterwards updated to align with the AR5 methodology.*
- *The COVID-19 pandemic brought the Project's fieldwork to a complete halt between May and August; it has now resumed with some limitations.*
- *Due to the devaluation of the Colombian peso², there are more financial resources from the GEF funding in local currency, which have been invested in supporting the development plans of municipalities, among other things. However, this also created a problem in terms of the recognition of the co-financing funds by the partner entities. Because their budget was in Colombian pesos but the official Project documents used US dollars at the official exchange rate, due to the devaluation of the Colombian peso the funds invested by the partners in this currency lost value when converted into US dollars. This was the case with IDEAM and EAAB, but MADS*

² The COP to USD exchange rate varied from COP1,871.49=USD1 on 11-01-2011 to COP3,717.25=USD1 on 09-10-2020 (BCC 2018, <http://www.banrep.gov.co/es/trm>).

has delayed the official submission of the request. However, based on information available to the Bank, IDEAM's fulfillment is at about 98%, and EAAP's about 83%.

5.1.3 Relation between the Project and national and international regulations

Analysis of the design

This Project based its objectives on State laws, as well as public policies and national plans in effect at the time of its design, namely:

- *Due to the Project objective being related to the water resource, the principles, objectives and strategies of the National Policy for Integrated Water Resource Management (MADS 2010, MADS 2012) were followed.*
- *Considering the critical role played by biodiversity in the water cycle and in the supply of ecosystem services related to water regulation, the National Policy for Integrated Biodiversity and Ecosystem Services Management was used as a basis when designing the activities to be carried out as part of the Project.*

The Project is also aligned with other conventions and regulations at the national level, namely:

- *This Project responds to the Fifth National Report to the Convention on Biological Diversity (CBD-2014), which defined the following priorities: (i) managing the country's strategic ecosystems; and (ii) advancing an integrated approach to national and regional ecosystems as an environmental planning and management strategy.*
- *The Project is also aligned with the biodiversity conservation policies that are being formulated for the area of the Bogota and Chingaza-Sumapaz-Guerrero Corridor. Strategy #5 specifically refers to the activities that need to be implemented to mitigate and adapt to climate change in the context of biodiversity conservation to ensure productivity in the long term.*
- *Overall, the experience gained with the Project serve as an input for the development of the National Adaptation Plan contemplated in the Climate Change CONPES (National Council for Economic and Social Policy) that guides the formulation of current and future projects and programs to address climate extremes and improve climate resilience in the long term.*
- *The Project is aligned with the 2010-2020 Institutional Strategy Update and with the cross-cutting areas of climate change and environmental sustainability, and institutional capacity and Rule of Law, because it works with and trains public officials from different offices.*
- *It is also aligned with the Country Strategy with Colombia 2015-2018 in the cross-cutting area of green growth, which prioritizes climate change adaptation.*
- *This Project advances the objectives of the 2010-2014 National Development Plan, which includes the implementation of the National Climate Change Policy and the recently approved Institutional Strategy for the articulation of climate change policy and actions in Colombia. Its revised version of 2011 specifically addresses the importance of water resource conservation, appropriate land use planning, and adaptation to climate variability. It specifically mentions paramos (high-mountain wetlands) and upper watersheds as territorial regions that deserve special attention. Overall, the Plan underscores the importance of developing institutional capacity for integrated regional and sectoral land planning as a means to preserve ecosystems that provide critical services for the wellbeing of society, such as water supply (IDB 2011).*

The Project also helps advance objectives 1 and 2 of GEF's biodiversity focal area, specifically because it improves biodiversity conservation in terrestrial and marine landscapes.

The Second National Communication presented by Colombia to the United Nations Framework Convention on Climate Change (UNFCCC) states that between 2011 and 2040 70% of the High Mountain area in the Colombian territory will be affected by strong or very strong climate change potential impacts, especially temperature rises - and a consequent retreat of existing

glaciers - and a loss in the net water storage in both glaciers and high-mountain wetlands. It classifies high-mountain ecosystems and wetlands as extremely vulnerable and, therefore, demands urgent action specifically related to: (i) more research; (ii) better land use planning, (iii) reducing the vulnerability of water resources, (iv) greater adaptation capacity of vulnerable communities, and (v) interagency coordination of policies and programs. Temperature and precipitation rise projections for CC scenarios were updated in the Third National Communication to the UNFCCC, which enabled updating the assessment of CC impacts on natural and human systems.

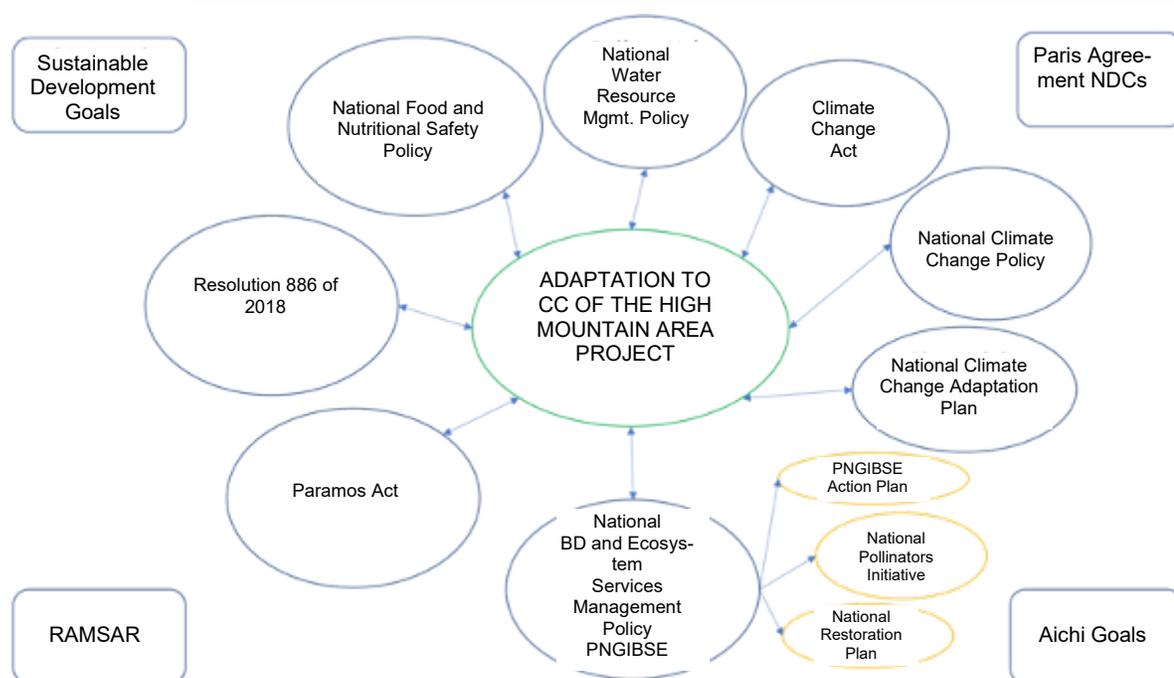
The GEFAM responds to the Paris Agreement adopted in 2015 during the COP 21 to the United Nations Framework Convention on Climate Change (UNFCCC). Through Law No. 1844 of July 14, 2017, Colombia approved the Paris Agreement. With the approval, each Party was to submit a Nationally Determined Contribution (NDC) with mitigation and adaptation goals. The NDC vision is that each country will focus its efforts towards 2030, in sync with other global goals aimed at increasing resiliency, such as those included in the Convention on Biological Diversity, the Sustainable Development Goals, the Convention to Combat Desertification, and the Sendai Framework 2015-2030. (GEFAM 2020, draft document).

Overall, the GEFAM Project is consistent with and advances the priorities and strategies defined in documents that are relevant at the sectoral, national and international level, such as the National Policy for Integrated Water Resource Management, National Policy for Integrated Biodiversity and Ecosystem Services Management, the Fifth National Report to the Convention on Biological Diversity (CBD-2014), the Green Growth Strategy of the National Development Plan 2015-2018 (Law 1753 of 2015), the IDB Results Framework, the IDB's Ninth General Capital Increase, the Country Strategy with Colombia 2015-2018, and the Global Environment Facility's biodiversity focal area.

In the execution

Land use plans and land use in Colombia are regulated by Law No. 152 of 1994 and Law No. 388 of 1997. The earlier allocates the roles and provides the guidelines for the national, departmental, and local governments to create their development plans, and the latter allocates land zoning roles to municipal territorial entities for the formulation of land use plans (POT, by its Spanish acronym), taking into account the environmental determinants defined by the CARs. The Project team worked with Corporacion Autonoma Regional de Cundinamarca (CAR) and CORPOGUAVIO updating and integrating CC considerations in the environmental determinants and supporting the efforts made by the municipalities to update their urban and land use plans.

Figure 1 **Relevant legislation related to adaptation applied during the operation of GEFAM**



Source: IDB 2020 and interviews 2020.

With the enactment of the Paramos Act (Law No. 1930) on July 27, 2018, which limits productive activities in paramos from about 2,800-3,000 masl, the Project context changed significantly in terms of relevant legislation (Section 5.1.1: In the execution: contextual change). The Project implementation was based on adaptation measures to address climate change following the ecosystem-based (AbE) and community-based (AbC) approaches recommended by the National Adaptation Plan (DNP et al.), the National Food Safety Policy (DNP 2007), and Resolution 886 of 2018 (MADS 2018, MADR 2018), which establish standards to guarantee food and nutritional safety in Colombia with low impact on the environment (Figure 1).

The Project assisted the CARs in the development and preparation of updated land use environmental determinants by supporting a sequence of tasks aimed at strengthening their capacity to guide land use in their jurisdictions, producing improved and updated information on the ecosystems and the expected impacts of climate change. The Project also supported the municipalities in the development of zoning plans and urban development plans (MDP). More specifically, the Project provided the planning teams of municipalities with information

and training to fully integrate the “*environmental determinants*” defined by the CARs in their planning instruments. The support also included building the municipal government’s capacity to assess the costs and benefits of their land use decisions and of incorporating climate change considerations.

Due to the Project objective also being related to adaptation to CC impacts in the Chingaza, Sumapaz and Guerrero area, the policies, plans, and laws related to CC and paramos guided the on-site implementations. The implementation of adaptation measures in high-mountain socio-ecosystems required following the National Adaptation Plan, the National Restoration Plan, the National Food and Nutritional Safety Policy of Colombia, and the National Pollinators Initiative. The Ministry, as part of the National Government, focuses its efforts on fulfilling the 2018-2022 National Development Plan, so the GEFAM Project directs its actions towards the fulfillment of that Plan.

Finally, the Project is advancing the prioritized activities specifically related to adaptation, such as delimitation and national protection of the 36 paramo complexes (about three million hectares).

5.1.4 Analysis of Environmental and Social Safeguards

Analysis of the design

The proposed Project was appropriately classified as Category B - low risk - based on the Bank’s environmental and social safeguards policy screening processes, as provided by the Operational Policy on Environment and Safeguards Compliance (OP-703) (IDB 2014).

An Environmental and Social Management Report (ESMR) was prepared, and an environmental and social assessment was completed as a special condition prior to the first disbursement. The activities to be financed with this program were not expected to generate negative social or environmental effects. Instead, the Project is expected to bring social and environmental benefits to local communities, regional biodiversity, and the residents of Bogota D.C. and its adjoining municipalities, which rely on the services provided by high-mountain ecosystems. The Project was expected to provide concrete experiences in the implementation of specific CC adaptation measures that would contribute to: (i) improving the local communities’ wellbeing; (ii) increasing the resilience of the high-mountain ecosystems that regulate water supply to Bogota D.C. and its adjoining municipalities; and (iii) the ecological restoration of disturbed ecosystems in the priority watersheds to improve their state of conservation and advance connectivity efforts in the Corridor.

The proposed interventions could cause undesired environmental damage and go against the interests of the local communities that the Project intended to benefit if not properly implemented. However, the proposed interventions were classified as small-scale works that would benefit about 9,000 families, or 36,000 individuals, and would contribute to the conservation of areas that have been identified as critical from a hydrological risk perspective.

The Project design contemplated: (i) a participatory and gender-focused approach to ensure the effective engagement of both local communities and women’s groups, and an equitable distribution of benefits; (ii) the Adaptive Territorial Ecological Structure, as a land use planning tool that encompasses a network of geographic spaces that supports essential ecological processes aimed at taking adaptation beyond biodiversity conservation; and (iii) using a control group (micro watersheds) to assess the impact of the Project results.

During Project preparation, a consultation process was carried out with public entities, community organizations, and other stakeholders. Five workshops were held: two in Bogota with national, regional and municipal governments, and one in each of the municipalities housing the areas of interest (Tagua, Guasca, and Usme - a rural area that surrounds Bogota). The Project preparation team presented the objectives, scope, components, activities, expected results, and funding sources for the Project. Participants were consulted and data was gathered through interviews. The main concern expressed by participants was the process for allocating the limited available resources. The GEF funds would be used to implement the proposed actions in the prioritized watersheds, and the results and lessons learned would guide scale-up and replication initiatives along the conservation Corridor with co-financing and other additional resources to be defined by the main stakeholders.

Participants' inputs and suggestions during the workshops, and the information collected from the interviews were gathered, analyzed, and incorporated in the supporting documents.

Analysis of the execution

The Project fulfilled the IGAS recommendations, namely: it worked on critical ecosystems (OP-703 B9), two hydrological units – the Guandoque and Chisaca watersheds - delimited as paramos, and two other units – the San Francisco and Chipata watersheds - delimited as high-Andean forests³, which are the most threatened ecosystems. In these watersheds, the Project performed forest restoration and rehabilitation, promoted lower-impact sustainable activities and water use efficiency and production (see further details in section 5.3), among other activities.

The Project not only complied with national regulations and multilateral environmental agreements (B2), but also proposed a regulation for section 10 of the Paramos Act (Law 1930-2018), which defines low-impact farming activities.

With the implementation of agro-ecological practices as an adaptation measure, the use of agrochemicals was significantly reduced and the reuse of organic waste for the production of organic fertilizers, biofertilizers and compost (B11) was promoted.

Women's organizations were engaged to support the on-site implementation of the adaptation measures promoted by the Project (OP-761). In this regard, the family unit was strengthened for the distribution of activities and roles, within and outside the households. Capacity building was provided to two women's businesses in Chisaca - "Colectivo PISOA" and "Colectivo Las Margaritas". Production proposals were designed with women to show new production alternatives with productive roles within families, e.g. nurseries for the production and trading of succulents. The Project also worked with other formal organizations of women: i) two agreements were signed with AMUSES for the implementation of adaptation measures related to the ecological restoration of the San Francisco watershed (B2), ii) capacity building was provided to AMEG (Association of Entrepreneurial Women from Guatavita) for the production of functional milk products (functional yoghurt with honey and pollen, blueberries, etc.), and iii) an agreement was signed with Mujer y Tierra for the implementation of adaptation measures related to the ecological restoration of the Chisaca watershed (B9). Given the importance of adopting a differential and gender-focused approach in the design and implementation of adaptation measures, Annex 5 summarizes the problems faced and the conceptual and

³ Based on studies, only 18% of these ecosystems remain, so they are considered critical, according to studies conducted in 2019 by CI throughout the corridor area.

methodological approach used to reduce the inequalities that render women, children, and adults particularly vulnerable.

As for water regulation and supply, all the adaptation measures promoted by the Project contribute to reducing the impacts of CC (OP-704).

The GEFAM Project worked with children and young people, and gave them photography lessons to perform an audiovisual systematization of adaptation measures on the social media (OP-102). IDEAM and MADS are leading the creation of dissemination material on the Project's outcomes; this material is currently being designed and will be presented in 10 series of publications which are expected to be ready in February of 2021. Annex 5 includes a list of publications and information related to the Project.

The Project did not conduct any kind of archaeological study, but they do exist for this area, as we could learn from interviews conducted with the Project coordinators. The Project did not detect any archaeological site within its area of influence, and it did not perform high-impact activities or found any trace or sign of their existence during the execution phase (OP-703 B9).

5.1.5 Results Framework and identified risks

In the design

The results framework (matrix) has a vertical logic: output indicators respond to outcome indicators, outputs and outcomes to components, and components to the objective. The intended objectives, components, outcomes, and outputs were feasible - the same as the indicators; however, some impact indicators require additional time to be measured, e.g. water yield and flow rate increase. Both components and outcomes respond and are linked to the development problems (Table 6) identified in the Request for CEO Endorsement (RFCE) (GEF 2013), as confirmed through the interviews.

The general objective of the Project is *to strengthen the hydrological buffering and regulation capacity of the upper areas of the watersheds located in the Chingaza-Sumapaz-Guerrero Conservation Corridor, which supply drinking water to the metropolitan area of Bogota and the adjoining municipalities*. The idea of Component 1, "knowledge management", is to incorporate climate change vulnerability as a primary factor in land use planning and watershed management. And the idea of Component 2, "to strengthen the hydrological buffering and regulation capacity of the upper areas of the watersheds located in the Chingaza-Sumapaz-Guerrero Conservation Corridor, which supply drinking water to the metropolitan area of Bogota and the adjoining municipalities", is to increase adaptation measures for land use planning and watershed management (for further details, see Chapter 4).

The risks identified in the Request for CEO Endorsement were logical and consistent with the development problems, and proved to be a relevant input in determining the activities to be carried out by the Project (Table 8).

Table 8: Risks identified at Project design

RISK	RATING	RISK MITIGATION STRATEGY
Lack of commitment on the part of EEAB, CAR, CORPOGUAVIO, Bogota D.C. Mayor's Office, and the municipalities of Tascua, Sesquile, Guatavita, and Guasca, MADS, IDEAM, and local	M	This risk will be mitigated by ensuring that the partners and key participants, as well as local organizations, are consulted and participate in all phases of project design and implementation. The existing capacities of strategic local stakeholders were assessed during the design of the Project. To ensure an active participation, activities will be structured according to their levels

RISK	RATING	RISK MITIGATION STRATEGY
communities to contribute to the program		of capacity. This will ensure Project sustainability in the medium and long term.
Local communities will not adopt adaptation measures related to climate change and variability, or will not support them	M	Steps to mitigate this risk were taken since the Conservation Corridor was created (EAAB and CI 2010), relying on the lessons learned with the implementation of the Integrated National Adaptation to Climate Change Project (INAP) financed by GEF. Such lessons learned specifically included the sensibilization and dissemination of results with a view to strengthening local stakeholders' capacities through consultation workshops and training sessions. During the Project preparation, the consultation approach was top-down. At first, all the key participant organizations were contacted and consulted. Once the sites of interest were selected, consultations were held with municipalities and community-based organizations with an active role in the sub-watersheds of interest. Works with the communities will only start once the resources have been committed, in order to avoid false expectations on the part of the community regarding an immediate implementation of the Project. The Project will disseminate its scope and objective in the areas of interest (micro-watersheds) from the moment it is launched, and will bring together environmental authorities, communities, institutions, and the relevant sectors to establish agreements that will identify specific adaptation measures to be implemented with the selected communities.

NB: H= High

M= Medium

L= Low

Source: GEF 2013, IDB 2011.

In the execution

The Project objectives were properly defined and consistently responded to the identified national development problems; the same applies to outcomes, outputs, and goals.

Table 9: Risks to the Project Execution updated by the IA in the PIR

RISK	RATING	RISK MITIGATION STRATEGY	TERMINAL EVALUATION COMMENT
Overall, for the 2019-2020 period, the Project risk is rated as: Moderate (with the main risk being related to mobility limitations resulting from the COVID-19 situation)			<i>This risk declined (unlikely)</i>
The limited participation of key stakeholders - i.e. MADS, the government of the state of Cundinamarca, CARs, EAAB, municipal governments of Tausa, Cogua, Sesquile, Guatavia and Guasca - may hamper the	M	This risk has been mitigated through close coordination and consultation with local organizations and partners, ensuring their participation in all phases of the Project design and implementation. Coordination activities have played a key role for the successful implementation of the Project activities, and have been prioritized to ensure long-term sustainability (e.g. the municipalities and communities own the investments made by the Project).	<i>These risks declined</i> These risks are virtually nil since, based on the interviews, the Project found great acceptance among the different participants, and has successfully

RISK	RATING	RISK MITIGATION STRATEGY	TERMINAL EVALUATION COMMENT
achievement of objectives and goals			implemented its activities and achieved the desired outcomes and impact
Local communities will not adopt adaptation measures related to climate change and variability, or will not support them	M	It is closely related to the previous one, since the communities' willingness to adopt or support such measures is also proportional to their level of information and involvement in their design, execution and evaluation. This risk is also related to the additional benefits that the measures could bring to their current livelihoods. The specific risk mitigation activities that have been implemented include the generation and dissemination of outcomes aimed at building local stakeholders' capacities through consultation and training workshops.	(unlikely)
The fact that adaptation measures cannot be implemented in the Guerrero paramo area due to the latent conflict generated by the GoC recently declaring it a PA without adequate consultation with the local communities	M	This situation became more critical due to the lack of an Environmental Management Plan for these areas. However, in the second half of 2019, the Project's technical team reached out to the management of the Local Environmental Authority (CAR) and the municipalities of Cogua and Tausa to discuss the possibility of conducting some restoration activities in publicly-owned lands. As a result, ecological restoration measures were implemented for water regulation in publicly-owned lands in the municipality of Tausa within the Guandoque hydrological unit	<i>The risk decreased.</i> The Paramos Law no. 1930 of 2018 was the specific limitation that prohibited conducting productive activities; however, the Project solved this by conducting restoration activities in publicly-owned areas (unlikely)
Not being able to achieve the restoration objectives due to mobility and fieldwork constraints related to the COVID-19 health emergency	M	As of the date of this report, the Project's co-financing institutions have reported a physical counterpart contribution of more than 4,000 ha restored by Corpoguvio and 4,182 ha by CAR, thus meeting the restoration target set by the counterparts. As for the ecological restoration target involving GEF resources, there is the risk of not meeting it (263 ha of 300 ha have been restored so far). This risk has to do with the impossibility to go to the field due to the mobility restrictions caused by the COVID-19 health emergency. Some of these restrictions are expected to be removed during the second half of 2020. However, the restoration team is made of local professionals and facilitators who live in the municipalities targeted by the interventions, which helped solve some of the mobility restrictions. In addition, the Project has agreements for planting works in place with local associations, which also helped sustain the implementation of some restoration activities.	<i>This risk declined</i> The restoration objectives financed with GEF funds are being met. However, the Guandoque Watershed #1 is socially complex due to illegal mining and money laundering issues, and CAR is not welcomed in the communities. (unlikely)

NB: H= High

M= Medium

L= Low

Source: IDB 2020 and interviews 2020.

The Risks Matrix identified potential challenges that could arise at the beginning, but the PEU did not use it as a planning and adaptive management input.⁴ However, the Risks Matrix did get updated as part of the monitoring performed by the Implementing Agency (IA), and it was used as a monitoring and evaluation tool in the PIR (Table 9) (IDB 2020).

Adaptive management in the Project design

The design contemplated a way of adapting the Project according to the contextual needs, so it was possible to follow these guidelines to implement strategic changes as necessary (IDB 2014, IDB 2015):

Agreement: "ARTICLE 3.05. Project Operational Manual ("POM"). The Parties agree that the Project execution shall be governed by this Agreement and the POM provisions referred to in Article 2.02(a) of these Special Provisions, in the understanding that amendments may be made during the execution of the Project, subject to the Bank's prior and written non-objection. In the event of inconsistencies or contradictions between the provisions of this Agreement and those in the POM, the provisions in this Agreement shall prevail."

Agreement: "Article 6.01. (b) Any material change to the plans, specifications, investment schedule, budgets, rules and other documents approved by the Bank, as well as any substantial change in contracts financed with Contribution resources, require the Bank's written consent."

POM: "Article 3.05 of the Special Provisions of the Investment Grant Agreement states that the Project execution shall be governed by the Investment Grant Agreement and the POM provisions referred to in Article 2.02(a) of such Special Provisions, in the understanding that amendments may be made during the execution of the Project, subject to the Bank's prior and written non-objection. In the event of inconsistencies or contradictions between the provisions of this Investment Grant Agreement and those in the POM, the provisions in the Investment Grant Agreement shall prevail."

Adaptive management in the Project execution

Although the Project partially modified its results matrix (Table 7), it did adapt to improve the results and make them easier to meet. For example, it had been planned to launch a request for proposals and engage a consulting firm for the completion of field work (i.e. restoration and productive activities), but the Project rightly considered that the best strategy was to work with the local people and communities, not only to implement the contemplated activities, but also to empower the community and facilitate both their identification with the Project and the completion of fieldwork, while securing the additional benefit of creating jobs and involving the beneficiary families and women. In the end, agreements were executed with four organizations, one for each watershed, two of which are led by women. In the context of the pandemic, the fact that the organizations were located in the field has proven a great advantage to advance the Project processes and outputs.

In addition, as described in Section 5.1.1, the Project - specifically the climate vulnerability and risk assessment - had to be updated with the AR5 methodology, which enabled specifically identifying strategical areas to reduce vulnerability in the hydrological units where the Project was implemented, and it also enabled checking the plots and families with which the adaptation measures were implemented.

⁴ It is worth noting that the Project had a risk matrix specifically for accounting matters, which was updated with each audit, approximately every six months.

5.1.6 Monitoring and evaluation

In the design

The Project's Monitoring and Evaluation Plan was properly formulated with an adequate budget and specifying the responsible parties and their roles, which facilitated measuring progress in the achievement of outputs, outcomes and the general objectives of the Project according to the Results Matrix. The monitoring activities were aimed at assessing the progress of the different processes and the achievement of milestones related to outputs, while the impact assessment would focus on the achievement of outcomes and general project objectives. The monitoring and evaluation was intended to be conducted according to the guidelines and procedures of IDB and SCCF/GEF. Annual reports and partial and final evaluations were to be submitted to the Bank, the Project's Steering Committee (PSC), the Beneficiary and other relevant actors. Monitoring and evaluation at the Project level fell under the responsibility of the Project Coordinator, with support from the whole technical team. The PSC would review and endorse the M&E documents to be submitted to the IDB and the SCCF/GEF (IDB 2014, GEF 2013).

The Project monitoring process involved ongoing monitoring of the Project activities and a regular evaluation of the outcome indicators and their milestones. This process would result in half-yearly reports to IDB and the PSC, with annual meetings and reports to update the stakeholders on the progress of the implementation.

CI would submit half-yearly financial and technical reports based on the IDB reporting policies. The Project Monitoring Report (PMR), the main monitoring tool of IDB, is updated every six months to track the Project's progress toward the achievement of the results indicated in the Results Framework. Additional supervision may include missions to the intervention areas and meetings with Project partners and other relevant stakeholders. However, it was the Executing Agency that would report the MADS (that would preside over the SC) and the IDB on any problems or delays in the execution of the Project so that appropriate adaptation measures could be taken and timely support could be provided to overcome challenges or difficulties.

CI would also develop an AWP over the first month of the year and would submit it to MADS and IDB for review and approval. Project progress would be examined at least once a year by all the parties involved in the execution and implementation. Project Execution Reports (PIRs) would be filed annually with the SCCF/GEF and would be prepared based on the annual monitoring review guidelines of the SCCF/GEF. CI would prepare the PIRs, the PSC would review them, and IDB would send them to the SCCF/GEF.

The impact assessment will be conducted using a monitoring system to be developed by the Project as part of one of its outputs. The monitoring system would incorporate hydro-climatic variables fed with information to be generated by existing stations and local stations to be established with IDB/FECC funds, and would use information on the status of the adaptation measures implemented, including: a) status of restoration activities; b) status of implementation of re-vegetation and improved engineering pilot projects; and c) status of activities aimed at the adoption of climate-resilient management practices and adaptation measures in local production systems. To evaluate the effectiveness of the adaptation measures for water regulation capacity, time series of information on land use and cover, meteorology and hydrology would be collected and analyzed for both the prioritized and the reference watersheds, through the monitoring system. The lessons learned as a result of the evaluation of changes in the water regulation and supply capacity in the prioritized areas and of the socioeconomic benefits of the Project would be recorded and disseminated beyond the Project intervention areas, as applicable.

To evaluate the Project impact, a quasi-experimental method would be used (participant v. non-participant) to compare changes in the four micro-watersheds located in the prioritized hydrological units analyzed against the non-intervention alternative (that is, three reference or control micro-watersheds). Special emphasis would be placed on re-vegetation and improved engineering in the critical water supply areas, the adoption of climate-resilient management practices, and the implementation of adaptation measures in local production systems. Monitoring would start as soon as written agreements are executed with local stakeholders and owners, and adaptation measures start to be implemented. The monitoring would be conducted through a system to be developed by the Project and would incorporate the information generated from the vulnerability analysis (GEF 2013).

In the execution

The Project effectively used the following instruments to monitor and evaluate its activities and results, according to the POM, and without delays according to the planned schedule. So, all the reports listed below were submitted on time and with the expected quality, as confirmed through the interviews done and the review of the applicable secondary information.

- *Annual Work Plan (AWP): based on the PEP, used to plan and monitor the activities to be carried out.*
- *Multi-Annual Execution Plan (MEP) and monitoring reports (kick-off, half-yearly, annual, to monitor the fulfillment of the work plan),*
- *Results matrix and risks matrix updated every six months, approximately.*
- *Project Monitoring Report (PMR): which includes information on the progress of the outputs and outcomes of the Project, every six months.*
- *Procurement Plan (PP): updated at least every 4 months, used for the administrative monitoring of the Project's goods and services.*
- *Consulting reports: the contracts include terms of reference and had the Bank's non-objection, as provided in the POM.*
- *Project Implementation Report (PIR) until June 2020.*
- *Technical Committee (four meetings per year, one each quarter) and Steering Committee (two meetings per year, one each half).*

The aforesaid instruments have been consistently used throughout the Project, which has enabled monitoring all the activities, the financial execution, and the procurement processes, among other things. Annual plans have proven useful instruments to plan the activities to be carried out during the following year. The rationale was that those activities which for a justifiable reason could not be carried out as per the PEP, were updated in the PMR (and the AWP) and rescheduled for implementation in subsequent years during project execution, following the Bank's proceedings.

The Project did not conduct an impact evaluation using a quasi-experimental method, as contemplated in the CEO Endorsement Request (GEF 2013), because it was finally concluded that it did not make sense considering the grant amount, the project size and, especially, the baseline data. The Project has a Monitoring and Evaluation Plan, which was followed throughout its execution. It was also decided to conduct only one economic evaluation, in line with what was defined in the Project's Monitoring and Evaluation Report. For an overview of the complete monitoring strategy proposed by the Project see Annex 7. However, it is worth noting that the monitoring system contemplated not only the appropriate completion of the Project activities, but also the climate indicators to monitor the impacts of the adaptation measures related to the hydrological cycle.

Based on the interviews done, there were delays in the procurement process and financial reports due to the CI procedures being different from those of the Bank, which required a

complex trial and error process. In addition, the Project's field technical specialists who were interviewed agreed that the administrative processes did not facilitate the implementation of field activities - they actually delayed them and sometimes prevented a smooth development of the Project.

5.1.7 Relevant stakeholders, and Project coordination by CI, IDB and the partners

In the Project design

The institutional stakeholders are the environmental authorities (MADS, the Special Administrative Unit of the National Natural Parks System (UAESPNN), Regional Autonomous Corporations, (CORPOGUAVIO, SDA), research institutions (IDEAM, Alexander Von Humboldt Institute), the Government of the Department of Cundinamarca, and EAAB. The execution of cooperation agreements between some of these institutions and the Executing Agency was a condition prior to the first disbursement. MADS, through CI, coordinates actions for the "baseline project" using SCCF resources. Other local stakeholders include the base communities, community action councils and other teams in charge of land use planning instruments. In addition, the municipalities and their planning agencies (mayor offices, municipal councils, etc.) and the watershed and ecosystem management committees were considered relevant. All of these entities actively participated in the preparation and design of the Project, and equally contributed their inputs to the validation and implementation of specific relevant interventions through workshops and public consultations. Likewise, the local governments received training to successfully include climate change considerations in their land use plans (GEF 2013).

According to the agreement with MADS, CI would execute the Project in close coordination with IDEAM, which would act as head of the Technical Committee and technical-scientific coordinating body in representation of MADS.

A Project Steering Committee was created to ensure effective coordination and strategical alignment with the Project's partner institutions. It was integrated by high level representatives of MADS, EAAB, IDEAM, CORPOGUAVIO, CAR, the Environment Secretariat of the Bogota District (SDA), the Ministry of Housing, Cities and Territory (MVCT), and the director of the Integrated Regional Climate Change Plan (PRICC) (with right to speak but not to vote). The detailed roles and responsibilities of the Steering Committee were set forth in the inter-agency agreements executed between its members and MADS, and in the Project Operational Manual (POM). The duties and responsibilities of the PSC include: (i) approval of the POM; (ii) approval of project planning tools like the MEP and the AWP; (iii) review of progress reports; and (iv) development of strategic and operating recommendations to achieve the Project results. The PSC meets at least once every six months, or more frequently if convened by MADS. The PSC may invite practitioners and scientists to participate in its meetings to provide technical insight into decision-making. Other institutions involved in the Project's interest area may be invited to the PSC, including the Government of Cundinamarca, the National Parks System, and the municipal governments. The Project's key partners include the Alexander Von Humboldt Institute and CSOs within the prioritized areas, among others. The appointment of representatives for each of these institutions was a condition to the first disbursement.

The Project also has a Technical Committee (TC) that performs the overall technical supervision of the Project. The TC meets at least once every three months and its members are the same institutions as those of the SC. IDEAM chairs the TC. The responsibilities of the TC include providing technical guidance, endorsing the terms of reference for the

implementation of the technical aspects of the Project, reviewing the Project's final deliverables, and recommending supplementary analyses, among other things.

CI-Colombia established a Project Executing Unit formed by one National Project Coordinator (NPC) and one Administrative and Financial Assistant. This unit is financed with Project funds. The NPC reports to the board of directors of CI-Colombia, which supervises the technical development of the Project. The consultants engaged by the Project report to the NPC. The technical units of CI and associated institutions supervise the consulting services.

The Project also significantly benefited from the experience gained from the Integrated National Adaptation to Climate Change Project (INAP) financed by GEF, conducted by the Government of Colombia through IDEAM and Conservation International Colombia and the participation of other government institutions from 2006 to 2011. The proposed Project applied the lessons learned and will roll out to a larger area the successful adaptation measures of the INAP.

The Project also shared knowledge and lessons learned with the Adaptation Fund's (AF) project, Reducing Risk and Vulnerability to Climate Change in the Region of La Depression Momposina in Colombia, supported by the United Nations Development Program (UNDP). More specifically, the two projects shared knowledge and lessons learned in connection with the development of climate scenarios on a local scale to support decision making and the development of land planning instruments, wetland restoration as an adaptation strategy, and the implementation of climate change-resilient production practices to reduce the vulnerability of local communities to the impacts of climate change.

The Project was related to other regional initiatives, including: a) the PRICC jointly developed by the Government of Cundinamarca and the Municipality of Bogota; 2) the "Somos Agua" initiative advanced by TNC, the water utility of Bogota and UAESPNN; 3) the biodiversity policy of Bogota and the connectivity lines adopted by the Secretariat of Environment of the Bogota District; and 4) CI-led hydrological modeling studies in the conservation corridor. This studies and ongoing processes will generate important information to feed this Project. For the PRICC, an institutional framework was defined for joint action on climate change mitigation and adaptation in the capital city area, which will be used by the project financed by the SCCF. The project provided an additional perspective of the baseline activities due to incorporating climatic overlay, which would have not been considered in the absence of the SCCF resources.

The Project partnered with the Initiative for Conservation, Restoration and Sustainable Use of Ecosystem Services of Landscapes within the paramos of Guacheneque, Guerrero, Chingaza, Sumapaz, Eastern Hills (*Cerros Orientales*) of Bogota and surrounding areas. Since 2007, the city of Bogota D.C., the Government of Cundinamarca, UAESPNN and different international environmental NGOs have undertaken joint initiatives to counteract or mitigate the accelerated deterioration, fragmentation and isolation of strategic ecosystems and prevent land uses that are incompatible with proper environmental management. These efforts included conducting studies that resulted in the formulation of this initiative aimed at undertaking conservation, restoration and sustainable land use actions.

Valuable information for the Project was also contributed by another project conducted between 2008 and 2010 by Conservation International Colombia in cooperation with EEAB. This project developed a planning process that consolidated and updated biophysical and socioeconomic information about the Chingaza-Sumapaz-Guerrero corridor area to derive an integrated proposal for improved land management for water and biodiversity protection (GEF 2013).

The baseline for the Project was built through two supplementary programs:

- 1) *Program for the conservation and restoration of mountain wetlands in the area of Chingaza and Sumapaz: this USD60 million activity, of which USD10 million were directly linked to the project as a baseline activity, addressed conservation from a biodiversity and environmental services perspective, but does not include the climate change perspective. This program aims at promoting integrated conservation and restoration processes in wetlands located near Bogota through physical, biotic, social, cultural, hydraulic and urban interventions, among others, to provide environmental services to the city and its inhabitants, as well as prevent these natural spaces from deteriorating and being degraded by the urban context where they are located. Some of the activities included in this program are: (i) education on environmental and social management, (ii) sustainable production systems, (iii) research, ecological restoration and agricultural management, (iv) basic sanitation in the municipalities in this region. With the activity financed by SCCF, the baseline project will incorporate the climate change dimension during its implementation.*
- 2) *Program for water supply and sanitation services for rural and semiurban areas: this program will invest USD60 million in closing existing gaps in the coverage of water supply and sanitation services in rural and peri-urban areas identified in the National Development Plan (2010-2014) and in the strategy of the Departmental Water Plans. It prioritizes the communities living in areas with high poverty levels, where water demand to satisfy basic needs like drinking water and sanitation is increasing but is currently not being met. About USD11.4 million are linked to the SCCF project as a baseline activity. The program will be implemented in five provinces: Bolivar, Cordoba, Antioquia, Nariño, and Cauca. Two of these provinces include foothill areas which are representative of the water regulation problems which will be addressed by the SCCF-funded activity.*

The IDB water supply and sanitation program seeks to improve the living conditions of around 300,000 people in 300 rural locations and around 9,000 households in semiurban areas that currently lack operational water supply and sanitation systems. An estimated 40% of the total project cost will be concentrated in foothill areas and will be subject to the same ecosystem changing conditions induced by the effects of climate change. The lessons learned, the capacity building activities, the knowledge gained, and the investments made with SCCF funds related to the foreseen changes in the water regulation cycle will be used to support the incorporation of adaptation-related considerations in the design and implementation of the activities that will be financed with the loan. Therefore, the loan and the activities financed by the SCCF will be closely coordinated.

In the execution

The key project stakeholders are listed in Table 23 of Annex 8. As for the project partners, MADS, EAAB, IDEAM, CORPOGUAVIO, and CAR have performed very well, according to most of the interviewees that are familiar with this.

The following work sessions, among others, were held to coordinate the execution of the project and operating aspects:

- *Steering Committee meetings: about two per year, where the project results are reported, the AWP is approved and decisions are taken in relation to project monitoring and policies.*
- *Technical Committees (4 per year), where the partner entities provide feedback related to the work done by the PCU and consultants.*
- *At least one technical coordination meeting to assess the status of execution, formulate the general work plan, adjust monthly work plans (PCU and consultants in charge of each subject: communications, monitoring, ecological restoration, production systems, climate change, and land use planning).*
- *Permanent in-person or virtual missions with IDB. At least three in-person meetings a year and one virtual meeting every two to three months, or whenever requested, to provide updates on the achievement of objectives, targets, and outputs, and to solve any operating problems.*

- *Monitoring meetings held every two or three weeks by the coordinators of each subject and the on-site consultants and communities in each of the prioritized watersheds.*

The Project and the CARs signed cooperation agreements within the context of the project execution, in order to achieve the intended objectives, outputs and outcomes more effectively, creating synergies. Annex 9 shows a list of the main executed agreements.

The GEFAM Project keeps coordinating activities with the different actors, as described below. However, based on the interviews made, both the Steering Committee (SC) and the Technical Committee (TC) addressed issues related to the operation of the Project itself, which was actually under the responsibility of the coordination team, like the contracting processes, even in the case of individual consultants.

Institutional articulation on a local scale

- The Project was presented to the institutional stakeholders at different active socialization spaces that are used to guide environmental management and rural development in the municipalities, including the Interagency Committee for Environmental Education (CIDEA) and the Municipal Council for Rural Development (CMDR). This provided institutional legitimacy, and enabled building trust and sharing information with the parties, identifying key actors representing the public, private and community organizations, producers, leaders, and potential beneficiaries.
- As a result of these activities, meetings were held with the Municipal Secretariats of Planning, Farming and Cattle Ranching Development, and Environment in each municipality to validate information that should respond to planning criteria on a local scale, to articulate the Project actions with the targets of municipal and departmental development plans and other commitments like complying with judicial decisions – like the one ordering to decontaminate the Bogota river and another one stipulating improvements in the Tomine reservoir.
- For the micro-watershed of the San Francisco river, several actions were being carried out by other projects like:
 - *The Project for “Conservation, restoration and sustainable use of ecosystem services between the paramos of Sumapaz, Chingaza and Guerrero, the western hills of Bogota, and its influence areas” carried out by the Bogota water and sewerage utility (EAAB), which was at the termination and decommissioning phase.*
 - *The Project for “Implementation of conservation and restoration actions in the Paramo complexes, High Andean Forest, and ecosystem services in the Central Region” carried out by Region Central (RAPE) (2017-2019), which was going through the processes of focalization and selection of beneficiaries.*
 - *The “Conservation, water and land” (PROCAS) project (2016-2017), which sought to implement sustainable practices in cattle ranching, land management and water, and a Reforestation Agreement (2016) for publicly-owned lands, which were being executed by Corporacion Ambiental de Cundinamarca (CAR).*
- Both spaces facilitated the exchange of information, building specific knowledge for decision making related to articulated, coherent and transparent interventions, supporting capacity building, avoiding the duplication of beneficiaries, and providing the project with an identity of its own.

Institutional articulation on a regional scale

- From June 3 to June 5, 2019, UICN South America and the Ministry of Environment of Chile held the first edition of the virtual course “Nature-based solutions for sustainable and resilient development” in Chile. Seven hundred and eighty people, mainly from different regions of Chile and from other Latin American countries like Argentina, Bolivia, Colombia, Costa Rica, Ecuador, and Peru, participated in this first edition. Participants included university students and professors, government officials of different levels, consultants, and representatives of NGOs, civil society and the private sector. The course sought to build participants’ knowledge of conceptual and methodological bases, experiences, and learnings related to the application of Nature-based Solutions (NbS) to address climate change and other challenges, based on Chilean, Latin American and global experiences. The course comprised five modules: an introductory module, and four modules addressing the main approaches under the NbS umbrella concept, i.e. Ecosystem-based Adaptation (EbA), Landscape-scale Restoration, Natural Infrastructure for Water Management, and Ecosystem-based Disaster-Risk Reduction (Eco-DRR).
- Given the thematic closeness with the “Adaptation to Climate Impacts in Water Regulation and Supply for the Chingaza–Sumapaz–Guerrero Area” Project, Conservation International, the Ministry of Environment and Sustainable Development, and UICN South America joined efforts to showcase the work done by the Project, whose implementation was based on the Nature Based Solutions approach, especially under the Ecosystem-Based Adaptation. In the case of Colombia, the NbS is a useful and thorough framework that contributes to the achievement of goals which are related in multiple ways to climate change, biodiversity conservation, disaster risk reduction and, in general, sustainable development. Therefore, the Ministry of Environment and Sustainable Development, Conservation International Colombia, and UICN South America are organizing the Virtual Course “Nature-based Solutions for sustainable and resilient development”, which is the first edition for Colombia. The course seeks to strengthen the capacities and knowledge of representatives of the climate change node and environmental authorities on a national level, as well as territorial entities from the 22 municipalities and governments in the influence area of the GEF high mountain project, related to the conceptual and methodological bases and the experiences in the implementation of NbS to address climate change and other challenges to society.

5.2 Impact

*The impact of this project is rated as **highly satisfactory (HS)**, due to the transformational change it has generated in the beneficiaries, institutions and partners involved, as well as the development of an intervention methodology that could be replicated in other projects domestically and worldwide. However, two of the project impact indicators could not be measured during project execution, although they were extended. The outcome indicators were met and targets were exceeded in two cases.*

The Project did not carry out a formal (statistically designed) impact assessment. However, outcome/impact indicators were partially SMART⁵ - specific, measurable (targets were set), and relevant (because they responded to the development problems and, in the vertical logic, to the components and outputs), but not necessarily achievable and timely in relation to the time of the technical cooperation (TC). An example of this are the indicators related to an

⁵ SMART: *specific, measurable, achievable, relevant, and timely.*

increase in the water yield and in the rate between base and peak flows. There follows a more detailed analysis of such indicators.

Based on the interviews made during the virtual fieldwork, the Project produced a transformational change in the beneficiary groups in relation to their knowledge of climate change and its effect among water users at lower latitudes, and because the adaptation measures are profitable (i.e. diversification through the production of eggs, yoghurt, re-vegetation, honey and its by-products, among others) and provide alternatives to traditional activities with higher impact like cattle farming.

According to the interviews, there are additional non-planned outputs/outcomes that are attributable to the Project, which resulted from the activities carried out under both components, which include:

- *Influencing public policy and the work plans with the new mayors, and including climate change considerations in their development plans.*
- *Local organizations were strengthened through joint work and “learning by doing”, and governance was increased. The communities are participating more actively in politics and in the design of development plans, therefore increasing the sustainability of the activities started by the Project.*
- *Although the implemented activities targeted water regulation and water supply, co-benefits were generated in relation to ecological connectivity and biodiversity increase as a result of the ecological restoration. For instance, an increase has been detected in the number of flame-winged parakeets in the municipality of Sesquile in Cundinamarca.*
- *Decreased use of agrochemicals through their replacement with agro-ecological preparations and organic fertilizers for crops. For example, in a farm at Chipata/Guasca, one of the beneficiaries that produces eggs, meat and milk replaced 75% of agrochemicals with organic fertilizers, which reduces the impact on water, air, land, and human health.*
- *Stabilization and increase in the income of beneficiary families due to the diversification of their productive activities. For example, during the dry season, when it is more difficult for them to sustain their income through their traditional activities, it is the best time to obtain apicultural products.*
- *Cooperation through organizations and associations. The Association of Beekeepers of Sesquile (APIMUISCA) was created as a result of the Project.*
- *Increased family union and cohesion due to a greater diversification of activities, which enables a better division of labor and performing complementary adaptation activities.*

In the tables below, the original comments included in the Results Matrix of the CEO Endorsement Request (GEF 2013) appear in italics, in blue and small font. The evaluator’s comments, based on the interviews and the information provided, appear in regular font.

5.2.1 Project Impact Indicators

Two Project impact indicators will be difficult to measure before the Project closure, and will generate more information afterwards; the other one exceeded its target. The outcome indicators were met and targets were exceeded in two cases.

Table 10 **Fulfillment of the Project Impact Indicators**

IMPACT INDICATOR	BASELINE	TARGET	CURRENT FULFILLMENT	%	COMMENTS
<p><i>Project objective: to strengthen the hydrological buffering and regulation capacity of the upper areas of the watersheds located in the Chingaza-Sumapaz-Guerrero Conservation Corridor, which supply drinking water to the metropolitan area of Bogota and the adjoining municipalities.</i></p>					
<p><i>Indicator 0.1</i> Percent increase in water yield during dry season as per calibrated model, due to the adoption of climate change adaptation measures in prioritized areas (%)</p>	0	At least 10% in each prioritized area			<p><u>Comments:</u></p> <ul style="list-style-type: none"> • 3 prioritized areas: Guerrero, Chingaza and Sumapaz; 3 municipalities, 4 micro-watersheds • The dry season occurs in the months of DJFM • Climate change adaptation measures include re-vegetation, restoration, hydraulic works, climate-resilient land use management practices • A baseline for the water production level will be established during the first 6 months of implementation • The 10% target is based on a regression model (low land cover against land cover) and implies a net decline in precipitations due to CC. The monitoring system financed by the Project will generate additional data to adjust the precipitation/vegetation land cover-surface flow. <p><u>Assumptions:</u></p> <ul style="list-style-type: none"> • The variation in water yield due to the Project interventions may not be significant during the execution period, and benefits may materialize in the long term. <p>Due to its being a global impact Indicator, its variation cannot be measured during Project implementation, but much later - which confirms the assumption</p>
<p><i>Indicator 0.2</i> Percent increase in rate between base and peak flows, under RCP 6.0 scenario by 2040, as per calibrated model, due to the adoption of climate change adaptation measures in prioritized areas (rate)</p>	<p><u>Historic period (1991-2011)</u></p> <ul style="list-style-type: none"> - San Francisco (Sisga): 0.18 - Guandoque (Cuevas-Neusa): 0.2 - Chisaca: 0.23 Chipata (Siecha): 0.35 <p><u>CC scenario RCP 6.0, 2012-2040 (simulated):</u></p> <ul style="list-style-type: none"> - San Francisco (Sisga): 0.12 - Guandoque (Cuevas-Neusa): 0.2 Chipata (Siecha): 0.30 	<ul style="list-style-type: none"> - San Francisco (Sisga): ≥ 0.12 - Guandoque (Cuevas-Neusa): ≥ 0.25 - Chisaca: ≥ 0.20 - Chipata (Siecha): ≥ 0.30 			<p><u>Comments:</u></p> <ul style="list-style-type: none"> • The rate is defined as the number resulting from dividing the base flow by the peak flow. The peak and base flows are the average value of the monthly maximum and minimum flow, respectively. • The baseline for maximum and base flows is calculated with data simulated at the closing point using a hydrological model developed for each basin. • The flow simulation for RCP 6.0 scenario (by 2040) shows an increase in the rate between peak and base flows as follows: San Francisco 0.12, Guandoque 0.25, Chisaca 0.20, and Chipata 0.30. • The implementation of adaptation measures is expected to improve the regulation capacity in the prioritized micro watersheds (reflected in a lower rate between peak and base flows or even lower compared to the 2012 baseline). <p><u>Assumptions:</u></p> <ul style="list-style-type: none"> • The variation between peak and base flows due to the implementation of

IMPACT INDICATOR	BASELINE	TARGET	CURRENT FULFILLMENT	%	COMMENTS
					<p>project activities may not be significant during project execution. The Project has no governance over unexpected changes in land use pathways and other local socioeconomic dynamics. The hydrological impact of the restoration measures could show in several years or even decades.</p> <ul style="list-style-type: none"> • Projections based on the climate change model under RCP-6.0. <p>This indicator was added after the MTE to the two original impact indicators and due to being a global impact Indicator, its variation cannot be measured during Project implementation, but much later - which confirms the assumption</p>
<i>Greater awareness of adaptation alternatives and have lessons been learned from the field experience in high mountain ecosystems</i>					
<p><u>Indicator 0.3</u> # of territorial entities and environmental authorities investing in CC adaptation in high mountain ecosystems according to the guidelines generated in the Project. (number)</p>	0	≥ 10	12	120	<p><u>Comments:</u></p> <ul style="list-style-type: none"> • This target was established based on the fact that the Project has influenced the incorporation of CC considerations in 14 development plans of territorial entities within the Corridor area <p><u>Assumptions:</u></p> <ul style="list-style-type: none"> • The Project is expected to have a future impact in the appropriation of public resources at the level of the municipalities or departments or other sources of financing that involve the implementation of adaptation measures to address climate change or variability using an ecosystem-based approach for adaptation based on the management model developed by the Project <p>The target was met</p>

Note: The pink color indicates an achievement alert, based on the information provided.
The green color indicates the target was exceeded, achieving more than expected.

* Figures between parentheses will be financed and executed by the partner institutions (co-financing). The M&E activities are planned with a view to advancing the monitoring by the partner organizations.

Italicized comments in small blue font in the last column relate to the Results Matrix.

Source: IDB 2012, GEF 2013, Hofstede 2018, Half-yearly Report 2020, interviews 2020.

- Impact Indicators 0.1 and 0.2: The fulfillment of these impact indicators will depend on the results of the hydroecological and hydroclimatic monitoring, for which a first consolidated report will be produced by the end of the first year of measurements (ending between September and November), when the relevant analyses will be available, but more decisive results will be seen in the following years (for more details on the project monitoring proposal, see Annex 7).
- Impact indicator 0.3: With the change in local administrations, climate change considerations have been incorporated into development plans (which is fully attributable

to the Project), with concrete investments for Bogota, Villapinzon, Sesquile, Tausa, Choachi, Guasca, Zipaquira, CAR, National Parks (Management Plans for Civil Society Reserves, Tasqua network).

5.2.2 Outcome Indicators of Component 1

- Outcome indicator 1.1: There follows a detail of the planning instruments supported by and attributable to the Project.
 - Environmental determinants to Corporations:
Fact sheets delivered to: CAR, Corpoguavio, Corporinoquia. Official delivery of information to Cormacarena; its incorporation is under its responsibility.
 - EOTs for prioritized municipalities:
*Phase I: Tausa, Guatavita, Sesquile, Cogua, Guasca.
Phase II: Zipaquira, Villapinzon, Choconta*
 - Counterpart contribution - Partner: CAR, with means of verification: 8 POMCAS
1. Bogota River, 2. Garagoa River, 3. Alto Suarez River, 4. Seco River and secondary rivers of the Magdalena River, 5. Sumapaz River, 6. Negro River*, 7. Blanco, Negro and Guayariba Rivers, 8. Minero-Carare River*

Table 11 Fulfillment of the outcome indicators of Component 1

OUTCOME INDICATOR	BASELINE	TARGET	CURRENT FULFILLMENT	%	COMMENTS
COMPONENT 1: KNOWLEDGE MANAGEMENT					
<i>Outcome C1: CC vulnerability assessments used as an input for land use and watershed management plans</i>					
<i>Indicator 1.1</i> Development, land use and environmental plans (POTs, POMCAs, PDs, or PMAs) that incorporate CC considerations (number)	0	12 (4)*	12 (6)	100 (150)	<i>Comments:</i> • The target for this indicator is 2 (4) land use plans (POTs and POMCAs) and 10 or more Development Plans or Environmental Management Plans that incorporate CC considerations like: (i) information/projections from climate model scenarios, or (ii) vulnerability and impact assessments. • The incorporation of CC considerations may occur in one or more of the phases of development of the different instruments (POT, POMCA, PD, PMA). • This indicator includes the actions involving information transfer and technical support to the authorities (corporations or municipalities) aimed at the incorporation of CC considerations at different phases contemplated in the formulation of land use management plans. These plans include EOT/POT, watershed management or strategic ecosystem plans (paramos, wetlands, among others) The target was met with GEF resources and exceeded with co-financing resources The definition of this indicator is different from that in the PMR [Plans (land use management, watershed) that incorporate CC vulnerability assessments.] This was actually one of the adjustments made to the indicator during the MTE in order to not only address aspects related to CC vulnerability, but also other aspects like impacts.

Note: The color indicates an achievement alert, based on the information provided.
 The color indicates the target was exceeded, achieving more than expected.

* Numbers between parentheses will be financed and executed by the partner institutions (co-financing). M&E activities are planned to be carried out by the partner institutions.

Italicized comments in small blue font in the last column relate to the Results Matrix.

Source: IDB 2012, GEF 2013, Hofstede 2018, Half-yearly Report 2020, interviews 2020.

5.2.3 Outcome Indicators of Component 2

- Outcome indicator 2.1: Five projects are currently being formulated:
 1. *Financial Mechanisms for the Protection of Supply Watersheds. Source: USAID (100%): Pilot project for the articulation of the environmental investment tariff with other economic instruments and financial incentives for the protection of watersheds and water sources in the Corridor.*
 2. *Rural aqueducts. Source: APP (96%): Pilot project for the strengthening of “Veredal Aqueducts” (community organizations that provide water supply services in rural areas) (ASOUNION de Fomeque and EL VOLCAN de la Calera).*
 3. *Sustainability of GEF actions. Source: BID (85%): Strengthening of the sustainability conditions of climate change adaptation measures implemented with GEF resources between 2018 and 2020 in four micro watersheds.*

4. *Adaptation measures scale-up. Source: SGR (63%): Conservation of high-mountain ecosystems for the strengthening of the climate change adaptation capacity and water security of the Conservation Corridor between the paramos of Chingaza – Sumapaz – Guerrero - Rabanal in the Departments of Cundinamarca, Meta, and Bogota DC.*
5. *Carbon neutrality in a selected area (4%): Pilot project to advance Carbon Neutrality in an area of Bogota.*

Table 12 Fulfillment of the outcome indicators of Component 2

OUTCOME INDICATOR	BASELINE	TARGET	CURRENT FULFILLMENT	%	COMMENTS
COMPONENT 2: ADOPTION OF ADAPTATION MEASURES TO ADDRESS THE IMPACTS OF CLIMATE VARIABILITY AND CHANGE					
Outcome C2: Greater adoption of adaptation measures to reduce the vulnerability of water to climate change					
2.1 Adaptation projects ready to be submitted to prioritized sources of finance (number)	0	5	5	100	<i>Comments:</i> <ul style="list-style-type: none"> • Projects will be formulated based on one or more financing proposals, and the main local organizations will participate in their formulation, as required • Adaptation measures or climate-resilient management alternatives include re-vegetation, restoration, and the use of climate-resilient and water-efficient production practices • Pilot projects with a gender-focus approach, where women take decisions on the activities to be carried out, will receive technical assistance and targeted resources. Planning activities will be gender-sensitive <p>The target was met.</p>
2.2 Families that incorporate adaptation measures or climate-resilient management practices with a gender perspective in their production systems (number)	0	60 (300)	63 (300)	105 (100)	<i>Comments:</i> <ul style="list-style-type: none"> • Adaptation measures or climate-resilient management alternatives include re-vegetation, restoration, and the use of climate-resilient and water-efficient production practices <p>The implementation of actions was finished for 50 families in San Francisco and 13 families in Chipata. Adaptation measures are being implemented with 14 families, so the target will be exceeded even further</p>

Note: The color indicates an achievement alert, based on the information provided. The color indicates the target was exceeded, achieving more than expected.

* Numbers between parentheses will be financed and executed by the partner institutions (co-financing). M&E activities are planned to be carried out by the partner institutions.

Italicized comments in small blue font in the last column relate to the Results Matrix.

Source: IDB 2012, GEF 2013, Hofstede 2018, Half-yearly Report 2020, interviews 2020.

- Outcome indicator 2.2: Below is a list of the families that have been/are being supported by the GEFAM Project with a transformational impact (environmental awareness) attributable to the Project according to the interviews.
 - San Francisco micro watershed:
Actions have been implemented in 50 plots in San Francisco. The implementation was completed in October, and the closure technical support finished in January.
 - Chipata micro watershed:
The implementation was completed in 13 plots in Chipata, including agroecology, sylvopastoral, and apicultural plots with the placement of 150 hives and the construction of minor works. The closure technical support finished in January.
 - Chisaca micro watershed
Adaptation measures are being implemented with 17 families.

5.3 Effectiveness

The Project is rated as **highly satisfactory (HS)** in terms of effectiveness, as it has met the output targets and exceeded others. It is worth mentioning that the targets for restoration and rehabilitation using GEF funds were met and are expected to be exceeded, and expectations were exceeded in terms of targets met using co-financing funds.

This section analyzes the achievement of output indicators, based on the provisions of the Investment Grant Agreement (IDB 2014), CEO Endorsement Request (GEF 2013) and POM (IDB 2015).

In these tables, the original comments appearing in the Results Matrix are *italicized* in semitransparent small font. The evaluator's comments based on the interviews made and the information provided appear in regular font.

5.3.1 Effectiveness of Component 1 outputs

All the output targets of this component have been achieved: in two out of five indicators financed with GEF resources the target has been exceeded (slightly exceeded in three other indicators), and the same applies to four indicators financed with co-financing.

Table 13 shows the results obtained from 2016 to 2017 for each output indicator of Component 1 with the official methodology AR4. Colombia replaced this methodology with AR5 with the Third National Communication on CC, so an update was made in 2019 and it is about to be published (CC vulnerability and risks and hydrological models).

- Output indicator 1.1: *This indicator was met in 2016 with the engagement of two specialized consultancies (building of scenarios and their spatial representation). It was published in the indexed magazine "Cuadernos de Geografía" of the National University of Colombia, which conducted the technical review of the study.*
- Output indicator 1.2: *The covered area is included with maps as a result of the consultancy for the hydrological response assessment in the four prioritized micro watersheds. The remaining area (counterpart contribution) was obtained through studies commissioned by CAR with PUJ. The counterpart contribution was formalized with its applicable technical support.*

- Output indicator 1.3: This indicator was achieved with the engagement of a specialized consultancy which focused on the four prioritized micro watersheds. A summarized document is being prepared for peer evaluation with emphasis on the vulnerability and risk of the micro watersheds prioritized by the Project.
- Output indicator 1.4: The Certification Program in Land Management and Climate Change was developed from 2019 to 2020 in cooperation with Universidad Javeriana.
In 2019, Cohorts 1, 2, and 3 were completed and 100 students graduated, some of whom represented territorial entities. Institutions: 16, Ministries: 4, Governor Office: 1, Municipalities: 17.
Upon request of the partners, a new Cohort (Cohort 4) was opened for the February 15 - May 15, 2020 period. Forty two students graduated from this Cohort virtually.
- Output indicator 1.5:
 - *Delivery of information and technical support to Corporations: CAR, Corpoguvio, Corporinoquia, Cormacarena.*
 - *Delivery of information and technical support to prioritized municipalities: Tausa, Guatavita, Sesquile, Cogua, Guasca. Phase II: Zipaquira, Villapinzon, Choconta.*
 - *Delivery of information and technical support to other entities: PNN central level, PNN Chingaza, and PNN Sumapaz.*

Table 13 Fulfillment of Component 1 Output Indicators

OUTPUT INDICATOR	BASELINE	TARGET	FULFILLMENT	%	COMMENTS
COMPONENT 1: KNOWLEDGE MANAGEMENT					
<i>Outcome C1: CC vulnerability assessments used as an input for land use and watershed management plans</i>					
1.1 Area of the Corridor covered by maps indicating the distribution of climate variables under climate change scenarios (km ²)	0	5,500	5,500	100	Comments: //The total area of the Corridor is 5,500 Km ² //The maps include the analysis of at least two emission pathways (medium and high) for temperatures, precipitation, evapotranspiration, and relative humidity The target was met
1.2 Area of the Corridor covered by maps assessing the changes in the expected hydrological response of the high Andean ecosystems (km ²)	0	500 (5,000)*	526 (5000)	105 (100)	Comments: //Hydrological response measured in terms of annual and dry-season probability distribution functions • High-Andean ecosystems are those located above 2,600 masl. • The total area of the Corridor is 5,500 Km ² • Maps at a scale of 1:25,000 or finer (the orographic scale to be used in the micro watershed studies is defined by the availability of climatological stations; for the rest of the areas, the scale is determined by the Third National Communication (TNC) The target has been slightly exceeded

OUTPUT INDICATOR	BASELINE	TARGET	FULFILLMENT	%	COMMENTS
1.3 Vulnerability report assessing the hydrological response of the high Andean ecosystem to climate change (number)	0	1	1	100	<p><i>Comments:</i></p> <p>▮ Hydrological response measured in terms of annual and dry-season probability distribution functions.</p> <p>▮ The vulnerability assessment for water resources has 4 steps: a) Analysis of the climate sensitivity of high-mountain ecosystems in the prioritized areas; b) Development of an empirical model for water regulation associated with the land cover and the uncertainty range; c) Analysis of the exposure of high-mountain ecosystems to the actual and foreseen impacts of CC; and d) Analysis of results.</p> <p>▮ The peer review process includes comments from at least 2 local experts and 2 international experts from research centers and/or universities.</p> <p>The target was met</p>
1.4 Officials from the Ministry of Housing, MADS, EAAB, rural and municipal water supply systems and CARS trained in the use of CC scenarios and vulnerability assessments. (number)	0	≥ 100 (400)*	142 (742)	142 (186)	The target has been exceeded.
1.5 Number of documents evidencing the supply of information and technical support to incorporate CC considerations in development and land and environmental management planning (POT, POMCA, PD, PMA). (number)	0	12 (4)*	15 (6)	125 (150)	The target has been exceeded. GEF: (4 CAR, 8 Municipalities, 3 PNN)

Note: The color indicates an achievement alert, based on the information provided.
The color indicates the target was exceeded, achieving more than expected.

* Numbers between parentheses will be financed and executed by the partner institutions (co-financing). M&E activities are planned to be carried out by the partner institutions.

Italicized comments in small blue font in the last column relate to the Results Matrix.

Source: IDB 2012, GEF 2013, Hofstede 2018, Half-yearly Report 2020, interviews 2020.

5.3.2 Effectiveness of Component 2 outputs

The targets for Component 2 output indicators have been met and one is in the process of being completed without foreseeable issues. For one of the indicators the target was exceeded with GEF resources, and for two other indicators it was exceeded with co-financing resources.

Table 14 shows the fulfillment of Component 2 output indicators:

Table 14 Fulfillment of Component 2 Output Indicators

OUTPUT INDICATOR	BASELINE	TARGET	FULFILLMENT	%	COMMENTS
COMPONENT 2: ADOPTION OF ADAPTATION MEASURES TO ADDRESS THE IMPACTS OF CLIMATE VARIABILITY AND CHANGE					
Outcome C2: Greater adoption of adaptation measures to reduce the vulnerability of water to climate change.					
2.1 Adaptation project profiles formulated with municipalities and cooperative organizations for the implementation of adaptation measures (number)	0	32	32	100	<p>Comments:</p> <ul style="list-style-type: none"> • These project profiles are expected to be the result of the training in climate change risk management and adaptation measures provided to public officials and delegates of community-based organizations. <p>The target was met</p>
2.2 Protocols for restoration of strategic areas agreed with landowners/ authorities (number)	0	4 (45)	4 (45)	100 (100)	<p>Comments:</p> <ul style="list-style-type: none"> • Protocols will contain: types of species and their ecological characteristics, planting density (number of individuals and/or species by arrangement), maintenance activities, and measures to verify the effectiveness of the restoration activities. • Strategic areas will be selected based on their contribution to the water regulation process. These could include secondary vegetation located on the borders of the water bodies (riparian vegetation), areas adjacent to springs or recharge zones, and surrounding areas of woody vegetation that are in a good state of conservation. • Restoration areas will be selected through the application of predefined criteria (e.g., slope, presence of springs, woody vegetation in surrounding areas, and willingness of landowners to participate) in coordination with regional and local environmental authorities and landowners. • At least one protocol per hydrological unit will be developed. <p>Four restoration plans were prepared - one for each hydrological unit where adaptation measures were implemented. (Adjusting the protocols for the private lands located in the Chisaca Watershed).</p>

OUTPUT INDICATOR	BASELINE	TARGET	FULFILLMENT	%	COMMENTS
2.3 Restored areas that are critical to hydrological regulation in high-mountain ecosystems (ha)	0	250 (4000)	252 (8372)	101 (209)	<p><u>Comments</u></p> <ul style="list-style-type: none"> Restoration activities include fencing and planting pioneer species to foster natural regeneration. The areas to be selected will be mainly intended for the conservation of biodiversity and their associated services. It includes publicly-owned lands and areas that belong to the civil society that have this use as a priority. 49% of the land in the Corridor is publicly-owned (81,952 ha) and 51% is privately owned (92,486 ha). The agreements with local governments (municipalities), ministries and other government institutions will enable the restoration of the hectares proposed as a target for this indicator. To this end, the activities under Component 2 include dialogue and workshops with these authorities. Strategic areas will be selected based on their contribution to the water regulation process. These could include secondary vegetation located at the borders of the water bodies (riparian vegetation), areas adjacent to springs or recharge zones, and surrounding areas of woody vegetation that are in a good state of conservation. Restoration areas will be selected through the application of predefined criteria (e.g., slope, presence of springs, woody vegetation in surrounding areas, and willingness of landowners to participate) in coordination with the project team, regional and/or local environmental authorities, and landowners. <p>The Project completed the intervention with 252 ha under restoration, thereby exceeding the target.</p>
2.4 Rehabilitated areas that are critical to water supply (ha)	0	300 (98)	300 (541)	100 (552)	<p><u>Comments</u></p> <ul style="list-style-type: none"> Re-vegetation is understood as the rehabilitation of non-producing lands with highly altered ecosystem functions. All the areas selected for re-vegetation will use a gender-focused approach. Gender-focused pilot projects, those in which women make the decisions as to the activities to be executed, will get technical assistance and targeted resources. Also, planning activities will be gender-sensitive In the Chingaza-Sumapaz-Guerrero corridor re-vegetation is recommended in nearly 47,000 ha. Water hotspots or areas critical for water supply will be identified through the vulnerability analysis in Component I. <p>The process for implementation of ecological rehabilitation activities conducted with AGREGUA in 103 ha in the areas of Hato and Rancheria and 62 ha that belong to</p>

OUTPUT INDICATOR	BASELINE	TARGET	FULFILLMENT	%	COMMENTS
					13 beneficiary families from the municipality of Guasca
2.5 Agreements signed with families for the incorporation of adaptation measures in their production systems. (number)	0	60 (300)	63 (300)	102 (100)	<p><i>Comments</i></p> <ul style="list-style-type: none"> The signatory families will also accept to allocate part of their land to re-vegetation or rehabilitation practices. The agreements to be signed will have a gender approach and must lead to the fulfillment of the restoration indicator Adaptation measures include, among other activities, resilient water management practices <p>The target has been exceeded.</p>
2.6 Municipal and community organizations, with emphasis on potatoes and milk producers, trained in climate change risk management and adaptation measures (number)	0	≥ 65	65	100	<p><i>Comments:</i></p> <ul style="list-style-type: none"> Workshops and pilot projects field visits to: (i) increase awareness of the importance of climate risk management, (ii) provide technical assistance on the implementation of adaptation measures, and (iii) provide information on climate change impacts Adaptation measures or climate-resilient management alternatives include re-vegetation, restoration and the use of climate-resilient and water-efficient production practices <p>The target will be met, in process</p>
2.7 M&E system to track the impacts of adaptation measures in the water cycle deployed. (number)	0	1	1	100	<p><i>Comments:</i></p> <ul style="list-style-type: none"> The design of the M&E system includes the selection of control areas, where no adaptation measures are implemented The climate information network will follow WMO/IDEAM standards and procedures Due to the inherent variability of the hydrologic process, the impacts of adaptation measures might not be measurable during the project lifespan <p>The target was met</p>

Note: The color indicates an achievement alert, based on the information provided.

The color indicates the target was exceeded, achieving more than expected.

* Numbers between parentheses will be financed and executed by the partner institutions (co-financing). M&E activities are planned to be carried out by the partner institutions.

Italicized comments in small blue font in the last column relate to the Results Matrix.

Source: IDB 2012, GEF 2013, Hofstede 2018, Half-yearly Report 2020, interviews 2020.

- **Output indicator 2.1:** In the first phase of formulation, workshops were held with national, regional and local institutions in order to identify 32 project profiles. In addition, there is a complete database of project profiles structured as part of the Certification Program for public officials developed with Universidad Javeriana.

Table 15 *Areas restored and rehabilitated by the GEFAM Project (ha)*

RESTORATION - REHABILITATION			
Micro watersheds	Concerted Area (ha)	Consolidated Restoration	Rehabilitation Progress
Chipata	62		37
Chisaca	150	150	
Guandoque	102	102	
San Francisco	263		263
S Francisco 1	162		162
S Francisco 2	101		101
Grand total	577	252	300

Targets	ha
Rehabilitation	300
Restoration	250
	550

Progress (ha)
552

Source: GEFAM 2021.

- **Output indicator 2.2:** The 4 Restoration Plans proposed were formulated - one for the San Francisco River micro watershed (Guatavita/Sesquile), Guandoque, Chipata Watershed and Chisaca Watershed. These restoration plans were sent to the partners on Augusto 8, 2019 and their feedback was received.

Adjustments were made to the protocol for privately-owned lands in the Chisaca Watershed (Usme Locality of the D.C.), according to the conservation agreements signed (Table 15).

- **Output indicator 2.3:** As part of the ecologic restoration activities, 102 ha located in the Guandoque micro watershed have been planted with trees (43,500 trees planted). Schedules for Chisaca were adjusted with 23 identified plots and a potential of 150 ha to be restored, and activities started in July, after complying with biosecurity protocols due to the COVID pandemic. Fourteen agreements were signed with families in the Chisaca watershed, representing 150 ha intervened and 13,500 trees planted. The total projected area under restoration is 252 ha (Table 15).

Partners reported their physical targets as follows. Corpoguvio: 4,190 ha, CAR: 4,182 ha.

- **Output indicator 2.4:** San Francisco micro watershed: activities have been implemented in 263 ha (29,106 trees). With the Association of Women of Sesquile (AMUSES), ecological rehabilitation activities were implemented in 162 ha distributed in the productive units of 50 beneficiary families located in the areas of Uval, Carbonera, and Granadillo. Nowadays, 103 ha in the areas of Hato and Rancheria are under implementation process with AGREGUA, so they have not been reported yet.

Chipata micro watershed: climate change adaptation measures have been implemented in 37 ha. The base organization AGREGUA implemented ecological restoration activities across the productive units of 13 beneficiary families located in Hato and Rancheria. Eight thousand trees have been planted (Table 15).

- Output indicator 2.5: San Francisco micro watershed: agreements have been signed and actions have been implemented in 50 plots in San Francisco.

Chipata micro watershed: agreements have been signed and adaptation measures have been implemented in 13 plots in Chipata, including agroecology, sylvopastoral, and apicultural plots with the placement of 20 hives. Due to the COVID pandemic, some minor works were postponed to the second half of 2020, but they have been completed.

Chisaca micro watershed: actions are being implemented in 17 plots, including ecological restoration.

- Output indicator 2.6: For the training of 65 municipal and community-based organizations and leaders in climate change risk management and adaptation measures, a specific strategy was designed as part of program four of the capacity building plan “Territories adapted to climate change and variability” (*“Territorios adaptados al cambio y la variabilidad climática”*). This program was specifically geared towards the communities in the prioritized watersheds where measures were implemented to address climate change and variability, but it did not exclude residents who were not the direct beneficiaries of the Project.

Sixty-five social organizations and leaders (41 women and 24 men) were trained through different capacity building activities related to climate change adaptation measures, like climate monitoring, apiculture, sylvopastoral systems, agroecology, and restoration.

- Output indicator 2.7: *The monitoring system of the Project has 3 lines of work:*
 - *Climate channel: hydrometeorological component in place, with eight monitoring points. Data has been collected in San Francisco since September (temperature, precipitation, humidity, wind speed and direction, horizontal rain, and soil moisture).*
 - *Eco-hydrological monitoring by Universidad Javeriana: eight covers (paramos, Andean forest, secondary forest, shrub, sylvopastoral + improved grassland, potato plantation, pine tree plantation, gorse) and the following variables: runoff, precipitation, temperature, horizontal precipitation, infiltration.*
 - *Participatory climate monitoring: the participating families in the San Francisco watershed continued collecting data since September, with the project team conducting monitoring virtually or by phone. The capacity building process for families in Chisaca and Chipata resumed field activities in October, and the closing of activities was performed through a virtual event on February 12, 2021.*

5.4 Efficiency: comparison between physical achievements and budget/execution

*The Project is rated as **Highly Satisfactory (HS)** in terms of efficiency due to having successfully linked its results to the achievement of its objectives and to a proper management of its budget, adapting its timeframes to the prevailing circumstances/context related to a delay in the implementation of Component 2 but, especially, to the COVID-19 pandemic.*

The Project budget and budget execution are shown in Table 17. It has been executed following the planning, which included some adjustments to the budgets for the outputs (Table 16), but no variations in the total amount allocated to the Project, i.e. USD 4,215,750 granted by GEF. However, some aspects are worth highlighting:

- There are no records of the execution of the associated funds, as such resources were not managed by this Project (Table 17, Table 18).
- The Project has used 80% of the GEF resources; the remaining 20% can be executed before the Project closure, on February 14, 2020.
- The same applies to the co-financing, which has been executed at 85%.
- The remaining funds of Component 1 may be used in the implementation at the field-level, as it makes no sense for them to remain earmarked for this Component if its outputs have already been completed.
- The approval/recognition of the investments made with co-financing, which were affected by an increase in the exchange rate, is still pending.

Table 16 Budget exchange between Project components as of December 1, 2020 (USD)

COMPONENT	ORIGINAL BUDGET	TRANSFER	ADJUSTED BUDGET	AVAILABLE BUDGET	COMMENTS
1. Knowledge Management	450,000	0	N/A	18,096	
2. Adoption of adaptation measures to address the impacts of climate variability and change	3,344,175	- 46,842	3,297,333	201,420	Adjustment requested to the Bank by MADS through official request 8250-2-038 of June 8, 2020. Non-objection of CCO-1467/2020 Dated July 21, 2020
3. Management	421575	46,842 ⁶	468,417	0	
TOTAL	4,215,750	46,842	4,215,750	219,517	

NB: Detailed information on this output can be found in the PMR and the half-yearly reports.

Source: GEFAM 2021.

In addition to the investments shown in the above table, the IDB made a supplementary contribution in the amount of USD 46,842 in the form of a grant to cover the consultancies related to inter-institutional management and the printing of some publications during the time extension related to the COVID 19 health contingency.

⁶ The amount of USD 56,842 relates to the funding of non-contemplated additional administrative expenses that resulted from the pandemic due to mobilization and fieldwork difficulties which justified a 6-month extension from August 14, 2020.

Table 17 Comparison between the budget contemplated in the POM vs. the budget executed by the Project as of December 1, 2020 (USD)

OUTPUT	PLANNED BUDGET 2017-2021				EXECUTED AS OF JUNE 30, 2020							
	IDB/GEF	LOCAL COUNTERPART CONTRIBUTION ⁷	ASSOCIATED FUNDS ⁸	TOTAL	IDB/GEF		LOCAL COUNTERPART CONTRIBUTION		ASSOCIATED FUNDS		TOTAL	
					amount	%	amount	%	amount	%	amount	%
Component 1 Knowledge Management	450,000	1,109,000	300,000	1,859,000	439,163	98	2,164,362	195	NA	NA	2,603,524	167
Component 2: Adaptation measures, M&E, and audit	3,297,333*	9,100,000	10,650,000	23,047,333	3,062,879	92	6,603,186	73	NA	NA	9,666,064	78
Coordination and Administration	468,417*	1,200,000	1,350,000	3,018,417	357,713	85	929,352	77	NA	NA	1,287,066	79
PROJECT TOTAL	4,215,750	11,409,000	12,300,000	27,924,750	3,859,755	92	9,696,899	85	NA	NA	13,556,665	87

Note: The color indicates an achievement alert, based on the information provided.

*budget adjusted according to the budget swap described on Table 16.

Source: IDB 2018, Half-yearly Report 2020, GEFAM 2020, interviews 2020.

⁷ For more details about the Local Counterpart resources, the parties should refer to paragraph (a), Article 3.03 of the Special Provisions of the Agreement (IDB 2021).

⁸ For more details about the Associated Funds resources, the parties should refer to paragraph (b), Article 1.03 of the Special Provisions of the Agreement (IDB 2012); however, during the project execution the execution of these funds was not recorded, according to the interview made with GEFAM 2020.

Table 18 Sources and amounts of co-financing (as of December 1, 2020)

CO-FINANCING SOURCES [1]	NAME OF CO-FINANCIER	TYPE OF CO-FINANCING [2]	CONFIRMED/APPROVED	DISBURSED BY PROJECT MID-TERM	DISBURSED BY MTE	DISBURSED BY PROJECT CLOSING [3]	DISBURSED BY PROJECT CLOSING
			(USD)	(USD)	(%)	(USD)	(%)
National Government	MADS	In kind	65,000	71,767	110	70,978	109
Local Government	EAAB ⁹	Grant	10,000,000	6,876,207	69	8,185,223	82
National Government	IDEAM ¹⁰	In kind	544,000	483,171	69	532,997	98
Local Government	CORPOGUAVIO ¹¹	In kind	250,000	341,097	136	341,098	136
Local Government	CAR ¹² of Cundinamarca	In kind	550,000	566,605	103	566,605	103
Other multilateral agencies	IDB	Technical Cooperation (ATN/OC-12487-CO)	900,000	900,000	100	900,000	100
Other multilateral agencies	IDB	In kind (Loan 2732/OC-CO)	11,400,000	11,400,000	100	11,400,000	100
TOTAL			23,709,000	20,638,847	87	21,996,900	104

Note: The pink color indicates an alert in the fulfillment of the target.

[1] Sources of co-financing may include: Bilateral cooperation agencies, foundations, GEF agencies, local governments, national government, civil society organizations, other multilateral agencies, and private sector, among others.

[2] Type of co-financing may include: grant, soft credit, hard credit, guarantee, and in-kind financing, among others.

(3) Figures related to the execution until July 30, 2020. These figures are preliminary, as payments will be made until February 28, 2021.

Source: GEFAM 2021, interviews 2020, Half-yearly Report 2020, IDB 2018, MTE 2018, CEO Endorsement Request 2012.

⁹ Water and Sewage Service of Bogota.

¹⁰ National Institute of Hydrology and Meteorology.

¹¹ Corporacion Autonoma Regional del Guavio.

¹² Corporacion Autonoma Regional.

5.5 Sustainability

*This Project is rated as **Likely (L)** in terms of sustainability, since the five projects developed - which had been contemplated in the design - will ensure the continuation of the activities undertaken by this Project. In addition, there is a proposal for long-term monitoring (Annex 7) and a transformational change is seen in the beneficiaries and the partner institutions/organizations.*

The objective of the Project is “to strengthen the hydrological buffering and regulation capacity of the upper areas of the watersheds located in the Chingaza-Sumapaz-Guerrero Conservation Corridor, which supply drinking water to the metropolitan area of Bogota and the adjoining municipalities”, so this investment grant used the following strategies to promote sustainability (GEFAM 2020, IDB 2020, IDB 2014, IDB 2011).

This chapter will address the updated risks described in Table 9 page 34. It is worth noting that this Project was only minorly affected by the effects of the closure caused by the pandemic (not being able to go to the field), because it was supported by the local base organizations, which are actually located in the relevant/influence area of the Project.

5.5.1 Social and Institutional Sustainability

The first two updated risks in *Table 9* are related to the limited participation of actors, and the local communities not adopting the proposed measures, but in practice the situation was just the opposite: based on the interviews made, the Project found great acceptance among the different actors and has been successful in accomplishing the desired activities, outcomes, and impact. The Project has generated a wide range of benefits:

- a) Benefits from knowledge and capacity building for both civil society and local institutions and organizations.
- b) Direct local benefits which accumulate for the people living in the watershed, including environmental and ecosystem benefits.
 - *The Project has directly benefited the farmers (and their families) who implemented pilot adaptation measures financed by the Project. The changes proposed for the production systems sought to reduce conflicts between potential land use and existing practices, while promoting a vegetation cover that improves water regulation and yield, and favors biodiversity.*
 - *The costs and revenues of this pilot interventions serve as inputs for the design of alternative approaches to amplify/scale up the intervention. In all cases, the adaptation measures have shown that farmers and their families improved their living conditions and productivity due to having participated in the Project. The specific climate-resilient management practices have been implemented in four micro watersheds within three prioritized hydrological units and have directly benefited more than 60 families.*
 - *These gender-sensitive practices have been designed to contribute to the watershed management objectives (reducing land erosion, increasing the vegetation cover, promoting greater water yield and regulation capacity, improving the water carrying capacity of the soil). At the same time, it was sought to improve the efficiency of water demand on the farm during the dry periods and increase productivity and family income, thus generating a better quality of life and food security.*
 - *These adaptation practices included the adoption of agro-sylvopastoral systems, improved/climate-resilient pastures, improved irrigation techniques, effective use and*

management of micro-reservoirs, improvements in canals and use of drinking troughs for animals, apiculture, minor species, and use of organic manure, among others.

- *The efficiency in water demand has been improved in three local production systems (potato, cattle ranching and vegetables), production for self-consumption and for sale at local markets and even in Bogota has been increased, the same as the family income and women's involvement in activities that generate family income, adopting climate-resilient practices and adaptation measures.*
 - *The activities promoted by the Project have also resulted in a better adaptation capacity of the communities that are directly affected because they have fully participated in the planning and investment activities, which have been implemented using a gender-sensitive approach, incorporating and addressing the needs of women and their families.*
- c) Direct regional benefits, which improve the living conditions of people outside the micro watershed. Most specifically:
- *Development of a methodology and the relevant maps in the biological corridor of Chingaza-Sumapaz-Guerrero identifying high water yield areas, where a greater return on investment is expected.*
 - *The regional environmental authorities have access to a proven methodological approach and information about the areas of great interest from the point of view of water users downstream.*
 - *The Project has benefited ten regional and local agencies (CAR, four municipalities, the Government of Cundinamarca, and OSC), through a capacity building program that has increased their abilities and the knowledge of government officials in relation to climate change adaptation and land use planning. Said training program has facilitated the incorporation of adaptation measures in land use planning and investment tools (POT and PDM), to reduce the vulnerability to climate change impacts and to improve water supply and the regulation capacity of high-Andean ecosystems in these municipalities.*
 - *Specific benefits in relation to the mitigation of the effects of floods and drought periods due to having restored and increased the buffering capacity of mountain wetlands, and maintaining the water retention capacity of the upper watersheds and wetlands that help maintain soil moisture and reduce the burn probability, all of which directly impacts on the food security and standard of living of the communities in the influence area of the Project. These actions have directly benefited about 9,000 families (around 36,000 people) in five municipalities in the Corridor (Guasca, Guatavita, Sesquile, Cogua, and Tausa).*
 - *The specific benefits of the Project include an improvement in the reliability of water supply, which directly impacts on the food security and the standard of living of the communities in the influence area of the Project. In addition, the Project activities have resulted in a better adaptation capacity of the communities directly affected, since they participated in the planning and investment activities. The increase in water availability throughout the year is reflected in the water balances performed during the design of the adaptation measures, which sought to secure water supply notwithstanding climate variability (for a detail, see the annexes of the GEFAM Final Report 2021).*

5.5.2 Ecological Sustainability

Based on the prioritization conducted in the second half of 2018, progress has been made in the implementation of the "*Capacity-building strategy for the incorporation of climate change considerations in land use planning and management in the Chingaza-Sumapaz-Guerrero Area*". Through agreements signed among the partners, two supporting mechanisms were agreed for the incorporation of climate change considerations in land use planning, which are described below (PIR 2020):

- 1) *Generation of inputs and provision of technical support to the territorial institutions to analyze and incorporate the information in the Land Use Plans (POT, by its Spanish acronym), Basic Land Use Plans (PBOT, by its Spanish acronym), or Land Use Schemes (EOT, by its Spanish acronym), which are being adjusted by the municipalities.*
- 2) *Generation of inputs that will be shared with the Corporaciones Autonomas Regionales for the updating of their environmental determinants with CC considerations.*

In addition, the Project generated the following benefits in terms of ecological sustainability:

- 1) *The Project has paved the way for a long-term sustainability of the provision of environmental services through natural restoration and re-vegetation, reforestation, and conservation of key ecosystems, while adjusting the production systems to make them more ecofriendly.*
- 2) *The “environmental determinants” used by the CARs can guide the land use decision making by the municipalities. The methodology and results have been shared within the country and worldwide with a large audience formed by actors that work on climate change adaptation in high-mountain areas and on the integrated planning and management of watersheds.*
- 3) *The generation of reliable and proven information on climate change on a planning and design scale is also an output that generates benefits outside the watersheds. Such information is useful for local land use management and planning, and has been coupled with training to render it useful and applicable to the needs of the municipalities and CARs.*
- 4) *Decision makers have also benefited from the piloting of demonstrative investments. The implementation of production adaptation measures has exemplified the wide range of available climate resilience measures and has showcased those with large benefits for society.*
- 5) *The producers that benefited from the GEFAM Project signed socioenvironmental agreements where they undertook to maintain the restored areas, among other things.*

As regards the risk of not being able to implement adaptation actions in the Guerrero paramo area (Table 9), the Project identified that the most vulnerable areas were owned by the municipality, so it was precisely there that restoration activities were carried out, covering 102 ha in total. Works were also done in publicly-owned lands acquired by the municipalities for water production and regulation purposes.

5.5.3 Financial Sustainability

The increase in the natural forest cover, including protected areas in key ecosystems and high-altitude wetlands, is associated with greater water regulation, reflected in increased dry period flows. The associated volume of additional water, measured through contingent assessment methods (performed by studies that are prior to this initiative), provides a clear indication that the benefits of the Project outweigh its costs (the benefit-cost ratio is 1.96) (IDB 2012).

Based on the "Economic analysis at the farm level - Landowner perspective" of the CEO Endorsement Request (GEF 2013), the productive activities promoted by the Project provide a good return on investment and do not generate a financial strain for the beneficiaries, while the technical support during the transition to a new stable productive culture is maintained, so the proposed productive activities are sustainable.

The "Economic analysis at the farm level - Landowner perspective" of the CEO Endorsement Request (GEF 2013) concludes that the benefits of the increased water availability in four watersheds outweigh the cost of implementing adaptation measures for ecosystem restoration, re-vegetation, and improvement of local production systems. It was estimated that the benefits for society almost double the costs of the adaptation measures (the benefit/cost ratio is 1.79).

The Project activities sought to increase the water regulation capacity of vulnerable high-mountain ecosystems (paramos) mainly through sustainable and water-efficient land use practices, at a lower cost compared to alternative engineering solutions for water supply for the communities affected by dry periods or by an increasing water shortage according to likely climate change scenarios.

To maximize the water regulation benefits through ecosystem restoration and re-vegetation activities, a hydrological model was used to identify water hotspots, that is, the potential restoration and re-vegetation areas that would yield the greatest improvement in the water regulation of the selected micro watersheds within the hydrological units prioritized by the Project. As a result of this, the sites selected for restoration and re-vegetation activities will be the most cost-effective. In addition, the selected approach for ecosystem restoration is to fence the areas to enable their natural regeneration, thereby achieving the desired result at the lowest cost. If this option is not appropriate due to the biophysical and ecological conditions in the disturbed areas, then planting systems that only use the necessary pioneer native species that foster natural regeneration are implemented. Re-vegetation activities also include low-cost local species that provide economic benefits to the families through local production systems (like pastures for cattle ranching) or fruit trees to supplement cash crops.

The adaptation activities to improve the management of local production systems were designed in such a way as to ensure that benefits, such as the expected increase in productivity during the dry months, would outweigh their implementation cost. For example, the adaptation activities implemented in cattle ranching systems are focused on planting varied pastures, grazing areas, and sylvopastoral systems that are better adapted to the dry conditions, thus increasing milk yield. As regards the cultivation of potato, the chief climate-related problem is the extremely low morning temperatures (frosts) that negatively affect the growth of this crop. The Project activities focused on fostering the use of potato varieties and the production of seeds that are resistant to extremely low temperatures in the morning, without jeopardizing productivity - apart from the use of organic manure and biofertilizers. Due to these activities generating cost savings and higher revenues, the beneficiaries themselves have been investing in their own lands, in addition to the support received from the Project – as learned from the interviews. In addition, due to the Project fostering business roundtables, marketing possibilities have emerged, which will in turn generate more opportunities in the future - for both doing business, and implementing good farming, cattle ranching and marketing practices - that benefit sustainable development while promoting a virtuous circle.

The changes proposed in the production systems have the following effects: a) a net increase in the family income, internalizing the proposed management costs; and b) a net gain in terms of a more efficient use of water in the micro watershed.

An evaluation performed in the Guerrero paramo area showed that the economic benefits derived from the implementation of the adaptation measures outweighed the implementation costs. The contingent valuation method was used by Wattenbach (2004) to estimate the willingness to pay for continued water supply during the drought season of the beneficiaries of the rural aqueduct of the Guandoque River (Sucuneta). The derived economic benefits outweigh the cost of implementing the measures.¹³ The analysis does not consider the indirect

¹³ *Extrapolating the results of USD 2.05 per family per month to the Project sites (i.e., micro watersheds) and the direct beneficiaries (22,088 families) of the adaptation measures to be implemented, the total net present value for a 30-year period amounts to USD 4.36 million. Due to the total cost of implementation of adaptation measures being USD 2.45 million, this result (greater benefits than costs) is still true even under the hypothesis that benefits accrue only for 10 years, in which case the total present value of benefits amounts to USD 3.06 million.*

beneficiaries of this measures, namely, water users living in the metropolitan area of Bogota DC.¹⁴ Benefits outweigh by far the cost of implementing the proposed adaptation measures.

Broadly speaking, it is expected that the improvement in the water regulation capacity of the surrounding wetlands and high-Andean forests around the Bogota metropolitan area will result in better supply conditions, reducing the long-term marginal costs of investments to sustain and secure stable water supply for the region. The region includes 11 rural municipalities as well as peri-urban and urban areas in the Bogota metropolitan area. Direct beneficiaries are the inhabitants, communities, and institutions in the region, which have participated in the development of the corridor. Indirect beneficiaries are the people living in Bogota and other adjoining municipalities. Most beneficiaries will be located downstream, since they will benefit from a better regulation system, once the adaptation measures have been implemented. Some beneficiaries are located in the intervention area itself, and are part of the communities living in the Project area that will benefit from improved water supply in the long term.

The paramos are among the most important ecosystems for water production and regulation. In Colombia, 34 paramos covering 1,932,395 ha have been identified (Morales et al. 2007), which accounts for 1.6% of the territory. However, only 709,849 ha are within the National System of Protected Areas (SINAP, by its Spanish acronym), which means more than 63% of this ecosystem is unprotected.

Finally, the activities under Component 1 related to the generation of knowledge and information, such as reduced climate change scenarios and vulnerability analyses, were based on the adjustment of existing or projected studies, thus minimizing mapping (tele detection images) and data gathering costs. All of the studies conducted benefit other studies, projects, and initiatives in high-mountain regions and paramos in Colombia - and will continue to do so in the future - because they provide baseline data for a better decision making.

¹⁴ *It is difficult to make a preliminary evaluation of the benefits for Bogota due to the need to estimate the additional fraction of water associated to the adaptation measures that could be used to supply water to the city. Under the hypothesis that only 50% of the water produced reaches the intake structures of the utility, and assuming a marginal value of USD 1.22/cubic meter, additional benefits could be estimated at USD 4.9 million.*

SUMMARIZED EX-ANTE AND EX-POST FINANCIAL ASSESSMENT OF PRODUCTION SYSTEMS ON A FARM SCALE (GEFAM 2021)

Following a methodology based on comparing profits and revenues using data estimated at the beginning of the Project and data observed at the end, a comparison of ex-ante financial indicators was made evaluating the production systems found, and an ex-post financial review was conducted for the production systems that incorporated climate-resilient practices in each of the beneficiary farms prioritized by the Project that received GEF-funded investments.

The ex-ante evaluation on a farm scale conducted in 2018 for conventional potato-milk production systems found that the average farm area is 4.5 hectares. For potato production systems, the Superior variety is the prevailing one, with a yield of 22 ton/ha. For cattle ranching systems, the average yield stands at 10lt/cow/day with production models involving dual-purpose semi extensive systems.

The ex-ante financial evaluation of the conventional potato-milk system in the selected farms shows, on average, a negative IRR and NPV, and a B/C ratio of 0.79. The ex-post financial evaluation of productive mosaics set up in farms by implementing areas with conventional production systems plus new systems incorporated by the Project (sylvopastoral, apicultural production, production of pasture-raised egg laying hens, food production with agroecology) generated a negative IRR and NPV, and a B/C ratio of 0.85.

The results of the financial evaluation show a slight improvement in the indicators without achieving profitability under the assumption of an opportunity rate of 12%. The implemented productive mosaics included new areas under ecological restoration, accounting on average for 20.5% of the farm areas, incorporating new production systems with sustainable practices.

The productive mosaics that saw a positive rate of return are farms with an average area of 6.8 ha, of which 21% is allocated to the potato production system, 25% to conventional milk systems, 20% to sylvopastoral systems, and 23% to ecological restoration, and include poultry and food production systems with agroecological practices and apicultural production, which showed particularly interesting profitability indicators for producers.

It is recommended concentrating the effort on the shifts in the cattle ranching systems and including restoration as a process embedded in the production systems, recognizing profitable mosaics, since the arrangements become appealing for the adoption of the model, which increases the chances of their being sustainable in the long term. In addition, the demonstration effect is expected to lure other landowners into adopting these practices, thus extending the reach of the Project.

The farm-level financial evaluation evidences that private landowners are willing to allocate part of their lands for conservation purposes within a voluntary process based on knowledge building. It is necessary to sustain the financial evaluation and monitoring processes and conduct an evaluation of the economic benefits of the Project.

6 LESSONS LEARNED, CONCLUSIONS, AND RECOMMENDATIONS

This chapter first identifies the lessons learned from the Project for the design, relevance, effectiveness, efficiency, impact and sustainability dimensions and, based on this evidence, conclusions are derived and relevant recommendations are made.

6.1 *On the design and relevance*

1 **Project design**

- **LL**: The involvement of the main stakeholders in the identification of the problems to be solved and the design of the Project was critical to the success of this Project. However, not all of the identified impact indicators are realistic and measurable over the Project term (**Table 7**).
- **Conclusion**: The Project design included both local and regional actors, and the producers and main users of the environmental services (in this case, water), which resulted in an assertive design to realistically solve the main problems, but some indicators that measure the impact of the Project do not coincide with the Project implementation period (indicators 0.1 and 0.2).
- **Recommendation**: While the Project design focused on solving the main development problems identified, it should clearly identify impact indicators (of the Project as a whole) that can be measured during the implementation phase. In addition, due to the existence of impacts that can only be effectively measured over the medium or long term, after the Project closing, their monitoring should be part of the activities that the Project must undertake to ensure sustainability; that is to say, which institution/organization will be responsible for doing it.

2 **Adaptive management, support from local organizations:**

- **LL**: The timely decisions taken by the Project's coordinators have been critical in implementing adaptive management and accomplishing a better use of the limited resources: the support received from local base organizations was fundamental for its success, it helped mitigate the effects of the pandemic on the Project's activities and promoted gender equality (OP-761).
- **Conclusion**: The decision to engage local and women's organizations to implement the activities of Component 2, instead of a consulting firm (for which the POM had to be modified), was a turning point in the Project, since it fostered ownership and a transformational change in the beneficiaries and local people, as well as in the participating institutions/organizations. In fact, this also facilitated the continuation of the activities of the Project, especially at the beginning of the COVID-19 pandemic, for which the POM had to be adjusted (Section 5.1.5: *Adaptive management in the Project execution*).
- **Recommendation**: It is advisable for projects - especially those that conduct on-site/field work - to prioritize local labor, especially when the beneficiaries of the proposed activities are part of those organizations, so that the project benefits can be sustained and multiplied over time while creating an opportunity to promote and raise awareness about gender equality.

3 Engagement of local base organizations/institutions

- LL: During the project design stage, it is important to especially consider the actors who will finally implement the proposed measures in order to incorporate their views and improve the execution.
- Conclusion: This Project held a consultation with the different national and regional actors, institutions, and organizations, but did not include mayor offices - which are the ones that ultimately grant the local permits and are familiar with the peculiarities of the local context of the involved communities.
- Recommendation: The design of future projects should include a stage of consultation with all of the key stakeholders, especially those that will implement field activities - in this case, the mayor offices.

6.2 On the effectiveness and efficiency

4 Legislation:

- LL: It is necessary to closely monitor the legislation directly related to the project activities (paramos) and provide support to seize every opportunity to influence the formulation of sustainable public policies that improve the lives of people at large.
- Conclusion: The Paramos Act directly affected the activities contemplated by the Project for the paramos by limiting - without the necessary clarity - the productive activities to be carried out by the Project in these ecosystems.
- Recommendation: Especially through its institutional partners, the Project should monitor government initiatives aimed at formulating or amending relevant legislation related to the project activities at the national, regional, and local level, and - even if this is not strictly contemplated in its activities - provide technical support and cooperation in order to effectively influence policy-making and the improvement of people's lives at large. In this case, where the law has not been regulated, it is advisable for the Project to make an effort in this regard before it ends. It is also important to bear in mind that the affected families should be offered production alternatives, and the implementation of sustainable initiatives should be promoted.

5 The Results Matrix:

- LL: The Project should have supplemented the original impact indicators with an additional one, if they had been designed inappropriately, so that their measurement was aligned with its implementation period, in sync with adaptive management practices.
- Conclusion: Some of the impact indicators had been designed for the middle or long term, after the Project closure - e.g. the indicators related to an increase in the water yield and in the rate between base and peak flows.
- Recommendation: It is advisable for projects - GEFAM in this case - to perform adaptive management by adjusting their design to timely correct any discrepancies in relation to the implementation. The design, like any planning instrument, is dynamic (non-static) and requires fine-tuning as the project unfolds.

6 The Risks Matrix:

- LL: The Executing and the Implementing Agency must consensually use one same risk matrix throughout the Project so that it serves as an effective input for planning and adaptive management
- Conclusion: The Project executors used one same risks matrix resulting from the audits (not related to the Project risks matrix), while the Implementing Agency (IA) used a risks matrix that the executors (AE) were not familiar with (Section 5.1.5: In the execution).
- Recommendation: It is advisable that the IA and EA develop and adapt the project planning instruments together - in this case, the risks matrix - to appropriately address the threats and opportunities that arise in the context of the Project, in order to make the necessary adaptations to mitigate risks, avoid greater impacts and harness opportunities.

7 GEF Resources:

- LL: The unused resources of components whose activities have concluded should be used to complete unfinished activities in other components, or to finance adaptive management activities.
- Conclusion: There are remaining resources from Component 1, which has already completed its activities, which should be used to boost the Project activities.
- Recommendation: If Component 1 of the Project has remaining resources, they could be transferred and used to complete unfinished activities in Component 2, or supplementary activities that foster a transformational change.

8 Project management

- LL: The procurement and financial reporting processes in this project are complex and subject to delays
- Conclusion: Based on interviews made to the different Project actors, the administrative processes do not appropriately respond to the on-site technical needs (Section 5.1.6: In the execution).
- Recommendation: The EA should revise and streamline its administrative procedures, tracking the different processes and their durations in order to identify “bottlenecks” and find solutions that are aligned with the Project’s technical component.

9 Decision-making at the SC and TC:

- LL: TC and SC should focus on the Project’s strategic decision-making.
- Conclusion: The TC and SC should make strategic Project decisions and leave decisions concerning daily administrative issues with the EA (Section 5.1.7: In the execution).
- Recommendation: The design must clearly define roles and responsibilities at each project operation/execution instance as a clear scheme that facilitates the accomplishment of the defined objectives.

10 Support of CI at MADS:

- LL: It is important to plan - right from the design phase – to hire a person from the EA (CI in this case) to be located at the Ministry (MADS) and to be in charge of the decisions directly impacting the Project's planned outputs.
- Conclusion: CI kept a counterpart financed by the Project within MADS to advance the Project actions.
- Recommendation: The design of the project should contemplate having a person directly working at the key entities to achieve the proposed outcomes, which also generates visibility for the project.

6.3 *On the impact and sustainability*

11 Sustainability of the activities started by the Project:

- LL: The initiatives supporting the sustainability of the activities in the high mountain and paramos started by the Project should be advanced, along with integrated territorial planning at both the landscape and site level, also creating hydrological connectivity.
- Conclusion: According to the interviewees, the GEFAM Project has had great impact at the local level, covering and positively affecting the environmental services rendered at local and regional levels.
- Recommendation: It is critical for the GEFAM to make a big effort to develop the 5 projects rightly contemplated in the design of the Project so as to ensure the continuation of the activities undertaken. Many of the people interviewed agree that some of the activities that should be carried out in the future include the following:
 - *Ask the GoC to define what are low-impact productive activities that can be carried out in the paramos.*
 - *Scaleup to more families that work in the paramos and high mountain with a cap of money to be invested by family, requesting counterpart funds depending on their socioeconomic situation.*
 - *Involve social groups (i.e. schools).*
 - *Promote and strengthen the implementation of alliances (social society organizations and/or community-based organizations) and the production and trading of environmentally friendly products. Work with the local communities in the design of productive "land mosaics" adjustable to the farm level.*
 - *Promote low-impact tourism and productive activities, including the use of low-cost greenhouses.*
 - *Design and promote schemes of payment for environmental services (PES) for the sustainable development of paramos and regulate Executive Order 1007 of 2018.*
 - *Promote the use of resistant species and techniques to diminish the effects of frosts and droughts.*
 - *Provide training and promote water production technologies (fog traps, storage deposits, covers, among others).*

- *Strengthen the community monitoring initiative (gathering of climate data by farmers).*
- *Strengthen the communities for them to learn how to prepare projects to get financing or strength their knowledge of this.*
- *Eco-friendly seal for commercialization.*

12 Development plans, action plans, and management plans:

- LL: The management plans should be incorporated in the action and development plans at the local, regional and national level.
- Conclusion: In fact, if management plans get incorporated into the action plans of institutions, and even organizations, their implementation is easier, though not guaranteed.
- Recommendation: The Project should strive and have the management plans and the community needs incorporated in the different development and action plans at all levels.

13 Co-financing Commitments:

- LL: The co-financing goals should get clearly set out from the beginning of the operation (design).
- Conclusion: The goals (restoration and rehabilitation, among others) to be met with the co-financing associated with this Project were not clearly defined in the Project.
- Recommendation: The goals to be met using co-financing funds should be clear from the design stage to contribute to the accomplishment of the proposed objectives and promote the sustainability of activities started by the Project.

14 Public nature of the project's outputs:

- LL: It is important that the outputs generated in this Project be available to the general public and disclosed on electronic media.
- Conclusion: The outputs generated by the GEFAM Project should be used as an input by other organizations/institutions seeking sustainable development and the delivery of environmental services.
- Recommendation: All of the generated outputs should be disclosed on the Web

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Annex 1:

INTERVIEW QUESTIONNAIRE

TE: “Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero”

Person interviewed (name, contact info., organization, position): _____

Date: _____. Interview method (telephone, face-to-face, etc.): _____

INTRODUCTION
<p>The IDB is conducting the TE of the "Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza-Sumapaz-Guerrero" Project. The idea is to make a critical evaluation of the project's performance providing a comprehensive and systematic analysis from the design of the project to its implementation and the generation of outputs, outcomes, and potential impacts.</p>
<p>What was your role in the development of the project? (Date, period)</p>
I. RELEVANCE
<p>1. What are the main actors in the project? What was their role? How did they relate?</p>
<p>2. How consistent is the project with the main objectives of the focal area and with the environmental and development priorities at the local, regional, and national level?</p>
<p>3. Were the problems to be addressed properly identified from the beginning? (Relevant background.) Have the design and the implementation of the project been aligned with the country's reality and existing capacities? Please, explain.</p>
<p>4. Have the problems addressed by the project improved or worsened? Why?</p>
<p>5. Has there been consistency between the needs of stakeholders and those of MADS-APC-IDB? And between the internal Project logic and the expected outputs/outcomes? And between the design and its implementation approach? Cooperation and complementarity of the Project with local partners and actors: commitments and responsibilities?</p>
<p>6. In the project execution, what internal and external factors affected? What adjustments to the original plan were necessary (at the technical, financial, economic and institutional levels) and what were the reasons for those adjustments made to guarantee the achievement of results? Or, were relevant adjustments made to keep the project relevant?</p>
<p>7. Lesson learned?</p>
II. EFFECTIVENESS
<p>8. What project components/outputs have been completed/achieved? What was the baseline? Planned? Which outputs have been fully achieved? Which ones have been partially achieved? Which ones have not been achieved? Schedule?</p>

9. Did the indicators properly describe the progress in the expected and planned outputs? LL:
10. What were the main risks (and assumptions) which affected the effective development of the project? Were they properly identified? Have they been mitigated? How? LL?
11. Have links with institutions or organizations been fostered?
12. What other non-planned achievements has the project had? Strengths and weaknesses?
13. Was the objective met? Looking back, what would you have done differently? What went well and didn't went well? Gender strategy?
14. To consider in future agreements, what learnings can you draw from this project execution?
III. EFFICIENCY
15. Were the actual expenses for each component/activity/output consistent with the estimations made in the budget and were they enough? Was it necessary to make adjustments (to terms, resources, etc.)?
16. How adequate has the time allocated to the execution of each output/component been?
17. What key problems arouse? Strengths and weaknesses of the financial execution?
18. If you had more economic resources for the project right now, what would you do?
19. How could the project have been executed more efficiently? Lesson learned?
IV. IMPACT
20. What innovative experiences, processes, methodologies or services have come up or have been adopted? Have they been successful? What activities have fostered innovation?
21. What are the impacts or potential impacts of the project (environment, level of income, socioeconomic matters)?
22. Did the project contribute to obtaining any unforeseen impact? In what context and implementation conditions would the project have met the intended impacts?
23. How could the project build upon its successes and learn from its weaknesses? Lesson learned?
V. SUSTAINABILITY
24. Is there a sustainability strategy? What are the key activities? How are they financed?
25. Have the investments made been sustainable?
26. Have the outputs/outcomes or benefits of the project been sustainable?

27. Do you think the project is sustainable? If yes, what factors do you think have contributed to its sustainability? From a technical and institutional point of view? Why?
28. What are the weaknesses of the project?
29. Who are the beneficiaries, partners and local stakeholders of the project? How many are they? Have they taken ownership of the project? What commitments have they assumed? Have they cooperated? How have they complemented each other? What activities have been assumed by the counterpart or other stakeholders?
30. Cooperation and complementarity with other projects or initiatives in Colombia or worldwide? What commitments were assumed? Did they cooperate? How did they complement each other? Are there any value-added outputs?
31. What do you think are the key stakeholders to guarantee the sustainability of the outcomes/benefits of the project? What are the key activities to strengthen the key actors?
32. What are the main challenges to the sustainability of the project? Were they addressed? What potential measures could be taken? Lesson learned?
VI. MONITORING AND EVALUATION
33. What instruments were used to monitor and evaluate the project? (Mid-term and Final Reports, Field Visits, PMR/PCR, Evaluation Reports, etc.). What indicators were used?
34. What was supervision like? What could be improved?
35. Has a results-based management approach been used? Please, explain.
36. How often (regularity) were monitoring instruments applied? Lesson learned?

Annex 2:

**LIST OF PEOPLE AND ORGANIZATIONS
INTERVIEWED**

Table 19 *People/organizations interviewed, from August 24 to November 10, 2020*

NAME	INSTITUTION/ORGANIZATION	POSITION	DATE
Omar Martinez	GEFAM	Operational Management Specialist	Several
Natalia Acero	GEFAM	Technical Supervision Support	Several
Margoth Garcia	GEFAM	Production Systems Consultant	August 27
Jose Luis Alba	IDB	Operations Analyst	August 27
Oscar Romero	GEFAM	Restoration Consultant	August 28
Guillermo Prieto	MADS – Climate Change and Risk Management Directorate	Climate Change Adaptation Group Coordinator	August 28
Carolina Useche	MADS - DCC	Former GEF Focal Point	August 29
Maria Camila Hernandez	IDEAM	General Management Contractor International Affairs and GEF Project Monitoring	August 31
Leydi Pardo Murillo	CORPOGUAVIO	Coordinator of Biodiversity and Strategic Areas	Sept. 1
Fabio Pardo	CI	Vice President	Sept. 1
Ana Maria Zambrano Angela Gaitan	EAAB	Financial Professional Financial Coordinator	Sept. 2
Maria Elena Baez	CAR	Climate Change Group Leader	Sept. 3
Alfred Grünwaldt	IDB	Project Coordinator	Sept. 10
Luis Rodriguez	Bosque Nativo	Founder Partner	Sept. 11
Johanna Rodriguez	Asociacion Mujeres Emprendedoras Guatavita	Member	Sept. 11
Diego Arley Rodriguez Alejandra Rodriguez Juanita Rodriguez	AMUSES	Members	Sept. 12

NAME	INSTITUTION/ORGANIZATION	POSITION	DATE
Ana Delia Rodriguez Maria de los Angeles Muñoz Jose Manuel Rodriguez Dina Valentina Rodriguez			
Laura Bermudez Yaisa Lorena Bejarano	MADS	International Affairs Office	Sept. 14
Maria del Rosario Navia	IDB	Project Official	Sept. 16
Patricia Bejarano	GEFAM	Coordinator	Several

Annex 3:

**COMPLEMENTARY DEVELOPMENT PROBLEMS COVERED
BY THE PROJECT**

Table 20 Identification of complementary development issues that resulted in the design of the Project

PROBLEM	DIAGNOSIS CLARITY	TARGETED BY THE TC?	EXPLANATION
<p>The climate analysis and the forecasts of climate models developed since 2001 indicate that Colombia is vulnerable to climate vulnerability and change. According to the 2nd National Communication, SNC, the high-Andean Oro biome, which covers 85% of the high-mountain ecosystems and paramos, was identified as one of the most vulnerable to CC regions in the country. The modeling results for 2011-2070 suggest that CC could affect more than 70% of those ecosystems.</p>	VC	Yes	<p>The Andean region is among the ones with the greatest increase in the average temperature.</p> <p>The SNC to the UNFCCC indicates that according to the modeling of temperature changes in Colombia for the rest of the century, based on the historical series of extreme daily temperatures (minimum and maximums), the median temperature could increase by 1.4 °C from 2011 to 2040, 2.4 °C from 2041 to 2070 and 3.2 °C from 2071 to 2100.</p> <p>The climate is expected to get warmer over the next century. Due to the high local variability, as well as limitations in the climate models and data, there is still significant uncertainty in future projections. Temperature projections show consistent results, with an average increase of about 3 ± 1.5 °C in the Andes.</p>
<p>With support from the Japanese Aerospace Exploration Agency (JAXA) and the Meteorological Research Institute (MRI) of Japan, an analysis was made of the potential intensification of rainy periods (R5XD) and the extension of drought periods (CDD) in the country.</p> <p>Projections are that there will be a significant increase in both indicators during this century, which is likely to result in a decrease in the water regulation function of the storage ecosystems in the mountains. These climate changes are likely to generate significant changes in the structure, and thus in the ecological functionality, of about 70% of these ecosystems.</p>	VC	Yes	<p>Projected changes in precipitations are much more variable than for temperature. In most of Colombia, the annual precipitation is, on average, expected to increase, although large areas dominated by trade winds from the Caribbean basin show the opposite trend, with a decline in precipitations. However, the discrepancies between the different IPCC models are very high and often exceed 50%. This requires a detailed meteorological analysis and careful scale-down procedures, and there is a considerable need to verify CC scenarios.</p>
<p>Due to the orographic effect, high mountain regions tend to receive larger amounts of precipitation, which creates good conditions for the development of wetlands. High mountain tropical regions, and especially paramos, are known for their excellent water regulation capacity, which turns the erratic precipitation regime in a stable base flow in rivers.</p>	VC	Yes	<p>High mountain ranges show an exceptionally high runoff ratio (part of the precipitation that turns into runoff), that ranges from 0.54 in the Simien mountains to 0.73 in Ecuador and Colombia - as compared to "normal values", within a range of 0.20 to 0.35.</p> <p>Peak flow over base flow indices can be as low as 5 for natural paramo catchment basins. However, these hydrological</p>

PROBLEM	DIAGNOSIS CLARITY	TARGETED BY THE TC?	EXPLANATION
			processes are vulnerable to disturbances. Due to being riverhead catchments, there is no underground water buffering effect, and they completely depend on meteorology.
High mountain tropical environments provide relevant environmental services, on both a local and a global scale, in spite of their limited extension. When CC impacts are analyzed in connection with environmental goods and services, there are serious consequences for the human populations that depend on them.	VC	Yes	The most relevant services are biodiversity conservation, carbon storage, and water supply for cities, agriculture, and hydroelectrical power. High mountain tropical regions host unique fauna and flora, and are biodiversity hotspots. ¹⁵
Cattle ranching and farming are the main sources of income for the rural population in the Corridor. 37% of the land is used for extensive cattle ranching and just 6% for farming (corn, beans and some fruit). Potatoes are produced on a large scale in high mountain areas, which often leads to the removal of natural paramo vegetation. The main land use in the Corridor is protected areas (46%) with different management categories. 11% of the remaining lands are used for different activities like mining, urban use, recreational activities and greenhouses, mainly for flower production. Rural productive activities are mostly subsistence economic systems, characterized as a smallholding economy (less than 10 ha). The system is characterized by subsistence production on a small scale, with a minimum amount of surplus to support the local economy. However, there are some agro-industrial activities that add value to different local products, like beans for the global markets, dairy products (mainly yoghurt and cheese), horticulture and the production of some deciduous fruit plants (apples, peaches, banana, passion fruit), dual-purpose cattle ranching and potato plantation on an industrial scale.	VC	Yes	The Chingaza-Sumapaz-Guerrero corridor, which was identified, delimited, and proposed by EAAB and CI-Colombia in 2011, is located in the Eastern Andean Range of Colombia and is home to around 20% of the country's population. Its area exceeds 557 thousand ha and it covers 20 municipalities in three different departments: Cundinamarca (66%), Meta (22%), and Boyaca (12%). The corridor is at 2,600 to 4,600 masl, and has great ecosystem and sociocultural diversity. According to the 2005 population census conducted by the National Administrative Department of Statistics (DANE, by its Spanish acronym), nearly 8 million people live in the Corridor, most of whom (96%) are settled in Bogota DC, so the Corridor is predominantly urban. According to UNICEF-Ecoversa (2010), in 2008 the internal water demand of the 20 municipalities associated with the Corridor reached an annual volume of 545 million cubic meters (Mm ³), of which 98% was required for the urban population and just 2% for the rural population. In general, most of the urban water demand is concentrated in Bogota, as the urban demand for the other municipalities fairly reaches 2% of the total domestic urban demand.

Source: GEF 2013.

¹⁵ The adaptation to specific physical-chemical and climate conditions, like low atmospheric pressure, large daily temperature fluctuation, intense ultraviolet irradiation, and the drying effects of wind have resulted in a large number of endemic species, of up to 60%, in the Andes (GEF 2013).

Annex 4:

**REVIEW AND ADJUSTMENT OF THE RESULTS
MATRIX**

Table 21 Summary of adjustments made to the Results Matrix by recommendation of the IDB SPD division¹⁶

RECOMMENDED ACTIONS		CURRENT PROJECT MATRIX	PROPOSED ADJUSTED MATRIX
Impact Indicators <u>Proposed action:</u> Changing an indicator and adding a new one.		<u>Indicator O.1</u> Water yield increased by at least 10 %.	<u>Indicator O.1</u> This indicator is maintained, but reference is made to weaknesses in terms of the information available and assumptions made at Project formulation.
		N/A	<u>New Indicator O.2</u> <i>Increase of the rate between base and peak flows, under scenario RCP 6.0 to 2040, as per calibrated model, due to the adoption of climate change adaptation measures in the prioritized areas.</i>
		<u>O.2 Indicator</u> Number of times the documents are downloaded (550)	<u>Indicator O.3</u> <i>Number of territorial entities and environmental authorities that invest in adaptation to climate change in High Mountain ecosystems according to the guidelines generated in the Project.</i> Target: ≥ 10 entities (8 territorial, 2 environmental authorities)
<u>COMPONENT 1. Knowledge Management</u>			
Outcome Indicator <u>Proposed action:</u> Changing the indicator		<u>Outcome Indicator 1, Component 1 (I.O.C.1.1)</u> Number of land use plans that include cc considerations 2 (4) POT / POMCA	<u>Outcome Indicator 1, Component 1 (I.O.C.1.1)</u> <i>Number of instruments for development planning, territorial and environmental management (POTs, POMCA, PD or PMA) that incorporate cc considerations.</i> <u>Target:</u> 12 in total; 2 (4) land use plans (POTs and POMCAs) and 10 (0) Environmental Management or Development Plans.

¹⁶ For more details on the justification of changes, see "Review and Adjustment of the Results Matrix. GEF Project", July 2018.

RECOMMENDED ACTIONS		CURRENT PROJECT MATRIX	PROPOSED ADJUSTED MATRIX
<p>Output Indicator</p> <p>Proposed action:</p> <p>(iii) Adjusting indicator 1.1.2</p> <p>(iv) Adding one output indicator (1.1.5)</p>		<p>Output Indicator 1.1.2:</p>	<p>Numbers between parentheses refer to the counterpart targets.</p> <ul style="list-style-type: none"> Output Indicator 1.1.2 (<i>counterpart contribution adjusted to 5,000</i>) Output Indicator 1.1.5 (<i>New</i>) <i>Number of documents evidencing the delivery of information and technical support to incorporate climate change considerations in development planning and territorial and environmental management (POT, POMCA, PD, PMA).</i>
<p><u>COMPONENT 2. Adoption of adaptation measures to address the impacts of climate variability and change</u></p>			
<p>Outcome Indicators</p> <p>Proposed actions:</p> <p>(iii) Adjusting 1 indicator</p> <p>(iv) Combining the mid-term outcome Indicator with outcome Indicator 2.</p>	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> <u>Outcome Indicator 1, Component 2 (I.O.C.2.1-1)</u> target 32 new projects (presented to MADS) <u>Outcome Indicator 2, Component 2 (I.O.C.2.1-2)</u> # of families that agree to allocate land for re-vegetation practices 60 (300) <u>Intermediate Outcome Indicator.</u> Number of families that incorporate climate change measures in their 	<ul style="list-style-type: none"> <u>Outcome Indicator 1, Component 2 (I.O.C.2.1-1)</u> <i>Number of adaptation projects ready to be presented to prioritized funding sources.</i> <u>Target:</u> 5 <u>Outcome Indicator 2, Component 2 (I.O.C.2.1-2)</u> <i>Number of families that incorporate adaptation measures or climate-resilient management practices with a gender perspective in their production systems.</i> <u>Target:</u> 60 (300)

RECOMMENDED ACTIONS		CURRENT PROJECT MATRIX	PROPOSED ADJUSTED MATRIX
		production systems 60	
<p>Output Indicator</p> <p><u>Proposed actions:</u></p> <p>(iii) Including two new indicators: 2.1.1 and 2.1.5</p> <p>(iv) Adjusting targets for indicators 2.1.1 (protocols target) and 2.1.2 number of ha restored with co-financing resources</p>		<ul style="list-style-type: none"> • <u>N/A</u> • <u>N/A</u> • <u>Output Indicator 2.1.1</u> Restoration protocols ≥ 3. (Changed to 2.1.2) • <u>Output Indicator 2.1.2</u> Restoration processes public lands 250 (3900) (Changed to 2.1.3) • <u>Output Indicator 2.1.3</u> Re-vegetation with a gender focus ≥ 9 projects (changed to 2.1.4 and modified it to express it in hectares) • <u>Output Indicator 2.1.4</u> Municipal organizations trained in CC (Changed to 2.1.6) • <u>Output Indicator 2.1.5</u> Monitoring and evaluation system (Changed to 2.1.7) 	<ul style="list-style-type: none"> • <u>Output Indicator 2.1.1</u> (new) <i>Adaptation project profiles formulated with municipalities and/or cooperatives for the implementation of adaptation measures.</i> Target 32 • <u>Output Indicator 2.1.5</u> (new) <i>Number of agreements signed with families to incorporate adaptation measures in their production systems</i> Target: 60 • <u>Output Indicator 2.1.2.</u> Indicator does not change. Just new target: Restoration protocols 4 (45) • <u>Output Indicator 2.1.3</u> <i>Areas restored that are critical for hydrological regulation in high mountain ecosystems (ha).</i> Target: 250 (4000) (under legal review). • <u>Output Indicator 2.1.4</u> <i>Rehabilitated areas that are critical for water supply (ha).</i> Target: 300 (98) ha • <u>Output Indicator 2.1.6</u> (Just changed number, the indicator stays the same)

RECOMMENDED ACTIONS		CURRENT PROJECT MATRIX	PROPOSED ADJUSTED MATRIX
			<ul style="list-style-type: none"> • <u>Output Indicator 2.1.7</u> (Just changed number, the indicator stays the same)

Annex 5:

**FOCUS ON THE DIFFERENTIAL AND GENDER
APPROACH**

DIFFERENTIAL APPROACH

The differential approach derives from recognizing the ideas of diversity and vulnerability of specific persons, so it focuses on recovering rights in an effective manner (Arteaga, 2012). It enables understanding a complex social reality and implementing actions that contribute to eliminating all forms of social inequality, recognizing differences as a starting point for the implementation of public policies seeking to guarantee peoples' rights. It involves conditions and positions of the different social actors as the subjects of Law, including socioeconomic group, gender, cultural identity, physical condition, and variables inherent to each stage in the life cycle - childhood, youth, adulthood, and elderliness.

Based on the Sen postulates (1979), where equality is defined as equal wellbeing, goods and opportunities, Blanca Arteaga (2012) contextualizes the differential approach as "...the need for an equal distribution of resources (and same number of opportunities to access them) between each of the differentiated populations. The notion of equality therefore implies the importance of delivering all types of resources to the peoples, recognizing their differences and seeking to meet their needs recognizing potential disadvantages in their access to such resources. Equal benefits is, therefore, the objective of equality as one of the integral elements of the differential approach.

In relation to this, Law No. 1448 of 2011 recognized that "The State shall offer special guarantees and protection measures to the groups exposed to a higher risk of violations contemplated in section 3, such as women, young people, boys and girls, elder people, ethnic communities, and people individually considered as belonging to ethnic communities, people with disabilities, and diverse sexual orientation."

GENDER PERSPECTIVE

The gender perspective is a particular way of reinterpreting the world, considering intentionality, attitudes, political stances, a particular vision of development, wellbeing and life quality, to consequently act on reality and progress towards building inclusive, democratic, pluralist and equalitarian societies, where the public and private spheres are balanced in the decision-making and power relations between men and women (Synergia 2012).

The Political Constitution of Colombia of 1991 points at the need to progress toward "adequate and effective participation of women in the decision-making at different levels in the public administration" (section 40), and equal rights and opportunities for men and women throughout the country, and prohibits all forms of discrimination against women (section 43), stating that the State has the obligation to especially protect and support unemployed and/or pregnant women, and women who are heads of household. This responded to the developments of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) (1979) which, albeit ratified by Law no 051 of 1981, had not become operative. The importance of CEDAW in the definition of women's specific rights enables expanding the responsibility of the State in the private sphere, adopting concrete measures against discrimination, recognizing the role of tradition and culture in discrimination, and establishing the idea of substantive equality, leaving behind the paradigm that, within a family, responsibilities belong to women and power to men. (Barreiro 2010).

In 1994, the National Planning Department (DNP, by its Spanish acronym) presented the Policy for Women Equality and Participation as one of the central themes of the Social Equality Policy of the Development Plan "*El Salto Social*" (The Social Leap) (Rico. 2009). According to this policy, there cannot be sustainable and equitable development without an economic policy with

a social perspective and a social policy with a gender perspective, and this approach should be consistently adopted as a State priority, rather than occasionally, which implies diagnosing the situation of women and men in the different sectors, proposing recommendations related to programs and policies to be developed in all areas, and supporting research processes (Niño 2002).

Today, there is the National Policy on Gender Equality in place, which recognizes the existence of different forms of discrimination against women that prevent them from exercising their rights and building their capacities, hindering not only their own development, but the development of society at large. Gender inequalities are reflected in high indices of gender-based violence, fewer employment opportunities, rural women's limited access to productive assets, few opportunities to participate in power and decision-making structures, access barriers in relation to sexual and reproductive health services, especially for teenage girls, among others. Therefore, overcoming gender inequalities not only allows progressing towards guaranteeing women's rights, but also boosts the development of society and territories. (DNP 2016)

Elizabeth Jelin (1996) takes the Municipality as the first instance where institutional power and cultural and social systems meet. So it is from the Municipality that we have the challenge and possibility to propose strategies that lead to the materialization of the aforesaid legislative developments with a vision of development with a gender-perspective that considers: building legitimacy for human development seeking the wellbeing of women, men and communities, the full enjoyment of rights for all, the empowerment of women to materialize social, economic, cultural and political opportunities, the remediation of the damage caused by disparities between genders to access coexistence forms where oppression practices are eliminated as a necessary process in a development perspective, the deconstruction of ideologies and practices that associate development-success-domination to the male identity, the promotion of human equivalence as a deep aspiration, the generation of equitable redistribution, the access to and control of spaces, goods, resources and opportunities, the capacities and powers between men and women, the recognition of the aspects of everyday, subjective, private and personal life and the contents of the relationships that develop at its core, in both women and men, and the promotion of public policy making and development programs that contemplate in a differentiated manner specific measures that remove gender inequalities. (Synergia 2012).

APPLICATION OF THE DIFFERENTIAL AND GENDER-FOCUSED APPROACH IN THE GEF HIGH MOUNTAIN PROJECT

After conducting the vulnerability analyses that enabled identifying the specific areas of work for each hydrological unit, resilience analyses were conducted on the farms including information on the distribution of labor between the different family members. The resilience analysis evidenced that there was an imbalance in daily activities between men and women, in the generation of income and in how each gender is affected by climate variability (rainfall and temperature rise or decline) and, therefore, such inequalities had to be effectively addressed in the design of adaptation measures.

After the resilience analyses, and as part of the results of the capacity building process which include the sharing of experiences with other municipalities and projects in the country, it was concluded that the best way to address the differential approach with a gender perspective was to involve the whole family unit in the design, implementation, and sustainability of the adaptation measures, and to foster the creation of women alliances by engaging them through agreements related to ecological restoration activities.

The result was:

- *Strengthening of women in the family productive life as an instrument to advance gender equality. To accomplish this, a family approach was used as the base for a participatory design, which enabled involving all the family members in reflecting about the roles, work, responsibilities, and inequalities that especially affect rural women and children. The engagement of men was essential in seeking to diminish those inequalities through a redistribution of roles. The family approach enabled an articulated and interdisciplinary work that facilitated the integration of the climate dimension and its differentiated impacts for the design of adaptation measures. The family was the base to address the Project's gender-focused approach involving all the members of the family units.*
- *The participant farmer families integrated ecological restoration and sustainable production in their farms, resulting in climate change resilient communities. This also enabled increasing their family income, with women starting to have their own and independent income as a result of productive diversification and a rational use of water. In this approach, adaptation is the result of the integration and understanding of the farm and the family as a system where the implemented actions not only sought to reduce vulnerability in connection with water regulation and supply, but also contributed to strengthening the families' subsistence, affection, protection, participation, understanding, recreation, creativity, identity, freedom and transcendence, which helped in the middle term consolidate rehabilitated farms and families adapted to the changing climate conditions, strengthening women's' autonomy and accomplishing long-term sustainability for this process.*
- *The Project's initial Procurement Plan had a traditional approach that involved contracting firms, and was then adjusted to adopt an execution model where the Project directly hired qualified and non-qualified labor, prioritizing the participation of local communities with a special focus on farmer women associations. This allowed implementing actions directly with organization in the area and strengthening the identity, validation and sustainability processes for the Project activities, leaving capacities that will enable generating sustainability and strengthening local governance. This was done in accordance with the Financing Agreement., the IDB Procurement Policies, and the Project Operational Manual, which had to be updated at different times to include the relevant aspects, for instance, for the execution of agreements with the community based organizations.*
- *As a result of this, 5 local organizations - 4 of them led by women - were strengthened: Corporacion Mujer y Tierra, AMUSES (Asociacion de Mujeres Emprendedoras de Sesquile), AMEG (Asociacion de Mujeres Emprendedoras de Guatavita), and AGREGUA (Asociacion de granjeros ecologicos de Guasca).*
- *These associations directly involved in conducting processes related to ecological restoration now have the technical, operational and administrative capacity necessary to lead adaptation processes in their territories, and are recognized as leaders in the region by the municipalities involved.*
- *The engagement of women associations entailed working with the families to redistribute child and elderly care activities among all of the family members, so that children and elders would not be negatively affected, and to actually strengthen the bonds between fathers, children, and grandchildren - which are considerably overlooked in the patriarchal culture.*

Annex 6:

LINKS OF PUBLICATIONS MADE BY THE PROJECT

1. Project link hosted on the CI Website, where news and pictures can be found:
<http://www.conservation.org.co/programas/Aguas-y-ciudades/articulos-rios-lagunas/ADAPTACION-AL-CAMBIO-CLIMATICO-EN-ALTA-MONTANA>

2. Project brochure. This was prepared a long time ago, it may not be completely up to date
<https://www.conservation.org/projects/adapting-to-a-changing-climate-in-colombia>

3. Videos from the campaign #ActuoPorElClima hosted in the YouTube channel of the Ministry of Environment and CI Colombia
 1. <https://www.youtube.com/watch?v=HvO6qpwaFA8> - **TAUSA**
 2. <https://www.youtube.com/watch?v=eTm8XpXulxk> - **USME**
 3. <https://www.youtube.com/watch?v=Hcc9ourtG2o> - **SESQUILE**
 4. <https://www.youtube.com/watch?v=TIQRYPtIVZI> - **GUASCA**
 5. <https://www.youtube.com/watch?v=pPBjZAM2WIM> - **BOGOTA**

4. Video to participate in the International Day for Biological Diversity hosted in the YouTube channel of the Ministry of Environment, which hosted the event worldwide.
<https://www.youtube.com/watch?v=XB-RIUxFZec>

5. Video summarizing the exchange of experiences at La Cosmopolitana published on our Facebook fan page
<https://www.facebook.com/266589053725726/videos/867087047123810>

6. Some appearances on the media.
 - Article in the El Tiempo newspaper: <https://bit.ly/2EJzmJS>
 - Pictures published in *One Earth*: <https://bit.ly/30jY6k8>
 - Interview on Caracol TV: <https://bit.ly/2EK1m>
 - Article about the Project in El Espectador: <https://bit.ly/3dbYXI>
 - Article on the role of women in the Project published in the Bienestar magazine:
<https://bit.ly/36Qpytq>

7. Facebook fan page showing much more images and videos
<https://www.facebook.com/adaptacionaltamontana>

Annex 7:

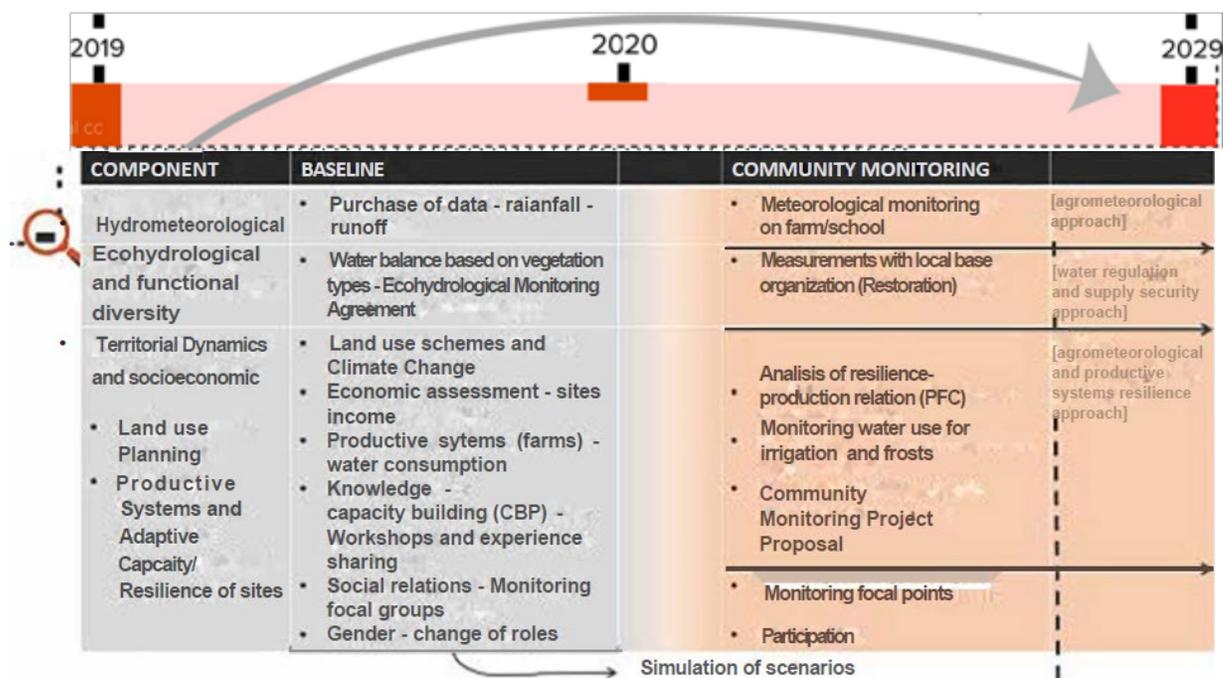
DETAILED PROJECT MONITORING STRATEGY

As part of the “Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero” Project, a monitoring system was designed with a view to facilitating a quantitative ex-post assessment of the impact of the adaptation measures on water regulation in the analyzed hydrological units.

The Monitoring System primarily focused on estimating the mid-term effects of the implemented adaptation measures in relation to water regulation in the prioritized areas, as well as the wellbeing of the communities involved (associated with an improvement in water production and access conditions).

Considering that measuring adaptation conditions and trends in high mountain territories is a complex task, it was proposed to establish different spatial and time scales for the design and implementation of the Monitoring System, as well as different components or thematic spheres. As regards spatial scales, thanks to the support received from the partners, scales include hydrographic sub-zone areas, paramo complex, Chingaza-Sumapaz-Guerrero area, hydrological unit, and Municipality, and with the Project Monitoring System scales incorporated public lands, watersheds of up to 1 order, farms/sites and monitoring smallholdings. As regards time scales, there is the short-term scale, established as the time period when the baseline data is gathered through the Project monitoring strategies, and there is the medium and long-term scale, which is at the core of the community-based and participatory monitoring strategy.

Figure 2 Monitoring System methodology established for baseline and long-term monitoring



The components established for the Monitoring System are: Hydrometeorological and Climatological, Ecohydrological, Functional Diversity, Socioeconomic associated with Climate Change, and Production Systems. Gathering baseline data requires rigorous data collection following monitoring protocols, research agreements, modeling and simulation of management scenarios, and a robust approach to strengthening the capacities of the local community, the academia, and local organizations in the watersheds covered by the Project. Such

methodology responds to the need to reflect the complexity of the watershed and of what is involved in the monitoring, analysis and evaluation of the human wellbeing and the water regulation and supply ecosystem service.

The methodology used to address the different monitoring components on different spatial scales is as follows:

Table 22 **Monitoring System methodology established for the system components on different spatial scales**

SPATIAL SCALE		MONITORING SYSTEM COMPONENTS			
PLACE	AREA	Hydro meteorological and Climatological	Eco-hydrological	Socioeconomic associated with Climate Change and Production Systems	Functional diversity
Corridor	6000 to 8000 km ²	Stations network Partners	n/a	Public policies - Management Schemes	n/a
Hydrological unit and Watersheds	5 to 150 km ²	Gathering of meteorological, hydrological, and agro-meteorological data	Hydrological modeling according to functional diversity on a landscape scale	n/a	n/a
Publicly and privately owned lands	0.25 to 2.5 km ²	Local community-based and participatory meteorological monitoring	Ex-ante / ex-post ecohydrological evaluation	Ex-ante / ex-post evaluation associated with economic and commercial-financial cost-benefit	Change of functional diversity with the implementation of the adaptation measures
Plots	0.01 to 6.4 km ²	n/a	Ecohydrological baseline - Research agreement	n/a	Functional attributes baseline - Research agreement

Community-based monitoring is established as the long-term strategy that allows monitoring the effectiveness of adaptation measures, it is applied to the socioeconomic and environmental reality in the area, and it adjusts to the uncertainty created by the future influence of driving forces for socioeconomic change and climate change scenarios. This is a continuous process, where local users systematically record climate data associated with ecosystem services and reflect on this issue, and may evaluate and keep adopting management and adaptation measures in response to what they analyze and learn. Therefore, community-based monitoring is a way of empowering the communities based on the knowledge of their environment and the impact of the implemented practices, not only on the environment, but also on productivity and life quality. This process involves a permanent implementation of the capacity-building program and will focus on agrometeorological and hydrological monitoring associated with production systems and the water regulation and supply ecosystem services, upon which they rely.

ADDITIONAL INFORMATION: MONITORING SYSTEM IMPLEMENTATION PROGRESS

Hydrometeorological Monitoring

Hydrometeorological data with high temporal resolution (every 15 minutes) have been purchased. They include data since September 2019 on meteorological, hydrological and agrometeorological variables with points located in the San Francisco River micro watershed.

In addition, community-based and participatory monitoring has been implemented to record data on meteorological variables at the farms of the Project beneficiaries and in strategic points in the hydrological units.

Purchase of hydrometeorological data

The supplier, CANAL CLIMA S.A.S., gathered and supplied agrometeorological and hydrometric data under Contract No. 6005552 since September 2019. Two agrometeorological and 6 hydrometric monitoring points were established. They record data on precipitation, temperature, relative humidity, wind speed and direction, horizontal precipitation, soil temperature, soil moisture and water levels in the monitored currents, every 15 minutes. On September 1, 2019, a visit was made to the monitoring points to check the data collection and the technical conditions of the installation.

During the monitored period, one of the hydrometric stations (point CI_005) was relocated because it had been installed in a plot that did not belong to a Project beneficiary. Also, the contractor was asked to place tags in the equipment with information of the company (as the owner of the equipment) and the project for which the monitoring is done. The recorded data range between 95% and 100%, and have been timely delivered by the contractor.

Progress of the Ecohydrological Monitoring Agreement

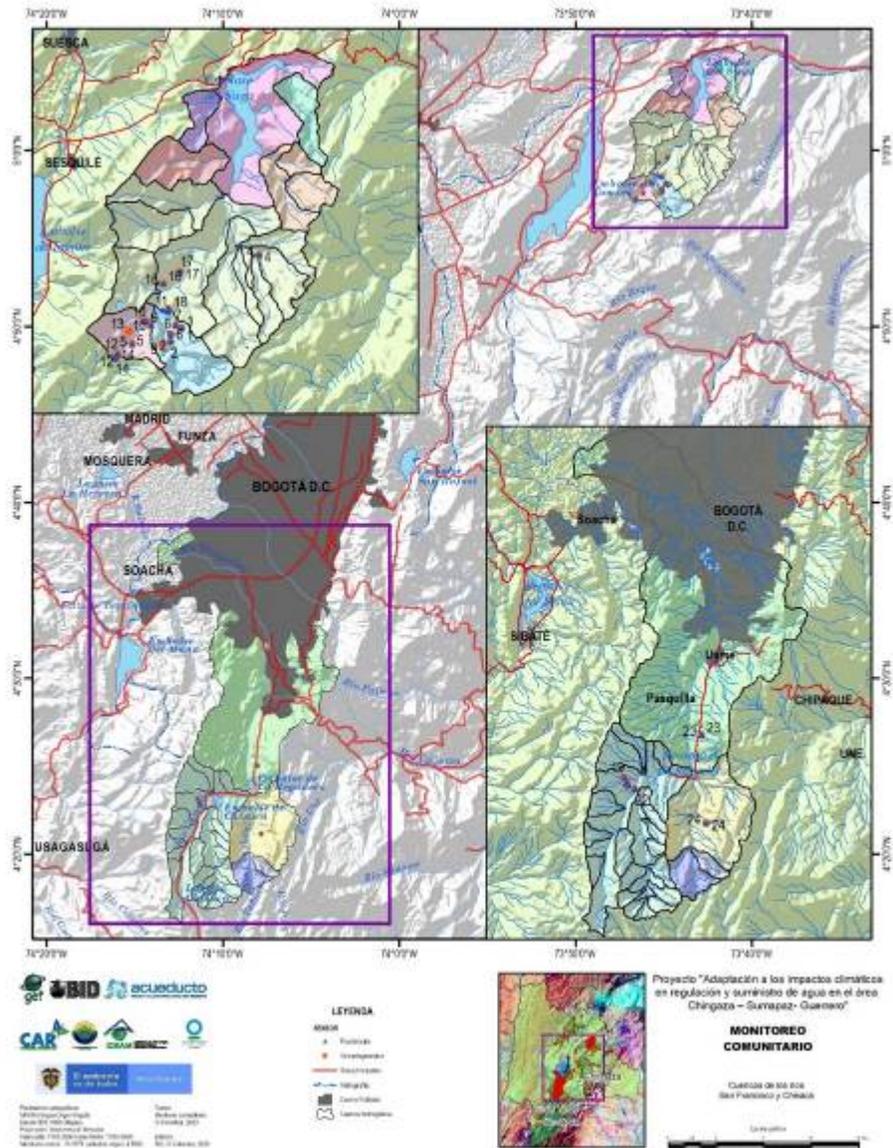
Under Contract No. 6005156, Pontificia Universidad Javeriana (PUJ), supervised and supported by Conservation International (CI), has been sampling and preparing the sampling protocols for the different types of vegetation cover on the monitoring farms to quantify the contribution to the water balance of vegetation, soils, and the prioritized productive arrangements. PUJ has also analyzed the structure, composition and function of the selected types of vegetation, and has conducted a bibliographical review of thresholds of operation of high-mountain ecosystems.

When possible, the reference vegetation covers and sustainable production systems were established in lands that belong to Project beneficiaries. The selected types of vegetation covers are: Andean forest, paramo, secondary vegetation, shrubland, unmanaged grazing pastures, potato plantations, sylvopastoral, improved grasslands.

Progress of Community-based and Participatory Monitoring

As of the first half of this year, there is a network of 38 participants that record daily data on temperature, relative humidity, and rainfall in the four prioritized micro watersheds. Such participants were engaged at events held from November 2019 to March 2020 aimed at socializing the PCM (participatory community-based monitoring) and inviting community members to participate. The process for incorporating educational communities to the network started with the formation of a group of students that agreed to participate in the climate change sessions through the PCM in the municipality of Sesquile with the objective of leading the project at the I.E.D. Mendez Roza school.

Figure 3 Community-based Monitoring Points as of February 2020



Individual and group sessions were held to build capacity for monitoring, including appropriate use of measurement equipment, recording of data, and graphical analysis of climate data. Also, the new group received capacity building in a session for the “Exchange of experiences in participatory community-based monitoring” led by the focal point of the San Francisco micro watershed.

Annex 8:

KEY PROJECT STAKEHOLDERS

Table 23 Key Project Stakeholders

KEY STAKEHOLDER	ROLE	CAPACITY TO PERFORM ITS ROLE	EXPLANATION
<p>Ministry of Environment and Sustainable Development (MADS)</p>	<p>MADS is the top environmental authority in the country and is responsible for guiding the environmental sector, regulating environmental planning and defining policies and regulations. MADS exercises the conceptual and technical leadership of the Project through its Climate Change Division. MADS is the Operational Focal Point of the SCCF.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none"> a) <i>Laying down guidelines and supporting CI in the planning, coordination, implementation, supervision, monitoring, and technical evaluation of the Project.</i> b) <i>Signing inter-administrative agreements with EAB, CAR, CORPOGUAVIO, and IDEAM, and enforcing them.</i> c) <i>Participating in the Technical Committee (TC) and Steering Committee (SC) for supervision and general guidance of the Project execution, as provided in the GRT/CX-14525-CO Agreement and the Project Operational Manual.</i> d) <i>Appointing its representatives at the Project's SC and TC.</i> e) <i>Permanently monitoring and evaluating the Project execution process and the fulfillment of its objectives, according to the management indicators.</i> f) <i>Providing institutional support to CI for it to consolidate the information supplied by the Project's co-financiers for the timely structuring of Annual Work Plans (AWPs) and other reports as may be required.</i> g) <i>Reviewing and approving on a timely manner the reports prepared by CI to the Bank and APC, as provided by the GRT/CX-14525-CO Agreement</i> h) <i>Reviewing the reports with the Bank and with support from CI, and adopting the proposed measures for an efficient implementation of the Project based on the conclusions and recommendations of the report and the concepts of the Bank in that regard.</i> i) <i>Reviewing and approving the updates to the Project's PP.</i> j) <i>In accordance with the GRT/CX-14525-CO Agreement, and in its capacity as Project Executing Agency, request the disbursement of resources under said agreement.</i> k) <i>Perform any other activity assigned to it under the GRT/CX-14525-CO Agreement.</i> l) <i>Perform any other activity entrusted to it under this MOP.</i> 	<p>B</p>	<p>It led the project execution, but there were delays related to changes of directors and ministers. There were delays in the decision making upon which the smooth operation of the Project relied. Decision to implement productive activities in the watersheds identified as paramo (in eight months, an agreement could not be reached with CAR to implement productive activities, so it was decided not to do anything in this regard).</p> <p>The Ministry led the calls at the SCs. They promoted spaces to get national and regional entities to know the Project and become aware of the issues addressed by it. There was great commitment to the Project. On Sunday, October 25, the Minister of MADS and the Minister of Agriculture led a field visit to learn the results of the Project.</p>
<p>Climate Change Directorate (DCC-MADS)</p>	<p>In charge of executing the Project through CI Colombia.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> • <i>Supervising and supporting CI in the planning, coordination, implementation, supervision, monitoring, and technical evaluation of the Project.</i> • <i>Signing inter-administrative agreements with EAB, CAR, CORPOGUAVIO, and IDEAM, and enforcing them.</i> • <i>Participating in the Technical Committee and Steering Committee for supervision and general guidance of the Project execution, as provided in the Grant Agreement and the Project Operational Manual.</i> • <i>Permanently monitoring and evaluating the Project execution process and the fulfillment of its objectives, according to the management indicators.</i> • <i>Providing institutional support to CI for it to consolidate the information supplied by the Project's co-financiers for the timely structuring of Annual Work Plans (AWPs) and other reports as may be required.</i> 	<p>B</p>	<p>It was the MADS office tasked with coordinating and articulating the activities of the Project with other offices. During the execution, there were 3 directors. There were appropriate communication channels in place, regular monitoring meetings were held, and adequate and timely support was received for critical decision making.</p>

KEY STAKEHOLDER	ROLE	CAPACITY TO PERFORM ITS ROLE	EXPLANATION
	<ul style="list-style-type: none"> Reviewing and approving on a timely manner the reports prepared by CI to the Bank and APC, as provided by the GRT/CX-14525-CO Agreement Reviewing the reports with the Bank and with support from CI, and adopting the proposed measures for an efficient implementation of the Project based on the conclusions and recommendations of the report and the concepts of the Bank in that regard. Performing any other activity assigned to it under the GRT/CX-14525-CO Agreement. 		
International Affairs Office	It served as liaison with the Bank and supported the CCD in matters related to the provisions of the GRT/CX-14525-CO Agreement.	B	This office provided support in specific matters. It participated in the SC and provided action lines/recommendations for an appropriate Project execution.
Regional Autonomous Corporations (CARs) (CAR, Corpoguvio)	The CARs are the environmental authorities responsible for the implementation of environmental policies, plans, programs and projects within their respective jurisdictions. They will provide technical support to the implementation of adaptation measures in the prioritized areas. They will be key project partners in the development and implementation of a monitoring system to evaluate the Project impacts, and will provide guidelines for the incorporation of specific adaptation considerations in the planning tools for municipal land use. CAR and CORPOGUAVIO will be members of the Project's Steering Committee.	B	Both Corporations actively participated in the SC, TC, and other committees. Both Corporations contributed to critical decision making and supported the review of the ToR for the Project contracting and procurement processes. They delivered the planned counterpart contribution from the beginning. Between 2017 and 2018, MADS and CAR sought options to use the Paramo Act as a spearhead for the intervention through the Project adaptation measures with a pilot intervention in the paramo, but an agreement could not be reached.
Empresa de Acueducto, Alcantarillado y Aseo de Bogota (EAAB)	EAAB is responsible for protecting, managing and preserving the key areas for water production and supply for Bogota DC. EAAB is also responsible for securing the supply of drinking water to more than seven million people in the metropolitan area of Bogota and neighboring municipalities. EAAB is a key source of for the Project, and is a member of the Steering Committee.	B	EAAB actively participated in the SC, TC, and other committees. EAAB contributed to critical decision making and supported the review of the ToR for the Project contracting and procurement processes. It made the largest counterpart contribution, enabling a progress of 83%. EAAB successfully

KEY STAKEHOLDER	ROLE	CAPACITY TO PERFORM ITS ROLE	EXPLANATION
			executed the Paramos Project, which was simultaneous and complementary to the GEF Project.
Government of Cundinamarca	Together with the Departmental Assembly, the Government of Cundinamarca is responsible for establishing land planning guidelines within its jurisdiction. The Government of Cundinamarca will support the CARs and municipalities in defining guidelines for the incorporation of adaptation considerations in their land planning tools.	B	Its involvement was low. A number of meetings were held to seek articulation and support for the municipalities in the incorporation of CC guidelines in the EOTs.
Municipal Government of Bogota	The Municipal Government of Bogota is the top authority of Bogota DC and is responsible for implementing laws and rules within its jurisdiction. The agency will be a key Project partner, and actions need to be coordinated with it to articulate the different climate change adaptation initiatives that are being implemented in the Corridor, including the Regional Comprehensive Plan on Climate Change (PRICC, by its Spanish acronym), an initiative established as an alliance between the Government of Cundinamarca, the Municipality of Bogota and the Environment Secretariat of the Bogota District (SDA, by its Spanish acronym).	B	The current mayor office has prioritized the CC issue in its government plan, which has facilitated inter-institutional articulation and will strengthen the Project and other adaptation initiatives in Bogota and the high-mountain region of the Chingaza-Sumapaz-Guerrero landscape
Bogota District Secretariat of the Environment	SDA is the environmental authority in Bogota D.C. This agency is in charge of formulating and orienting policies, plans and programs for research, conservation, improvement, promotion, evaluation and sustainable use of natural resources and environmental services in Bogota D.C. And its neighboring areas. SDA will be a member of the Project's Steering Committee.	B	SDA was not part of the Project's SC or other decision making bodies. In spite of this, it did support some groups related to the formulation of projects, which was one of the goals of the Project.
Municipal Governments	The municipal governments of Cogua, Tausa, Sesquile, Guatavita, and Guasca are Project partners that will facilitate the implementation and adoption of adaptation measures within their respective jurisdictions. They are the top authorities at the municipal level and are in charge of implementing laws and rules at this level. Together with the municipal councils, they will be directly responsible for defining and approving the incorporation of adaptation considerations in the POT and PMD, and of developing strategies and actions to mitigate or prevent the impacts of climate change.	E	Active participation of mayors and their teams in the different instances. Without said participation it would have been difficult to achieve the results. In spite of their low budgets, among other things, they provided support to some officials in socialization activities held with the communities, they provided facilities or even supplies like vegetation material, facilitated the processing of the required permits, and provided relevant information for field implementation.

KEY STAKEHOLDER	ROLE	CAPACITY TO PERFORM ITS ROLE	EXPLANATION
Civil Society Organizations (CSOs) and commercialization organizations	Civil society in the prioritized areas/municipalities is organized in multiple organizations, including groups of women, that are responsible for protecting water resources, natural resource management, and environmental protection, and support and promote productive activities, especially agriculture and cattle ranching. The CSOs and commercial organizations will be instrumental in the implementation of gender-sensitive pilot projects seeking to increase water regulation through re-vegetation and improved engineering works in the critical water supply areas, and the adoption of climate-resilient management practices and the implementation of adaptation measures in the local production systems.	E	They played an active and prominent role in decision making related to the implementation approach, through formal agreements with CI. They participated in the execution of adaptation measures and have guaranteed the process for fostering Project ownership on the part of the communities.
Landowners	The landowners will be the direct local beneficiaries of all the Project activities, especially the development of climate-resilient management practices and adaptation measures in the local production systems, which will lead to a sustainable use of water in the agricultural systems, as well as an improvement in food security and life quality. They will also benefit from the technical assistance and training to be provided by the Project.	E	The beneficiaries played a key part in accomplishing the Project objectives. Thanks to their willingness to participate and commitment, the intended results were successfully achieved. The beneficiaries actively participated in all the field activities, especially those in their farms. Their average counterpart contribution is estimated to be 30%, on average, of the investments made in each farm, and it does not involve labor only
Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM)	IDEAM will act as the scientific and technical body of the Project, providing technical support and meteorological and climate information related to the Corridor and the prioritized areas, and information about climate variability and change. IDEAM will be a member of the Project's Steering Committee financed by the SCCF.	E	It is one of the Project partners and it actively participated during the project execution. It participated in the SC and TC, and other bodies. It provided support during the development of Component 1. It supported and provided orientation in relation to the participatory monitoring components, definition of specs for contracting a supplier in charge of installing and delivering the service of a network of 8 stations in the micro watershed of San Francisco, among other activities.
National Park Authorities (Chingaza and	The Chingaza and Sumapaz National Parks are within the Corridor. The park staff will provide technical support for the design of high-mountain ecosystem restoration activities that will contribute to promoting ecosystem connectivity in the buffer zones of the parks.	B	UAESPNN (nowadays, Natural National Parks of Colombia) participated in some of the Project TC

KEY STAKEHOLDER	ROLE	CAPACITY TO PERFORM ITS ROLE	EXPLANATION
Sumapaz) / UAESPNN			meetings with right to speak but not to vote, as per the MOP.
Non-Governmental Organizations (NGOs)	Several NGOs work in the Corridor area (e.g. Fundacion Natura, Patrimonio Natural and local environmental organization in the municipalities of Cogua, Guasca, Guatavita, Sesquile, Tausa, and Bogota DC) and have extensive experience in natural resource conservation and management, and development. They will provide technical support and leadership for the implementation of adaptation activities at the local level (i.e., restoration, ecosystem connectivity, etc.)	E	Through the agreements signed between CI and community-based organizations like Asociacion de Mujeres de Sesquile (AMUSESI), Asociacion de Granjeros Ecologicos de Guasca (AGRECUA), Corporacion Campesina Mujer y Tierra, and Corporacion Bosque Nativo, restoration adaptation activities were implemented. These associations were strengthened not only in administrative, financial and legal aspects for the execution of the resources transferred under such agreements, but also in relation to technical assistance for the field implementation of such activities. The good job done by these associations guaranteed the successful results of the field work.
Ministry of Housing, City, and Territory (MVCT)	MVCT is the executing agency of the Program for Fresh Water and Sanitation Services for Rural and Semiurban Areas, which is the main component of the baseline of the project financed by SCCF. The lessons learned, the capacity building activities, the knowledge gained, and the investments made with SCCF funds related to the foreseen changes in the water regulation cycle will be used to support the incorporation of adaptation measures in the design and implementation of the activities that will be financed under this program. The team in charge of the project financed by SCCF will coordinate the actions in close cooperation with MVCT, which will be a member of the Steering Committee of said project.	NA	At the time the GEF Project was structured, Environment and Housing were part of one same ministry, which was then split into two different ministries. That is why this ministry was expected to have a greater participation in the Project. Its participation was marginal. Some contacts were made to share information about the status of the agreements in the municipalities of the Project's influence area. MVCT did not participate in the Steering Committee

KEY STAKEHOLDER	ROLE	CAPACITY TO PERFORM ITS ROLE	EXPLANATION
			meetings and other committees of the Project.
Conservation International (CI)	<p>Executing Agency of the Project and member of the Steering Committee.</p> <p>Conservation International (CI) was founded in 1987 as a non-profit organization with an innovative approach to global biodiversity conservation. Since then, CI has worked with hundreds of partners in more than 40 countries located across the five continents, hosting the most biologically rich areas in the world. CI Colombia works to protect the most valuable, threatened and productive places in the country, as a strategy to protect threatened species, while guaranteeing that human communities continue to flourish, both in remote landscapes and in Bogota. CI also works on climate change mitigation and adaptation initiatives. CI is the Executing Agency of the Project in representation of MADS and the Technical Secretariat of the Project's Steering Committee.</p> <p>CI Colombia has executed several ecosystem-based adaptation Projects with international financing, including the Integrated National Adaptation to Climate Change Project (INAP) financed by GEF, which is a predecessor of the proposed project. Also, previous work in the interest area, including the design of the "corridor" concept, guarantees the existence of technical capacities, including in a group of professionals with great expertise in the local problems.</p> <p style="text-align: center;"><u>Responsibilities</u></p> <p>CI Colombia will fulfill the following obligations:</p> <p>a) Execute the Project (technical, administrative, and financial management) as per the Agreement and the Operational Manual.</p> <p>b) Guarantee the formation and operation of a Project Coordinating Unit integrated by at least one National Project Coordinator (NPC), a financial assistant, and a procurement specialist. The NPC will report to the Executive Director of CI Colombia and the Executing Agency.</p> <p>c) Supervise the performance of the Project agreements, jointly with the Project partners.</p> <p>d) Allocate the resources from the Grant Agreement exclusively to its execution.</p> <p>e) Receive the disbursements, administer and allocate the resources resulting from the Grant Agreement as per the terms and conditions of such Agreement, the POM and the Procurement Plan approved by the Bank.</p> <p>f) Update the POM in coordination with, and with the prior approval of, MADS, including specific provisions on detailed procedures to execute the Project, including, among others, (i) procedures for the procurement of goods and services, financial management, and requirements for disbursements, contracting and payment to consultants, purchase and lease of goods, the execution of civil works, workshops, reporting, the monitoring system, the Project audit, (ii) a form for preparing financial monitoring reports (FMR), (iii) a template for preparing the Multi-Year Execution Plans (MEP), and the Annual Work Plan (AWP), and (iv) the Management Indicators and the environmental evaluation - all in accordance with the Bank policies and regulations.</p> <p>g) Update the Project Procurement Plan and submit the updates for approval by MADS as a first step, and then for approval by the Bank, 12 months after the date of the immediately preceding Procurement Plan at</p>	E	<p>CI was in charge of the technical, financial, and administrative execution of the Project and of guaranteeing the fulfillment of all the contractual provisions of the Financing Agreement executed between IDB, MADS, and APC.</p> <p>As regards the technical role, the execution of the Project was appropriate, and the different challenges faced on the field and in relation to the interinstitutional articulation were properly addressed. CI made a timely decision to change the field execution or implementation model, and although this involved high transaction costs, it proved to be the right decision based on the results and impact seen on the field, not only in the achievement of targets, but also in the engagement of the base communities as a key element for the long-term sustainability of the adaptation measures.</p> <p>Administrative and financial matters were dealt with properly and in a timely manner, as evidenced from the different audit reports and the results of the Project. There is room for improvement in the timeframes for procurement and vendor payment processes. Nevertheless, the great effort to articulate with the partners and the other</p>

KEY STAKEHOLDER	ROLE	CAPACITY TO PERFORM ITS ROLE	EXPLANATION
	<p>the latest, considering that the first Procurement Plan will cover 18 months.</p> <p>h) Prepare and submit for consideration of the Steering Committee, after the approval of MADS, any change in the planning tools (Project Execution Plan (PEP), Annual Work Plans (AWP), and Project Risks Matrix) and the Project Results Matrix, when required.</p> <p>i) With the assistance and approval of MADS, provide the Bank with the AWP's of the Project, according to Article 3.06, Chapter III of the special stipulations of the Grant Agreement, on February 20, 2015, and each following year during the Project execution.</p> <p>j) Execute the contracts approved as part of the selection and contracting processes established in the Procurement Plan.</p> <p>k) Make the required payments for the operation of the Project as provided in the applicable agreements, the Procurement Plan, and the Grant Agreement.</p> <p>l) Call, attend, and coordinate the meetings of the Technical and Steering Committee, serve as their secretary, and prepare, socialize and keep on record the minutes of those meetings.</p> <p>m) Assist the Project's Technical Committee supporting MADS and giving the necessary advice for decision making.</p> <p>n) Prepare the financial statements of the Project according to the terms and conditions required by the Bank and established in the Grant Agreement.</p> <p>o) Prepare the Project reports contemplated in the Grant Agreement for submission to the Bank and APC, and send them to MADS for their prior review.</p> <p>p) Keep the Project archive, and provide the Bank, APC, and MADS with all the information related to the development of the Project as and when the Bank, APC or MADS may request, and according to the terms and conditions set forth in section V of the POM.</p> <p>q) Perform coordination tasks with the partners, EAB, CAR, Corpoguvio, and IDEAM for the appropriate execution of the Project, as provided in the Operational Manual.</p> <p>r) Prepare the requests for disbursements of funds from the Grant Agreement to the Bank, based on projected resource requirements previously approved by MADS, and deliver them to MADS for their submission to the Bank.</p> <p>s) Open a special bank account to receive and manage the funds resulting from the Grant Agreement and manage the account. Any financial returns will be reinvested in the Project.</p> <p>t) Administer the amount of USD 4,215,750 from the Grant Agreement, prepare the financial and technical reports related to the funds of the Grant Agreement, and consolidate the technical reports of all the projects approved by GEF, which amount to USD 27,830,750. The amount of USD 4,215,750 includes USD 421,575, as a maximum cap, in Project Coordination and Administration Costs such as administrative staff, consultants, and office costs, as provided by Article 3.01 of the Sole Annex to the Agreement. The Project Coordination Unit (PCU), contemplated in Article 4.06 of the Sole Annex to the Agreement, is charged upon said resources.</p> <p>u) Transfer to MADS and the Beneficiary all the works, creations, interventions and, in general, all the information that may have been obtained, developed, or created, and databases used in the execution of the Project, and deliver a copy of consultancy outputs to the applicable partners.</p> <p>v) Coordinate the Bank missions to the Project.</p>		<p>project actors is recognized.</p>

KEY STAKEHOLDER	ROLE	CAPACITY TO PERFORM ITS ROLE	EXPLANATION
	<p>w) Jointly conduct with the Bank the Mid-term Evaluation of the progress of the Project implementation, as provided in the Grant Agreement and with the scope established in the POM.</p> <p>x) Design and prepare the Project Sustainability Plan according to parameters acceptable to the Bank, and deliver it to the Bank once approved by MADS, on or before 6 months after the Project closing date, or on another date agreed with the Bank.</p> <p>Y) Carry out any other activity entrusted to it under the Grant Agreement, the Implementation Agreement signed with MADS, and the POM.</p> <p>z) Timely report MADS on any event which could affect the normal operation of the Project.</p> <p>aa) Make recommendations that facilitate the execution of the Project.</p>		
Inter-American Development Bank	<p>The IDB is the Implementing Agency of the Project and is responsible for the general oversight and supervision of Project execution. It will provide guidance, institutional support, fiduciary control, technical and administrative assistance, as well as theoretical knowledge and know-how at the international level for the effective implementation of the Project.</p>	E	<p>Support from Alfred Grünwaldt was available at all times, from the US headquarters, as well as from the representation in Colombia. Adequate support was provided to address the challenges that emerged during the Project execution.</p> <p>The IDB participated in different efforts, like supervision missions and regular meetings held at the representation to support the monitoring of the Project. It provided guidance and support in all aspects related to the two time extensions of the Project, which were essential to the proper fulfillment of its targets.</p>

NB: E= excellent G= good R= regular P= poor.

The color indicates a compliance alert, based on the information provided.

Source: *Progress Reports and interviews 2018, IDB 2015.*

Based on the POM (IDB 2015), the partners' obligations are as follows:

- a) Make the counterpart contribution for the execution of the specific activities of the Project, as provided in the GRT/CX-14525-CO Agreement, the Project Execution Plan (PEP), the Annual Work Plan (AWP), and the letter agreement signed by each of the partners pledging the counterpart contributions.
- b) Detail in the budget provided in the PEP and in the AWP the activities that would be implemented with counterpart contributions, including the investment plan for such counterpart resources and the implementation schedule for such activities.

- c) Immediately report to MADS through CI any development or abnormality that may affect the Project execution.
- d) Form and permanently maintain a sufficiently staffed team of qualified professionals and technical experts that should see to the performance of commitments under this Agreement and the Project.
- e) Guarantee that any staff engaged or hired for the execution of the Project duly performs the relevant payments to the Social Security System during the Project term.
- f) Perform any administrative, technical, legal, and financial procedures required for the due performance of the purpose of the Agreement and the activities provided thereunder.
- g) Comply with social security, healthcare, pension, and payroll contribution obligations, as applicable, and file the relevant evidentiary documents, as provided in Section 50 of Law No. 789 of 2002, Law No. 828 of 2003, Law No. 1562 of 2012, as amended.
- h) Designate (1) managerial officer or the legal representative of the entity as member of the Project's Steering Committee, and take the necessary steps for this officer to attend the meetings of said Committee.
- h) Designate (1) technical officer as member of the Project's Technical Committee, and take the necessary steps for this officer to attend the meetings of said Committee.
- j) Observe the Project Operational Manual.
- k) Participate in procurement evaluation committees when required.
- l) Regularly monitor the information in the MEP and AWP tools.
- m) Deliver technical recommendations for the Project to MADS through CI or at the Technical and Steering Committee.
- n) Provide CI with half-yearly technical and financial reports on the execution of the counterpart resources at the times established in the Project Operational Manual. These reports will be submitted each year on February 1 and August 1, respectively. (See Annex 4 of this manual)
- o) Provide all the information related to the execution of the counterpart resources when requested by MADS, CI, or the Bank.
- p) Provide all other information requested by MADS, CI, or the Bank.
- q) Receive the goods acquired as part of the Project and follow their maintenance plan, as provided in Article 3.02 of the special provisions of the Investment Grant Agreement and this Project Operational Manual.
- r) Provide technical support to CI in the preparation of base documents for the procurement of goods and services for the Project, and in the evaluation of the bids and résumés received by CI in the course of said procurement processes, when required.
- s) Provide the National Project Coordinator with technical support in the technical supervision of the agreements signed for the execution of the Project, upon request of such Coordinator.
- t) Make the information about the execution of the counterpart resources available to the Project's external auditors upon their request.
- u) All other stipulations in the association agreement executed with MADS, the Grant Agreement, and this MOP.
- v) Attend the settlement of the agreement.

Annex 9:

**COOPERATION AGREEMENTS SIGNED BY CI WITHIN THE
FRAMEWORK OF THE PROJECT EXECUTION**

Table 24 **Agreements signed within the framework of the Project with GEF funds**

WBS / PPA CODE	CONTRACTOR	CONTRACT No.	PURPOSE	START DATE	TERMINATION DATE	DURATION (MONTHS)	AMOUNT IN COP	AMOUNT IN USD	OBSERVATIONS
2.3.2.10	BOSQUE NATIVO	6005735	Restoration of the Guandoque Micro watershed. Join efforts with a local association for the implementation of ecological restoration adaptation measures in the prioritized areas of the Guandoque River micro watershed, within the framework of the "Adaptation to climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero" Project.	09/30/2019	09/30/2020	10.0	423,426,995	122,307	Agreements signed by CI on behalf of MADS
2.3.2.11	ASOCIACION DE MUJERES DEL MUNICIPIO DE SESQUILE (AMUSES)	6004780	Non-consulting services 6: Agreement with a local association for the implementation of restoration and capacity building activities (San Francisco Micro watershed)	10/31/2018	06/30/2019	6.0	378,538,166	118,203	
2.3.2.13	ASOCIACION DE MUJERES DEL MUNICIPIO DE SESQUILE (AMUSES)	6006024	Second restoration phase in San Francisco. Join efforts with a local association to continue implementing ecological restoration adaptation measures in the prioritized areas of the San Francisco River micro watershed, within the framework of the "Adaptation to climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero" Project.	01/21/2020	09/30/2020	9.5	299,799,126	89,520	
2.3.2.8	ASOCIACION DE GRANJERO ECOLOGICOS DE GUASCA (AGREGUA)	6005950	Chipata Restoration Agreement. Restoration of the Guandoque Micro watershed. Join efforts with a local association for the implementation of ecological restoration adaptation measures in the prioritized areas of the Chipata River micro watershed, within the framework of the "Adaptation to	02/10/2020	09/30/2020	7.7	201,220,516	58,519	

WBS / PPA CODE	CONTRACTOR	CONTRACT No.	PURPOSE	START DATE	TERMINATION DATE	DURATION (MONTHS)	AMOUNT IN COP	AMOUNT IN USD	OBSERVATIONS
			climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero” Project.						
2.3.2.9	CORPORACION CAMPESINA MUJER Y TIERRA	6006189	Chisaca Restoration Agreement. Restoration of the Guandoque Micro watershed. Join efforts with a local association to complete the implementation of ecological restoration adaptation measures in the prioritized areas of the Chisaca River micro watershed, within the framework of the “Adaptation to climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero” Project.	03/16/2020	10/30/2020	8.4	338,824,790	86,364	
2.6.1.2	PONTIFICIA UNIVERSIDAD JAVERIANA	6005156	Join technical, financial, and administrative efforts to design and implement the field and lab protocols, and analytical methods necessary for eco-hydrological and carbon content monitoring in the soils and vegetation of the high Andean and paramo ecosystems and the prioritized productive arrangements, within the framework of the Monitoring System of the “Adaptation to Climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero” Project.	06/20/2019	10/14/2020	14.8	257,322,188	74,163	
3.1.1.1	CI COLOMBIA	NO NUMBER	Project management	02/05/2015	08/14/2019	54.0	1,004,153,708	421,575	Agreement executed between

WBS / PPA CODE	CONTRACTOR	CONTRACT No.	PURPOSE	START DATE	TERMINATION DATE	DURATION (MONTHS)	AMOUNT IN COP	AMOUNT IN USD	OBSERVATIONS
									MADS and CI

Source: GEFAM 2020.

Table 25 Agreements signed within the framework of the Project without GEF funds

WBS / PPA Code	CONTRACTOR	CONTRACT NO.	PURPOSE	START DATE	TERMINATION DATE	DURATION (MONTHS)
2.3.2.10	MUNICIPALITY OF TAUSA	01-17	Join technical and administrative efforts between the Municipality and CI to implement ecological restoration adaptation measures in the prioritized areas of the Guandoque River micro watershed, within the framework of the "Adaptation to climate Impacts in Water Regulation and Supply for the Area of Chingaza - Sumapaz - Guerrero" Project.	06/17/2019	05/15/2020	10.9

Source: GEFAM 2020.

Annex 10:

**DETAIL OF THE ADAPTATION PROJECTS TO BE
SUBMITTED TO PRIORITIZED SOURCES OF FINANCING**

ADAPTATION PROJECTS TO BE SUBMITTED TO SOURCES OF FINANCING

There follows an overview of the status of each project:

1. Pilot project for the articulation of the environmental investment tariff with other economic instruments and financial incentives for the protection of watersheds and water sources in the Corridor – 100%

Purpose: Articulate the environmental investments scheme proposed by the Fresh Water Regulation and Basic Sanitation Committee - RC - with other economic instruments and financial incentives for the protection of watersheds and water sources, contributing to the conservation and management of high Andean forests and paramos.

Actions contemplated:

- Portfolio of actions
- Environmental investments plan
- Scheme for the articulation of the environmental investments tariff with other economic instruments and financial incentives.
- Financing plan
- Implementation roadmap design
- Implementation of the first phase in a prioritized sector

Implementation area:

- Municipalities of Guatavita and Sesquile

Central aspects:

- Financier: USAID – Paramo and Forests Project
- Status: Approved. Agreement at execution phase
- Execution: 15 months
- Total estimated amount: USD 451,000

2. Pilot project for the strengthening of “Veredal Aqueducts” (ASOUNION de Fomeque and EL VOLCAN de la Calera) Phase 1 - 96%

Purpose: Strengthening two veredal aqueducts in the corridor area as an adaptation measure to address the impacts of climate change, contributing to the wellbeing of local communities and learning in the articulation of green and gray infrastructure. The specific objectives of each project are the following:

ASOUNION AQUEDUCT:

General Objective: Mitigate the climate risk of water shortage in terms of quality, quantity and regulation, for the communities of Chinia, Hato Viejo, Coacha, Ucuatoque, Rio Negro, Rio Blanco, Carrizal, Resguardo, Gramal and the populated center of La Union

EL VOLCAN AQUEDUCT:

General Objective Mitigate the climate risk of water shortage in terms of quality, quantity and regulation, for the communities of Volcan and the users that signed the agreements of the Frailejonal, El Rodeo and Jerusalem veredas.

Implemented actions:

- Diagnosis of the condition of 348 aqueducts in the corridor based on secondary information, structured surveys, in-person interviews, and virtual meetings with key people
- Generation and implementation of criteria for the prioritization of municipalities and aqueducts
- Field visit to check the condition of the infrastructure and validate priority actions
- Validation of partial results with the GEFAM coordination team
- Consolidation of Project cards

Implementation area:

- Municipalities of Fomeque and La Calera

Central aspects:

- Financier: To be determined
- Status: Structured and under review of final texts
- Execution: 4 months
- Total estimated amount for studies: COP 423 million (each)
- Estimated probable amount for implementation: COP 900 million in Fomeque and COP 1,300 million in Calera

3. Strengthening of the sustainability conditions of climate change adaptation measures implemented with GEF resources between 2018 and 2020 in four micro watersheds - 85%

Purpose: Generate economic, ecological, and social sustainability conditions for the climate change adaptation measures implemented by the High Mountain GEF Project in the San Francisco, Chipata, Guandoque, and Chisaca micro watersheds.

Actions contemplated:

- Consolidate the eco-hydrological monitoring network at the community level.
- Generate sustainability conditions in the processes of redeployment of production for adaptation
- Implement adaptive management for restoration
- Strengthen local capacities for sustainability

Implementation area:

- Four current nuclei for the implementation of GEFAM (Municipalities of Sesquile, Guatavita, Guasca, Cogua, and Tausa, and the Locality of Usme in Bogota)

Central aspects:

- Financier: IDB
- Status: Submitted adjustments required by IDB and awaiting observations
- Execution: 24 months
- Total estimated amount: COP 8,306,000,000 (USD 2,595,625)

4. Conservation of high-mountain ecosystems for the strengthening of the climate change adaptation capacity and water security of the Conservation Corridor between the paramos of Chingaza – Sumapaz – Guerrero - Rabanal in the Departments of Cundinamarca, Meta, and Bogota DC - 63%

Purpose: Improve the ecosystem service of water supply, quality, and regulation in climate change and variability scenarios in the high mountains of the Conservation Corridor

Actions contemplated:

- Strengthen protected area and paramo complex management effectiveness by increasing their climate change adaptation capacity
- Promote the economic sectors engagement in conservation, restoration and sustainable use of strategic high-mountain ecosystems
- Reverse ecosystem degradation processes to stabilize the agricultural frontier in the high mountain
- Strengthen the land use and valuation ratios
- Generate technical tools to be used by the Environmental and Territorial Authority in connection with climate change adaptation
- Strengthen the capacities of social organizations, farmer communities and veredal aqueducts
- Generate socioenvironmental agreements for sustainable management and climate change adaptation
- Implement sustainable agricultural and cattle ranching practices in farmer production systems
- Promote fair trade for agricultural products that preserve biodiversity

Implementation area:

- Six implementation nuclei (Guerrero, Upper Basin of the Bogota River, North of Chingaza, Connectivity, Upper Basin of the Tunjuelo and Oriente Rivers) grouping 14 hydrological units that have been prioritized due to their being under greater climate threat and based on their hydrological relevance, and 13 municipalities

Central aspects:

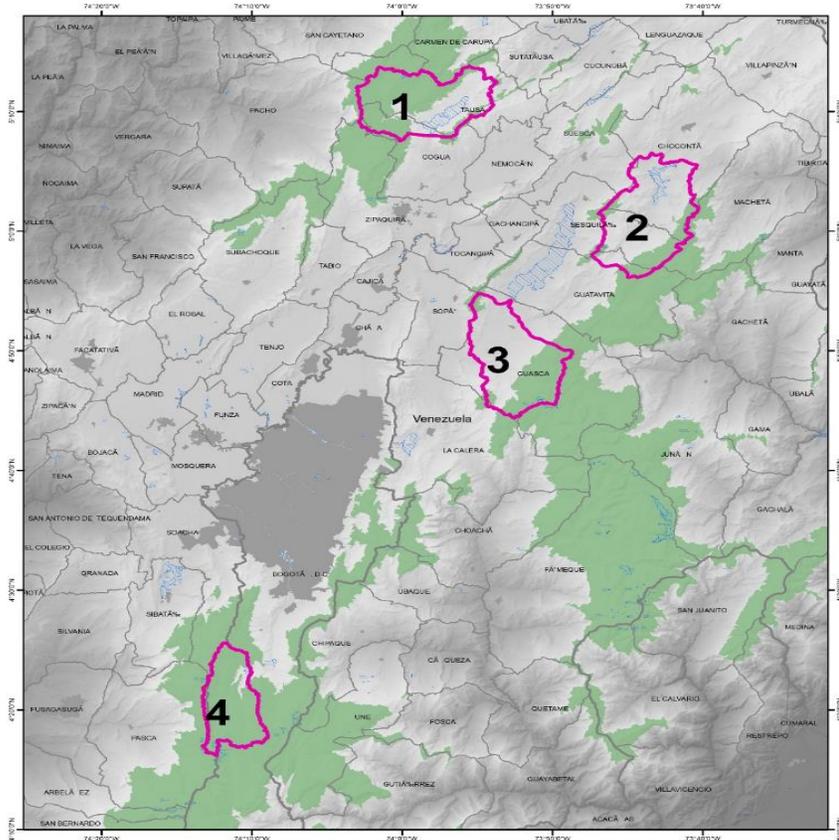
- Financier: SGR
- Status: Under structuration
- Execution: 7 years
- Total estimated amount: COP 70,000 million

5. Pilot project to advance Carbon Neutrality in an area of Bogota - 4%

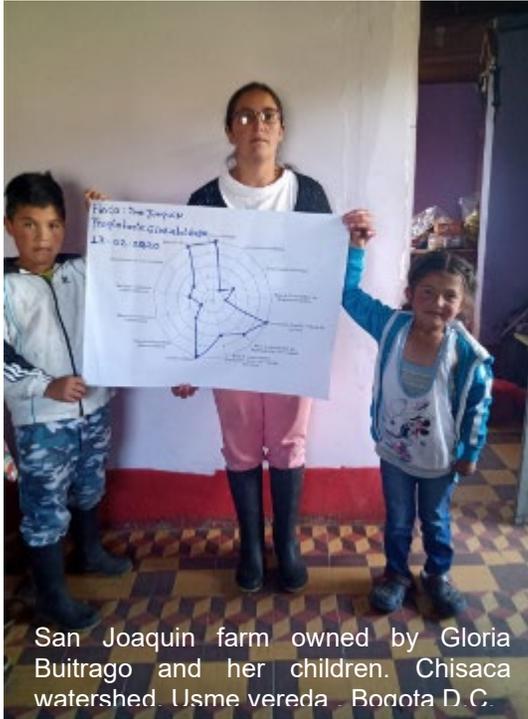
A consultant was formally engaged in August 11, and is in the process of gathering supporting information for the structuring.

Annex 11:

MAP OF THE PROJECT INTERVENTION AREAS AND PICTURES OF THE ACTIVITIES



Project Hydrological Unit	Bogota River Watershed Hydrological Unit	Watershed of Analysis	Municipalities	Paramo Complex
1. Neusa River Reservoir	Neusa River Watershed	Guandoque River Watershed	Tausa / Cogua	Guerrero
2. Sisga River Reservoir	Sisga reservoir hydrological unit	San Francisco River Watershed	Sesquile / Guatavita	Chingaza
3. Siecha River	Tomine reservoir hydrological unit	Chipata River Watershed	Guasca	Chingaza
4. Chisaca River Reservoir	Tunjuelito River Watershed	Chisaca River Watershed	Usme Locality (D.C.)	Sumapaz



San Joaquin farm owned by Gloria Buitrago and her children. Chisaca watershed. Usme vereda - Bogotá D.C.



Daniela, granddaughter of Ana Delhia and Ignacio, a family benefited by the Project. El Uval vereda, municipality

Ana Delhia Rodriguez and her granddaughter Daniela feeding the hens as part of the adaptation measures



Blanca and Julio, farmers benefited by the Project, holding a workshop with school kids about community-based climate monitoring





Product fair held by AMUSES. Antibiotic-free eggs



Product fair held by APIMUISCA. Honey and pollen preserves



Product fair held by AMEG. Differentiated yogurt



Visit from different government entities to the Project area in the San Francisco River watershed

Participation of public officials in the Course on Climate Change and Land Use Planning, jointly designed and implemented with Universidad Javeriana



Dissemination of Results

