

FINAL PROJECT EVALUATION
BUILDING RESILIENCE TO CLIMATE CHANGE AND
VARIABILITY IN VULNERABLE SMALLHOLDERS (GFCC
PROJECT)

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List of abbreviations and acronyms used:

AF- Adaptation Fund

AGEV - State Management and Evaluation Office of the Planning and Budgeting Bureau

ANII – Research and Innovation National Agency

BSE – State Insurance Authority

CC – Climate Change

CIEDUR – Interdisciplinary Center for Studies of Development, Uruguay

DAC - Departmental Agricultural Council

DACC –Development and Adaptation to Climate Change Project

DGDR - General Directorate of Rural Development of the Ministry of Agriculture, Livestock and Fisheries

DGRN – General Directorate of Natural Resources of the Ministry of Agriculture, Livestock and Fisheries

DICOSE - Directorate for the Control of Self-Moving Animals of the Ministry of Agriculture, Livestock and Fisheries

DIP – Design, Implementation and Performance Evaluation

EFN – Electronic Field Notebook

FAGRO – Agronomy School of the University of the Republic

FAO – Food and Agriculture Organization of the United Nations

RBM– Results-Based Management

GFCC - Family Farmers and Climate Change Project

IBRD- International Bank for Reconstruction and Development

IDB – Inter-American Development Bank

INIA – National Institute for Agricultural Research

INJU – National Institute for the Youth

INUMET – Uruguayan Meteorology Institute

IPA – Agricultural Plan Institute

LU – Landscape Units

MEGanE - Extensive Livestock Exploitation Model

MGAP - Ministry of Livestock, Agriculture and Fisheries

MGCN - Livestock Roundtable on Natural Countryside

MIDES – Social Development Ministry

MVOTMA - Ministry of Housing, Land Use Planning and Environment

NDVI - Normalized Difference Vegetation Index

NR- Natural Resources

OPYPA - Office of Programming and Agricultural Policy of the Ministry of Livestock, Agriculture and Fisheries

PAGPA - Support Program for Public Agricultural Management

PDPR - Rural Productive Development Program

PFI - Institutional Strengthening Project

PFIS - Integral and Sustainable Family Production

PG - Livestock Program of the Ministry of Livestock, Agriculture and Fisheries

PPIR - Pilot Project of Rural Inclusion

PPR – Responsible Production Project of the Ministry of Livestock, Agriculture and Fisheries.

PRENADER - Natural Resources Management and Irrigation Development Program of the Ministry of Livestock, Agriculture and Fishing

PUR - Uruguay Rural Project of the Ministry of Livestock, Agriculture and Fisheries

RENARE - Natural Resources Directorate of the Ministry of Livestock, Agriculture and Fisheries

RDR – Rural Development Roundtables

RDS - Rural Development Society

SNIA - National Agricultural Information System

SUL - Uruguayan Wool Secretariat

TA- Technical Assistance

UACC - Climate Change Adaptation Unit of the Ministry of Livestock, Agriculture and Fisheries

UDELAR - University of the Republic

UGP - Project Management Unit of the Ministry of Livestock, Agriculture and Fisheries

UNFCCC- United Nations Framework Convention on Climate Change

USyCC - Sustainability and Climate Change Unit VC - Climate Variability

WAP – Water for Animal Production

EXECUTIVE OVERVIEW



The project "Building Resilience to Climate Change and Variability in Vulnerable Smallholders" in Uruguay was a project financed through a grant from the Adaptation Fund, an instrument established under the Kyoto Protocol, which was implemented between 2012 and 2020.

Its objective was to contribute to building national capacity to adapt to Climate Change (CC) and exports. It sought to:

- (a) Reduce vulnerability and build resilience to CC and climate variability in small livestock production establishments, located in areas extremely sensitive to drought.
- b) Strengthen local institutional networks at the level of the selected Landscape Units (UPs) aimed at CC adaptation (prevention) and response to extreme events (emergency) in areas highly sensitive to drought.
- c) develop mechanisms to better understand and monitor the impact and variability of CC, anticipate and evaluate negative events, take lessons learned and identify and validate best practices and tools for adaptation to the increasing variability of climate change.

The proposal was to carry out a comprehensive intervention process that would be adaptive and achieve sustainability. It was proposed to combine vulnerability reduction with increasing the resilience of family livestock producers to CC. The mechanism envisaged was the financing of investments for productive management at the farm level, the strengthening of local and institutional networks to increase the capacity of organizations to manage climate risks locally, and the management of the knowledge generated.

The project's area of intervention was two eco-regions identified as the most vulnerable to drought and water stress, both in terms of susceptibility and adaptive capacity: the Cuesta Basáltica, with most of its area in the Departments of Artigas, Salto, Paysandú and Tacuarembó, and to a lesser extent Rivera; and Sierras del Este, partially covering the Departments of Treinta y Tres, Lavalleja, Maldonado and Rocha. The subjects of the intervention were family livestock producers and their organizations.

There were numerous calls for proposals made to family farmers for land projects, which directly benefited 4,300 people. These provided economic support for 861 solutions for access to water, 334 regarding shade for livestock systems, and 996 subprojects that included improvements and management of pastures and livestock feed.

Technical assistance sessions were held for field monitoring, training and other group activities. A noteworthy aspect was the creation of revolving funds, a tool highly valued by producers and technicians, which to a large extent allows for the sustainability of the impacts. It has promoted strategies for the generation and strengthening of local networks and organizations in the intervention areas. Calls were also made to rural youth to support productive initiation and awareness-raising activities with emphasis on adaptation to climate variability. One of the strengths identified was the implementation of training activities in strategic territorial planning and the implementation of calls aimed at strengthening the Rural Development Committees of both Landscape Units.

Although the project is not formulated with the participation of the producers, during the implementation stage they are present in certain spaces such as the Rural Development Roundtables (MDR) and the organizations. The revolving funds also required their participation in the preparation of the regulations governing use, which had an impact on the producers' ownership of the project.

The level of achievement of the project is evaluated as satisfactory, considering its relevance, effectiveness and efficiency. It was a highly relevant project, showing coherence between the main results achieved and the objectives and strategic guidelines identified at the time of project design. Despite the lack of participation of producers in the design, its adaptation approach took into account the state of their knowledge on CC and the priorities identified in the local communities. Moreover, it was aligned with the policies promoted by the national government during the implementation period and with those of the Adaptation Fund (AF). There were some structural and governance problems that moderated its effectiveness. Nevertheless, regarding the achievement of objectives and goals according to the initially foreseen parameters, a good performance was achieved both by components and at a global level. Support was provided for the creation of a significant number of water and shade solutions and works on natural field management that contribute to improving resilience at the farm level. Strategic plans were generated at the RDR level, a factor that consolidates and strengthens this space for local participation of both producer organizations and institutions in the intervention territories. The possibility afforded by the AF to carry out adaptive management provided the necessary flexibility to carry out the project's actions in the face of changing conditions and unforeseen events that arose during implementation. One aspect to improve is inter-institutional coordination for climate change adaptation. Efficiency was in line with similar projects executed by the MGAP, although if other execution alternatives had been explored, it could have been improved.

In terms of the sustainability of the achievements made, the broad network of public and private actors linked to family livestock farming in the UPs that have taken ownership of

the problem of the effects of CC is noteworthy. The creation of revolving funds managed by producers' organizations and the strengthening of the MDRs for the organization and management of training and territorial planning spaces are other positive results. Some progress has been made in terms of the comprehensiveness of interventions (research - communication - organization) and articulation between institutions, and there has been progress in raising awareness of the effects of CC in recent years, but this is still insufficient and has not been consolidated.

The strategies linked to the risks associated with drought and water deficit leave the beneficiary producers with a set of investments and capacities to mitigate their effects, which make them more resilient. Some of these capacities are related to the technologies promoted by the project. In particular, there are two strengths in factors that minimize environmental risks: on the one hand, the technological proposals promoted and addressed to reduce vulnerability and adaptation to CC and the approach adopted to promote process technologies low in external inputs and based on strengthening ecosystem services in and from the national livestock sector. On the other hand, having a network such as the one linked to the MDRs in operation increases the likelihood of maintaining the positive environmental impacts of the project. In view of these achievements, this Project has a great affinity and consistency with the strategic framework of the Adaptation Fund (Kyoto Protocol).

GENERAL INFORMATION OF THE PROJECT



The project "Building resilience to climate change and variability in small vulnerable producers", which used the generic name of *Family Farmers and Climate Change (GFCC)*, sought to contribute to the development of local capacities to adapt to climate variability and change, focusing on a critical sector for the economy and society, such as small livestock producers in vulnerable areas. It was financed with contributions from the Adaptation Fund, an instrument of the Kyoto Protocol, and its implementation began on October 21, 2012 and ended on December 31, 2020.

The Project Implementation Entity was the National Agency for Research and Innovation (ANII), and the Executing Organization was the Ministry of Livestock, Agriculture and Fisheries (MGAP), which partnered with other organizations and institutions to develop specific actions.

In the following sections we will provide basic data and some of the fundamental milestones in the course of the execution of the project. A description of the original approach of the project, the objectives, the area of intervention and the target audience of the project will follow, and this section will be closed by presenting the strategy and components.

1 Project's Basic Data and Key Milestones

Table 1. Project's Basic Data and Key Milestones

Country	Oriental Republic of Uruguay
Project ID	AFB/NIE/Agri/2011/1
Project Name	Building resilience to climate change and variability in vulnerable smallholders
Project Name	Building resilience to climate change and variability in vulnerable smallholders (GFCC Project)
Donation Agreement	USD 9,967,678 (final disbursement 9,638,694; PPR 2021), of which USD 496,000 is allocated to the Management Implementing Entity.
Implementing Entity	National Agency for Research and Innovation (ANII)
Executing Entity	Ministry of Livestock, Agriculture and Fisheries (MGAP)
Target Audience	The direct beneficiaries were 4,300 people Beneficiaries of subsidies: 1076 family livestock farmers 1125 subprojects executed 69 organizations participated in activities related to the project
Beneficiary Production	Pasture-based family livestock production
Area of direct influence	Two ecoregions of Uruguay: Cuesta Basáltica and Colinas del Este (217,000 hectares, directly affected).
Date of National Government Approval	5/OCT/2011 (Arq. Graciela Muslera, Ministry of Housing, Land Management and Environment)
Date of Signature of the Agreement	27/DEC/2011
Project start date	21/OCT/2012
Mid-term evaluation	Sandra Cesilini, 25/JUL/2016
Original finish date	30/JUN/2017
Extension I	9/NOV/2016 Decision B.28-29/2 extension 6/30/017 to 12/31/2018
Extension II	28/AUG/2018 Decision B.31-32/25 extension 31 /12/2018 to 30/4/2020
Extension III	18/MAY/2020 Decision B.35.a-35.b/6 extension 30/APR/2020 to 30/SEP/2020
Extension IV	1/OCT/2020 Decision B.35.a-35.b/76 extension 30/SEP/2020 to 31/DEC/2020
Completion date	31/DEC/2020

2 Original GFCC Project Approach

This section will briefly review the Project, including the analysis of the problem, the stakeholders involved, the objectives and the selected implementation strategy, summarizing what was proposed in the original agreement (MGAP-FA, 2011). The Logical Framework of the Project, including goals and expected outcomes, will be presented in a disaggregated form in the analysis of each of the components. The complete version of the Logical Framework will be presented in the annexes.

The problem focused on is the relationship between family livestock farming and climate. The idea is to contribute to the improvement of the capacity to adapt to climate change and climate variability, focusing on improving the resilience of a sector that is a priori very vulnerable socioeconomically and environmentally, such as *family livestock producers*^{1,2} on Uruguayan shallow soils.

In recent decades, Uruguay has seen strong upward trend on land prices and rents, putting pressure on land use. In this context, the livestock sector has increased its productivity at a slower rate than other sectors, with difficulties to grow and remain in business. As a result, producers have adopted subsistence strategies that sometimes raise the stocking rate in order to increase income. The result is greater pressure on natural resources (water, soil and pastures) and greater vulnerability to climate change (MGAP- FA, 2011).

At the time of project planning, of the 44,781 producers in Uruguay, 25,285 were farms managed by family producers and 54% of these were dedicated to livestock production, mainly on native grassland ecosystems (based on the Registry of Family Producers-MGAP, 2015). The country lacked assessments of the vulnerability of livestock systems to climate change; the first work was just beginning to be carried out by the Ministry of Livestock, Agriculture and Fisheries (MGAP) through FAO project TCP/URU/3302 (2011-2012)³.

The Uruguayan climate is temperate, with an annual rainfall pattern of 1200 mm. It is characterized by strong variability and water deficits, mainly in the summer. The project sought to build capacity to adapt to climate change and climate variability, focusing on hazards associated with increased rainfall variability, including extreme events such as heat waves, floods/droughts and intense storms.

The general perception of technicians and producers was that the main threat of CC to livestock systems was related to droughts, affecting the availability of water and pasture, reducing animal weight gain in the short term, modifying the herd by increasing mortality and lowering pregnancy, among other effects. Less severe and more frequent periods of water stress also caused significant economic damage and were perceived as problematic (Equipos Mori, 2011).

This paper uses a broad definition of the concept of producer and uses it relatively interchangeably with the terms production system, farmer, family livestock farmer or family system.

² The authors of this work understand the need to use practices, including language, that do not discriminate between genders. However, with the intention of facilitating reading, it is considered pertinent to use the classic generic language of the masculine to refer to women and men. In the chapter referring to gender, specifically, the use of inclusive language is considered appropriate.

³ Project "“Nuevas Políticas de adaptación de la agricultura al Cambio Climático” (tcp-uru-3302) (*New Policies for Adaptation of Agriculture to Climate Change*) (tcp-uru-3302), FAO and MGAP

The conceptual model for the Project (CIEDUR-MGAP, 2011) implied the relationship between the concepts of Risk, Threat and Vulnerability represented by the following equation:

$$\text{RISK} = \text{function} (\text{THREAT}, \text{VULNERABILITY})$$

In this approach, CC and VC constitute threats, since they imply the possibility of adverse phenomena occurring in society and the environment. The impacts that such threats may have on a particular system are called risks. Vulnerability depends on the degree of susceptibility, but also on the system's capacity to cope with adverse effects of CC and VC, i.e., its adaptive capacity:

$$\text{VULNERABILITY} = \text{function} (\text{SUSCEPTIBILITY}, \text{CAPACITY TO ADAPT})$$

It is assumed that the threat related to CC and VC is homogeneously distributed within each ecoregion of the Landscape Units (given the characteristics of the country). Therefore, it follows that risk will change, especially within each ecoregion, depending on vulnerability, i.e. susceptibility (ecological system) and adaptive capacity (socio-environmental system).

The concept of **resilience** is defined in the Project as the level of CC that systems can withstand without altering their basic configuration and stability; the organizational capacity of stakeholders and their ability to learn, transform and adapt to maintain their way of life. In a broad sense, resilience is considered the opposite of vulnerability.

The rationale for this project proposal was based on an approach that seeks to strengthen the resilience of systems by maximizing the provision of local ecosystem services (water, forage production, etc.) to cope with the future impact of CC. Smallholders and organizations were conceived as key actors in the identification of threats and the implementation of resistant management at the landscape level, allowing the combination of traditional and scientific knowledge.

From the agronomic production point of view, the approach used was **sustainable intensification with social inclusion**, adopted by MGAP. The Project was seen as a differential policy to support one of the most vulnerable sectors. In its design, family producers of less than 50 ha, who together with rural workers are the most vulnerable population, were expressly left out, on the understanding that they should be addressed by other specific projects and programs.

Thus, we decided to focus on the sector of family livestock breeders, based on *native pasture* grazing (Pampa Biome), which was seen as a very valuable source of resilience to CC impacts. Droughts often occur in spring and summer, as a combination of lack of rainfall and high evapotranspiration, affecting water reserves and forage availability for livestock: approximately two thirds of the pasture is produced in these two seasons in years with a normal rainfall pattern. Given the Uruguayan climate, calving is concentrated in spring and breeding is concentrated in summer (MGAP-FA, 2011).

The effects of CC and the forms of adaptation are not the same for the whole country; there are areas that are more vulnerable. The two ecoregions of Uruguay that are most vulnerable to drought and climate change correspond to the Cuesta Basáltica ecoregion in the north of the country and the Sierras del Este ecoregion in the southeast of the country (Figure 1). The greatest susceptibility is given by the surface soils that cover 72% of the Cuesta Basáltica and 69% of the Sierras del Este. Both regions, mainly dedicated to cattle raising,

represent 39% of the national territory (CIEDUR-MGAP, 2011).

From a productive point of view, small livestock producers are more vulnerable to droughts and water stress due to deficient or scarce water management infrastructure (e.g., reservoirs, wells, water troughs) and inadequate stocking rates, especially those located on shallow soils with low water retention capacity and low forage production. Overgrazing reduces individual animal performance and degrades pastures, reducing the resilience of their own productive systems. Nutritional deficit triggers a sequence of acute losses: low reproductive level, animal mortality, associated with historically low sales prices, and a reduction in assets, which lasts for several years. All this leads to a decrease in the resilience and sustainability of farm systems.

The main constraint to increase the stocking rate is the lack of resources to make investments and the lack of knowledge about technological options to maintain the level of income with adequate stocking rates. The Natural Resources Directorate of the MGAP (RENARE), in association with research and academic institutions, should establish guidelines on best practices for land and water use and management, as well as for grassland management, in order to make the most efficient use of resources. (MGAP-FA, 2011).

MGAP policies recognize that small producers require specific support to become competitive, scale being one dimension, but not the only one, that determines competitiveness. The central issue is how to improve productivity at the farm level with low-cost technologies and, at the same time, work on producer networks and organizations, which are also considered to be tools that have proven to be successful for this purpose. Thus, in addition to strengthening farm infrastructure and offering technical advice, this project proposes an approach that includes off-farm aspects that have an impact on adaptive capacity and especially on reducing susceptibility to CC, including working with producer organizations and their networks (MGAP-FA, 2011).

In this sense, the participation and role played by the General Directorate of Rural Development (DGDR) of the MGAP was central⁴. The Rural Development Roundtables (MDR⁵) were also envisaged as a participatory mechanism where social organizations and public institutions work together to translate national policies into meaningful actions at the local level. These local networks involve the participation of groups and organizations that come together to address developmental issues and promote local sustainability. These groups are becoming aware of the risks arising from CC, but most of the agenda is devoted to resolving emergencies and short-term issues. The participation of small producers in these networks is still limited, and action plans to increase resilience to CC are not adequate (MGAP-FA, 2011).

Another element considered was the important role of local communities, for which it was considered essential to strengthen local institutions, create and develop people's capacities, and thus build capital stock. In this sense, other characteristics of the family livestock sector that increase its vulnerability are low educational levels and isolation due to deficiencies in communication infrastructure; distance from urban centers for access to basic services and an aging population due to the migration of young people. With respect to gender and youth issues, there is no further analysis or proposals in the MGAP-FA agreement document (2011).

By way of summary, it was suggested that the most likely future scenario in Uruguay, with respect to climate change, was marked by great uncertainty, greater variability and more frequent and intense extreme weather events. The sector of family livestock producers (very vulnerable) would be particularly affected, especially those located on surface soils highly susceptible to drought and water scarcity.

⁴ Created in 2005 with the role of promoting rural development and with the specific objective of ensuring equal access to development opportunities for small producers and rural workers.

⁵ Created in 2007.

The project proposed to intervene in three areas:

The funding of investments (water, pastures and shade) for those who do not have the necessary financial resources, including the recirculation of the funds provided through revolving funds; *The work in the networks of local organizations*; and *The actions related to knowledge management*, promoting low-cost production processes and management technologies to increase productivity; and thus, the resilience of producers. In this context, the approach was to carry out a comprehensive process that would combine vulnerability reduction with increased resilience to climate change at the farm level, strengthen local and institutional networks at the level of the two selected Landscape Units (UPs), increase the capacities of organizations to locally manage climate risks, and manage the knowledge generated.

3 Project objectives

The **overall objective** of the Project was to "contribute to building national capacity to adapt to climate change and variability, focusing on sectors critical to the national economy, employment and exports."

The following **specific objectives** were proposed:

1. To reduce vulnerability and build resilience to climate change and variability in small livestock production farms (mainly breeding and full cycle) located in the LU of the Cuesta Basáltica ecoregion and the Sierras del Este ecoregion, which are extremely sensitive to drought.
2. Strengthen local institutional networks at the level of the selected UPs aimed at climate change adaptation (prevention) and response to extreme events (emergency) in areas highly sensitive to drought.
3. Develop mechanisms for better understanding and monitoring the impact and variability of climate change, anticipate and assess negative events, take lessons learned, and identify and validate best practices and tools for adaptation to the increasing variability of climate change (MGAP-FA, 2011).

4 Intervention Area and Beneficiaries

The proposal consisted of working in two ecoregions identified as the most vulnerable to drought and water stress; namely the Cuesta Basáltica, which partially covers the departments of Artigas, Salto, Paysandú, Tacuarembó and Rivera, and the Sierras del Este ecoregion, partially covering the Departments of Treinta y Tres, Lavalleja, Maldonado and Rocha (Figure 1). The project's target audience was established as consolidated *family producers*⁶ and those in transition (with areas between 51 and 750 ha), leaving aside subsistence producers, who produce mainly for their own consumption and whose income from agricultural activity is not enough to support their families (with areas of less than 51 ha).

Within these two ecoregions, two vulnerable Landscape Units (UP) were selected through a specific study within the framework of the development of this Adaptation Fund Project (CIEDUR-MGAP, 2011). The general criteria for their delimitation were the definition of watersheds, the integration of police sections and the use of physical boundaries that allow for clear identification in the territory. The North Landscape Unit (Cuesta Basáltica) covers 16 Police Sections, while the Southeast Landscape Unit (Sierras del Este) covers 7 police sections.

The intervention focused on these two UPs in order to have a significant impact on the territory and to be able to meet the demands, needs and actions identified in the strategic plans prepared by the local Rural Development Roundtables (MDR), within the framework of the Project.

The Cuesta Basáltica Unit has an area of approximately 2 million hectares and the Sierras del Este LU has 650,000 hectares. According to the Affidavit (DICOSE 2010), in the Sierras del Este LU there were 2,530 livestock producers (94% small producers, less than 750 ha) and in the Cuesta Basáltica LU there were 3,507 livestock producers (80% small producers).

⁶ A family farmer is defined as a farmer operating a farm of less than 500 hectares, CONEAT 100 index, residing on the farm or at a distance of no more than 50 km, and with restrictions regarding the hiring of labor and the income they receive from off-farm activities.

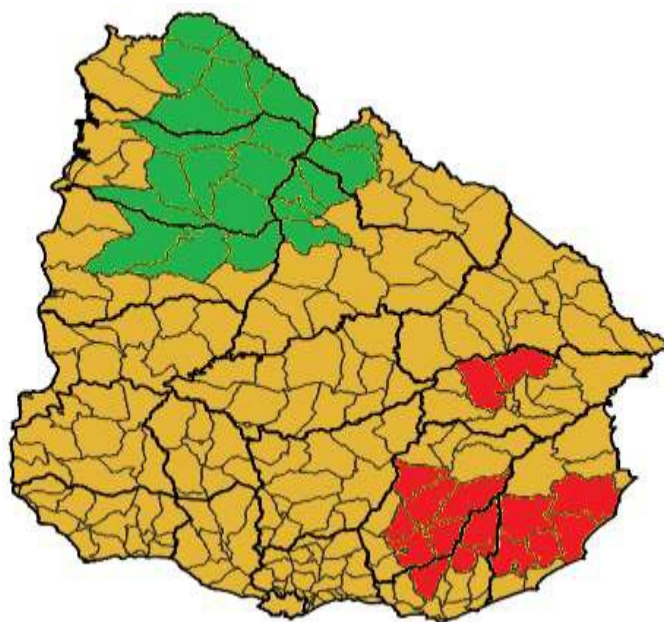


Figure 1: Landscape Units selected as project intervention territories.

References: Cuesta Basáltica (green) and Sierras del Este (magenta). Thick lines mark Departments and thin lines mark Police Sections.

Source: Field Manual (MGAP, 2016).

The target group for the Adaptation Investments Component was estimated at 3,295 agricultural producers in both UPs. It is estimated that the project could directly support approximately 1,340 beneficiaries, representing 41% of the estimated target group, while indirectly reaching the rest of the family livestock producers in both units, working together with the networks of local organizations. On the other hand, the goal was set for 25% of the farms directly reached by the subprojects to be through women heads of household and to carry out specific work with young people (MGAP-FA, 2011).

5 Strategy and Components

The strategy proposed an on-farm and an off-farm level of intervention. The former is addressed by Component I, which corresponds to the first specific objective, while the off-farm actions correspond to Component II and III, which refer to the development of networks and knowledge management, the second and third specific objectives, respectively.

The farm intervention methodology was planned with a view to achieving integrated and sustainable management of available resources (soil, water and biodiversity of native grasslands) within an adaptation approach that seeks a *climate-smart agriculture* that enhances the use of ecosystem services and is capable of promoting innovation and knowledge management, in order to learn from experience and guide the transformation process. Based on previous projects, an integrated approach to investment was promoted, avoiding focusing on a single problem area, visualizing the system as a whole. Support would consist of partial subsidies for investments, technical assistance and training, in line with MGAP policies. As a way of providing continuity to the actions, it was proposed that Revolving Funds be generated at the level of the producer organizations

The project focused on the smallholder sector to build adaptive capacities, but sought to involve all LU stakeholders, including producer organizations and local institutions. Trainings and other territorial actions would focus on strategic needs defined by local stakeholders at the Landscape Unit level to improve their resilience to CC and variability, including adaptation measures and best practices, management and organizational skills, and innovative ways of networking to communicate and address climate risks.

Small producers and organizations are key actors in the identification of both hazards and resilient management practices at the landscape level. The aim was to develop, evaluate and validate technologies and tools that could be applied by other producers in the region as a means to reduce overall vulnerability and increase resilience.

The expected outcomes of the intervention were:

- a) Increased resilience of smallholder beneficiaries to climate variability and drought, measured by increased availability of water and forage, conservation of native grassland biodiversity, improved animal performance indicators, low mortality rates by animal category and stability of livestock composition over time;
- b) Local institutional networks at the LU level that manage climate risk, involving young people and managing operational instruments that respond in case of emergency, in close coordination with the Rural Development Roundtables, the Early Climate Warning Systems developed by the MGAP and the National Emergency System; and
- c) To have the capacities and methodologies for systematic monitoring of CC and variability and their impact on agriculture, as well as having a catalog of best practices for reducing vulnerability and improving resilience, innovative tools and lessons learned from systematized experiences, endorsed by all stakeholders with regard to CC adaptation and with special reference to droughts.

By achieving these results, the present proposal would be developing and validating a methodological approach that could be replicated in other areas and vulnerable groups for the impact of climate change and variability.

Although the project had a comprehensive approach, with cross-cutting themes, for better execution and achievement of the goals, it was divided into three main components:

1. **Component I:** Adaptation investments, including the financing of individual or group investments of producers. The purpose of this component is to reduce the sensitivity of the productive systems through basic infrastructure improvements by means of non-reimbursable investments.
2. **Component II:** Strengthening of Local Networks, promoting capacity building at the local level to address CC issues in the short and long term, seeking to improve the adaptive capacity of producers and their organizations.
3. **Component III:** Knowledge management, with the objective of reducing the sensitivity and increasing the adaptive capacity of livestock systems through the development of monitoring systems and technical proposals that improve their resilience, adaptive capacity, production and household income.

4. **Component IV:** Project financial and accounting management, monitoring and evaluation, planning and follow-up through the UGP. Although this "component" does not formally appear in the project, it had its own specific financing and played a cross-cutting role in the development of actions. For this reason, it will be addressed in several chapters in an integrated manner with other aspects and components.

Table 2. Summary of components and expected results in the original project.

COMPONENT	EXPECTED OUTCOMES	SPECIFIC EXPECTED OUTCOMES	FORESEEN AMOUNT
1. Increase farm-level resilience of smallholder farmers located in extremely drought-sensitive landscape units,	General increase in productivity and decrease in its variability due to moderate and severe droughts in the supported farms, measured in terms of forage availability, animal performance indicators (mortality rate, fertility rate) and the stability of herd composition over time.	Around 700 farmers in the LU Cuesta Basáltica benefit from investments in water supply, improved native grassland management practices, shade trees, and animal management improvements. 25% of the beneficiaries are women.	USD 7.26 millions
		640 farmers in the Sierras del Este LU benefit from investments in water supply, improved management practices for native grasslands, shade trees, and improvements in animal management and agroforestry systems. 25% of the beneficiaries are women.	
2. Development of a local network for climate change monitoring, awareness and response.	The selected vulnerable landscape units have a local institutional network that manages climate risk, involving young people and managing operational instruments to respond in case of emergency, in close coordination with the Rural Development Committees and the National Emergency System.	In-depth diagnosis of landscape units and development of a local network of grassroots organizations and public institutions that conducts a participatory assessment of local capacities and prepares and implements a strategic plan to address CC and variability.	USD 0.95 millions
		A training plan is formulated and implemented at the local level to respond to identified gaps and focuses on CC and variability issues. Demonstration plots in schools and organizations on adaptation measures. Projects to involve young people	
		Action plans identified in the Strategic Plan are developed and implemented at the LU level with technical support and in coordination with the training program.	
3. Knowledge Management in CC and variability	There is systematic monitoring of CC and its impact on agriculture, new knowledge, a catalog of best practices, innovative tools and lessons learned from systematized experiences endorsed by all stakeholders, in relation to CC adaptation, with special reference to droughts.	MGAP's UACC is strengthened to monitor and evaluate CC in relation to the agricultural sector.	USD 0.78 millions
		Indicators and methodologies for monitoring and assessing variability and CC are identified and applied.	
		Research projects will provide a better understanding and/or technical recommendations to cope with climate variability, with particular reference to droughts (water supply, fencing, shade trees, animal stocking).	
		Systematic review and exchange of experiences in climate change adaptation, involvement of research and extension institutions, and participatory systematization of project experience for lessons learned.	

Source: MGAP-FA (2011, p. 66).

For implementation, work teams were formed within the MGAP with its own technical staff, involving the General Directorate of Rural Development (DGDR), the Project Management Unit (UGP), the Climate Change Adaptation Unit (UACC) and the General Directorate of Natural Resources (DGRN). The creation of *ad hoc* "implementing units" was thus avoided, and private technicians were hired for "field" activities and activities were coordinated with other institutions such as University of the Republic (UDELAR), Agricultural Plan Institute (IPA), Uruguayan Meteorology Institute (INUMET), among others.

OBJECTIVES AND METHODOLOGY OF THE FINAL EVALUATION



For the Final Evaluation of the GFCC Project, a results-based management (GBR) approach was proposed in accordance with the requirement of the Adaptation Fund (AF) Evaluation Framework and complemented by the consultancy guidelines arising from the Terms of Reference established by the MGAP. The aforementioned consists of a systematic description that assesses the results and performance achieved by evaluating the project design and implementation.

1 Evaluation Objectives

The main objectives of this evaluation were to review, describe and evaluate the implementation process of the GFCC Project in order to document and analyze its development, results and lessons learned. It also aimed at quantifying the degree of compliance with the goals established in the Logical Framework during the execution of the Project as well as analyzing the explanatory factors and characterizing the effectiveness and efficiency of the processes implemented and the organizational structure designed.

2 Evaluation methodology

The evaluation consisted of four stages:

1. **Preparation of the work.** Creation of the team, definition of roles, preparation of the work proposal. Collection of secondary information, internal reports from MGAP, Project Performance Reports (PPR) sent to the Project Management Fund.

Adaptation and documents prepared within the framework of the Project. Discussion workshops, presentation of indicators and data collection methods. Preparation of interview guidelines for qualified informants. Design, checking and testing of surveys.

2. **Field work.** Individual and group interviews to the referents of the different units and directorates linked to the project and of the territorial technical teams of each Landscape Unit. Design, testing and administration of surveys to private technicians and beneficiary producers.
3. **Analysis and discussion.** Internal team workshops for data processing, analysis and discussion. Several exchanges were held with MGAP central team referents to adjust the work to the terms of reference.
4. **Writing of the final report.** Synthesis of information. Preparation of the report and presentation to the MGAP.

3 General criteria for evaluation

The evaluation focused on the following dimensions:

- Achievement of the goals and expected results within the logical framework, weighing their scope based on their qualification and the concrete adaptation measures proposed.
- Evaluation of the processes for the achievement of results, including their preparation and design, ownership, stakeholder participation, financial management and temporal analysis of execution.
- Evaluation of the integration of learning and knowledge management in the project cycle and of the project's monitoring and follow-up system.
- Assessment of risks to the sustainability of results and impacts at the end of the project and their rating. The assessment of the sustainability of the results was made based on the risks according to the probability that the results obtained will continue after the end of the GFCC Project financing. Four dimensions were considered: Financial and economic risks and assumptions; Socio-political risks and assumptions; Risks and assumptions related to the institutional framework and governance; Environmental risks and assumptions.

The criteria for evaluating the levels of achievement of the project's results and objectives will be *relevance*, *effectiveness* and *efficiency*. *Relevance* is understood as the coherence between the project's results and the objectives, goals and strategic priorities identified; *effectiveness* is understood as the achievement of the expected results in accordance with the original project design and the modifications proposed as a result of adaptive management; and *efficiency* is understood as the comparison of the costs incurred and the time required to achieve the results, including the design and implementation process.

The focus was aimed at evaluating the achievement of expected outputs and outcomes, given that the impact, *in terms of increased resilience to climate change*, implies another type of evaluation and other timeframes, as proposed by the Adaptation Fund.

4 Adaptation Fund Contribution to Achievements and Objectives

To evaluate the contribution of the Adaptation Fund to the achievements and objectives, the use of the Basic Impact Indicators was defined (Adaptation Fund, 2014). The following variables will be considered: number of direct and indirect beneficiaries; number of early warning systems; assets produced, developed, improved or strengthened; increase in income or decrease in income avoided; natural habitats protected or rehabilitated.

EVALUATION RESULTS



1 Evaluation of actions and processes

Although the GFCC Project has a comprehensive approach, for analytical purposes only, the evaluation was divided into three main components: Component I (adaptation investments and technical assistance), Component II (strengthening of local networks), and Component III (knowledge management). The analysis of the processes involved addressing cross-cutting aspects of these components such as: the project context, the approach to gender and youth, participation and governance. Given the influence of the context, structure and governance, we will begin by presenting the analysis of these elements, and then analyze the central components of the project.



Figure 2: Project components and cross-cutting dimensions analyzed

2 Context in which the GFCC Project was Developed

There are several elements and levels of the context in which the Project is developed which are essential to review in order to understand it in its complexity. First, we will review the policies emanating from the MGAP as an essential framework for the insertion of the project. Secondly, it is necessary to take into account the situation in which Uruguayan agriculture, and family farming in particular, found itself when the project began. Finally, we will briefly analyze the general context of environmental policies and visions being discussed at the global planetary level and their relationship with the proposal we are analyzing.

The vision of MGAP's policies during the development of the project prioritizes the promotion of sustainable competitiveness with social inclusion, adaptation to climate change and strengthening the capacity of the agricultural and agro-industrial sector to compete in the international market. The government is committed to reducing social inequalities in both rural and urban sectors. An important part of these efforts is focused on supporting small producers to improve their asset base and increase their capital stock, in order to improve and expand their opportunities to preserve their way of life.

MGAP policies recognize that small producers require specific support to become competitive, scale being one dimension, but not the only one that determines competitiveness. The organization and adoption of technology have also proven to be successful tools for this purpose (MGAP-FA, 2011). The low economic, social and environmental sustainability of family, small and medium-sized agricultural production units is one of the main problems addressed by MGAP interventions through the DGDR (Aguirre et al., 2018).

The following diagram sets out the vision elaborated by OPYPA jointly with the DGDR, in relation to the problem of "low economic, social and environmental sustainability of family agricultural production units", published in Aguirre et al. (2018). It integrates the main causes that generate it, as well as indicating two central consequences that are linked to the central problem. The analysis highlights the causality linked to "low technology adoption". This topic will be addressed in depth when we analyze the impacts generated by the project, specifically linked to this issue.

Árbol de problemas de las principales intervenciones de DGDR



Figure 3. Problem scheme of the main DGDR interventions Source: Aguirre et al. (2018)

At the end of the first decade of the 21st century, the MGAP implemented several projects aimed at contributing to the sustainable intensification and adaptation of production systems to climate change, seeking to solve two long-term problems. First, the low rate of adoption of available technologies, especially by family livestock producers, resulting in productivity below their potential and wide gaps between producers. Second, the care of basic natural resources of the agricultural sector that are threatened (Aguirre et al., 2018).

In order to address the sustainability problems of family, small and medium-sized producers in a broad sense, several projects and programs were implemented: the Natural Resources Management and Irrigation Development Program (PRENADER), the Uruguay Rural Project (PUR), the Livestock Program (PG), the Responsible Production Project, the Rural Productive Development Program (PDPR), the Development and Adaptation to Climate Change Project (DACC) and the Family Livestock Farmers and Climate Change Project (GFCC). Within the framework of these projects, the following public calls for proposals were issued: Water for Animal Production (APA) and the Institutional Strengthening Program (PFI) for Sustainable Rural Development aimed at producer organizations.

This overview of MGAP policies is part of a general panorama of Uruguayan agriculture marked by a process of significant disappearance of family production and a sharp decline in the rural population (Agricultural Census 2011). In addition, since the beginning of the first decade of the 21st century, Uruguay has witnessed a dynamic of land concentration and foreign ownership associated with a strong process of valorization of this resource and its rent. These facts have a significant impact on the agrarian structure and rural development processes (Piñeiro, 2014).

From the point of view of environmental policies, in Uruguay in 2009, the National System of Response to Climate Change was created with the aim of coordinating and planning the required public and private actions and initiatives related to risk prevention

and mitigation as well as adaptation to CC. As part of this system, a Coordinating Group was established consisting of several relevant ministries including the MGAP and the Ministry of Housing, Land Management and Environment (MVOTMA). Within this framework, Uruguay explores strategies to better address the effects of CC, generating benefits for both the local and global environment. Thus, since 2016, the National Climate Change Response Plan has been generated, which, through its institutional and multidisciplinary working groups, proposed a set of mitigation and adaptation measures including those in the agricultural sector. This resulted in a programmatic document, with a 2050 perspective, which contains strategic guidelines through which Uruguay intends to address the problem of climate change.

In this context, the GFCC Project is submitted to the Adaptation Fund established by the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) at their seventh Conference in Morocco in 2001, to finance projects and programs for adaptation to climate change in countries that are parties to the Kyoto Protocol.

The GFCC Project contributed with its development to MGAP's 2015 definition of the "Agrointelligent Uruguay" strategy, which sought to boost sustainable agricultural production, reduce the climate vulnerability of production systems through adaptation, support innovation and ensure the inclusion of all producers in value chains. The GFCC also contributes to the National Plan for Adaptation to Climate Variability and Change for the Agricultural Sector (MGAP, 2019).

The context of climate change and climate variability to which adaptation is proposed can be summarized in the trends and climate scenarios identified by Bidegain et al (2019). As well as in previous studies, the generalized trend of increasing annual precipitation in the country was verified, mainly in spring-summer (October-February) but also in summer-autumn (January-May). The joint examination of the trend analysis of precipitation totals, maximum accumulated deficit in the summer season and evapotranspiration indicates that there is no clear signal in the meteorological records that, by itself, explains the generalized perception that the frequency and intensity of droughts have increased. Nor can the contrary be deduced, despite of increases in precipitation totals and the decrease (non-significant or marginally significant) that some seasons show in the accumulated summer deficit. On the other hand, the results of a set of global models project an increase in average temperature of between 2 and 3°C and an increase of 10 to 20% in cumulative annual precipitation for the region (mainly for the summer season) by the end of the 21st century compared to the end of the 20th century. Projections also indicate that there will be a slight decrease in the number of days with frost; a significant increase in the number of warm nights; an increase in the duration of heat waves; and a significant increase in the intensity of precipitation.

3 GFCC Project Design and Governance

3.1 Background

In 2010, the Ministry of Livestock, Agriculture and Fisheries (MGAP) defined the adaptation of the agricultural sector to climate change as one of its strategic priorities and stipulated that this issue would be given a cross-cutting focus, both towards the inside of the MGAP and towards a broader agricultural institutional framework.

In the recent past, the country had suffered three extreme weather events: the droughts of 2004, 2008 and 2011. In this context, the Climate Change Adaptation Unit (UACC)⁷ of the MGAP was created, coordinated by OPYPA. It was understood that strategies to make advancements regarding sustainable development and CC required the efficient implementation of policies and projects linked to basic sciences and applied research to assist decision-making. Moreover, adaptation to variability and CC should answer basic questions such as: what should we adapt to? What and who should adapt? What perceptions and attitudes do farmers have about climate and the need for adaptation? What options are attractive and feasible to reduce the vulnerability of agroecosystems and build resilience to climate shocks? How is institutional capacity developed in order to implement adaptation measures?⁸

The Responsible Production Project (PPR), which was implemented with World Bank financing between 2005 and 2012, represents a precursor in terms of both its objectives (sustainable NR management) and its implementation strategy (direct financial support to eligible producers). Therefore, the experiences and outcomes of the PPR provided valuable elements for defining the conceptual and operational framework of the GFCC.

Subsequently, CC adaptation projects were implemented during the period in which the GFCC Project was implemented. Among them, the most relevant was the Development and Adaptation to Climate Change (DACC) project (IBRD 8099-UY), initiated in 2012. This project contributed to important structural changes in the MGAP (such as the creation of the UGP) that in a certain way conditioned the operation and articulated with the GFCC. The objective of the DACC was to encourage producers to adopt improved, environmentally sustainable and climate-smart agricultural and livestock technologies and practices. It was co-financed by the WB and the Uruguayan government to the tune of approximately US\$100 million, including the Original and Additional DACC. The DACC Additional Project (IBRD 8974-UY) "Sustainable Management of Natural Resources and Adaptation to Climate Change" (DACC II) was intended to "support the Uruguayan Government's efforts to promote the adoption by producers of climate-smart agricultural practices and improved natural resource management practices in the Project areas."

The DACC consisted of the following components: (a) Development of an information system for the implementation of a National Agricultural Information System (NARS) and the provision of monitoring and warning services; (b) Mitigation and/or adaptation to the effects of Climate Change through the implementation of comprehensive farm subprojects, as well as the increase and/or stability of production, income and sustainable development of these. This was executed by the General Directorate of Rural Development (DGDR), which starts its coordination at the same time than the GFCC in 2013; c) Improvement of the management of natural resources based on new soil mapping, implementation of plans for the use and management of soils, water and natural fields, executed by the General Directorate of Renewable Natural Resources (RENARE); d) Management, general coordination and relationship with public-private institutions, for which a Project Management Unit (UGP) was created. This unit was created at the request of the DACC, but by ministerial resolution it is constituted as the management unit for all externally financed projects linked to the MGAP, including the GFCC.

⁷Currently the Agricultural Unit for Sustainability and Climate Change (UASYCC-OPYPA).

⁸Clima de cambios. Nuevos desafíos de adaptación en el Uruguay (compilado). From: TCP/URU/3302 Nuevas Políticas para la Adaptación de la Agricultura al Cambio Climático (Mazzeo and Inda, 2012).

Within the framework of the DACC, the Water for Animal Production (APA) call for cattle and dairy farmers was developed, which began its actions in 2011. Such was developed within the framework of the PPR, which was completed in 2013 and executed with DACC financing. Other calls for proposals related to rural development implemented in parallel to the GFCC were the Institutional Strengthening Plans (PFI), the call for Integrated and Sustainable Family Production (PFIS) and the Rural Inclusion Pilot Project (PIIR). Other projects such as the Agricultural Public Management Support Program (PAGPA II) and the Rural Productive Development Program (PDPR) financed by the Inter-American Development Bank (IDB) were also developed to strengthen the MGAP.

Another aspect to highlight is that funds from the DACC project were used to finance medium-sized producers in the GFCC project, which made it possible to lift restrictions on groups of producers who were not 100% family farmers.

The GFCC Project began without a clear diagnosis of the causes of vulnerability to climate change of livestock producers, particularly family farmers. The *New Policies for Agriculture's Adaptation to Climate Change* Project, financed by the Food and Agriculture Organization of the United Nations (FAO), began to be implemented in 2011 and ended in 2013. It was a project closely related to the GFCC, which sought to characterize the vulnerability of Uruguayan agroecosystems in order to determine current and future climate variability and generate an articulated set of response measures to preserve the country's development potential⁹. The objectives of the project were to learn about climate variability and change, the perception of climate vulnerability of producers and technicians, and to learn about measures to reduce it and improve risk management, response and adaptation. Specifically, it worked on the perception of livestock producers and provides an important series of conclusions that are detailed below (Equipos Mori, 2013). Among these conclusions we find that producers currently prioritize climate issues, that the concept of climate change is widespread among producers and that they feel negatively affected by these alterations, mainly drought and sun intensity. On the other hand, the main adaptation measures known by producers are aimed at solving the availability of water (wells, ponds, troughs, dams, etc.) and storage or reserve of fodder. Adaptation measures linked to better management of the natural range are not very well known or applied by livestock producers. In the specific case of stocking rates, many producers acknowledge that they are working to full capacity and identify the problems that this entails, but they understand that lowering stocking rates is not the best option in the short term. Finally, the report points out that the associative solutions (fodder bank and multi-farm dam) are considered positive by a large number of producers, although they recognize the difficulties to implement them. This implies a double challenge for public institutions: to strengthen producer organizations and groups (especially the newest ones) and continue with the associative impulse and at the same time, see how to better reach the core group of producers who are not linked to the organizations and to whom, in general, public institutions do not reach with their programs and projects.

One of the most important precedents for the construction of the Network is Law 18,126 of 2007 on decentralization and coordination of agricultural policies at the departmental level. The aforementioned created the Departmental Agricultural Councils (CAD) and the Rural Development Roundtables (MDR). The CADs are responsible for spreading MGAP's

⁹ En: <https://www.fao.org/3/au192s/au192s.pdf> (entrada 6/11/2021)

policies and for informing and promoting the different projects under implementation, evaluating their development and compliance. The MDRs articulate and coordinate the public and private sectors, promoting greater involvement and participation of the agricultural society in the implementation of sector policies. The MDRs, as well as producer organizations, were key to Component II of the GFCC.

3.2 GFCC Project Design and Original Structure

The design of the project was carried out by the MGAP based on consultations and previous works, such as those highlighted in the preceding paragraphs. In addition to these, the project was also based on the consultancy with CIEDUR-MGAP (2011), where the conceptual framework was proposed and the Landscape Units to be addressed were defined. There was also a consultation on the perception of climate change and the management of adaptation options for livestock producers and technicians. This work was carried out by Equipos Mori Consultores Asociados for the MGAP-FA (Equipos Mori, 2011).

Although it can be stated that it is based on inputs elaborated with the participation of the stakeholders, the final project is the work of MGAP technicians. The MGAP had sufficiently developed capacities and institutional operational structure for the adequate design of the project. Although the project sought to incorporate lessons learned from previous projects and programs, local communities did not participate in the project design, although they contributed significantly to the implementation, monitoring and follow-up, mainly through the MDRs.

The original project had an implementing entity, the National Agency for Research and Innovation (ANII), on the one hand, and an executing entity, the MGAP, on the other. The Adaptation Fund suggested that it was necessary to start generating local capacities¹⁰ and proposed as an innovation for this donation fund to be implemented (ANII). In this regard, difficulties related to the control and execution of activities were identified due to the lack of experience and capacity to manage large-scale projects such as the GFCC (interview with the central team leader).

In the implementing entity, the MGAP, the project was also structured in an innovative way, with the administrative management of the Project Management Unit (UGP) in coordination with the Climate Change Adaptation Unit (UACC) - OPYPA, and with the General Directorate of Rural Development (DGDR) as the main executor, in coordination with the General Directorate of Natural Resources (RENARE). The DGDR would be responsible for the execution of activities in the territory (components I and II), while Component III would be executed by the UACC of the Office of Agricultural Programming and Policy (OPYPA). RENARE would be responsible for providing the technical elements for the sustainable use of natural resources and biodiversity conservation. During project implementation, the UGP adopted duties that were not initially foreseen, related to monitoring and follow-up management.

Previous project experiences demonstrated certain inefficiencies in terms of organizational structure. Within each project there were execution and management activities, which generated inefficiencies. The innovation with the recent creation of the UGP aimed at improving these difficulties and articulating with the different implementing units (not only for the GFCC Project). The capabilities and experience of the members of the

¹⁰ These donations are generally managed by the IDB or the World Bank.

management (UGP) and execution (DGDR) teams were highly positive in the implementation of the project. However, in this process there were difficulties related to communication from the central teams to the territorial teams and also to governance that negatively affected the project, which will be detailed in the following section.

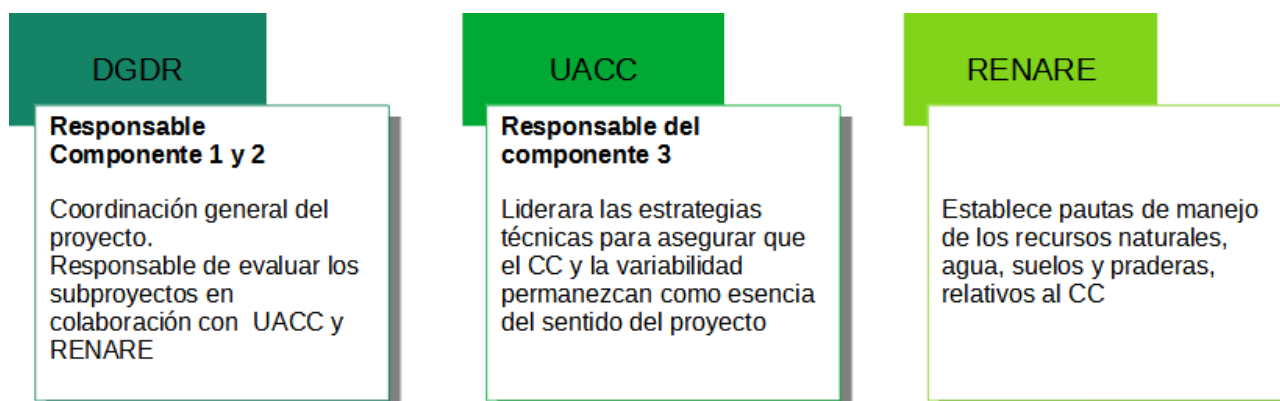


Figure 4: MGAP Units and responsible for each GFCC Project Component

In its original design, the Project foresaw a consultative group with representatives from MGAP, MVOTMA, INIA, IPA and UDELAR, whose task was to ensure proper coordination and information at the institutional level. This group was not formed.

With regards to execution deadlines, the agreement with the Adaptation Fund was signed on December 27, 2011, but the project did not start until October 21, 2012. It was scheduled to be completed in 2017, but for various reasons 4 extensions were proposed and it was effectively completed in December 2020. This may be due, among other things, to the gap between the components and the interventions, and even to the new themes that were included, such as work with young people. The project was approaching its planned end date and there were still goals to be met and funds to be executed.

Regarding the internal consistency of the project, one of the points to be developed will be the gap between its components. The project began with the land projects and investments' execution, without the diagnosis and strategic plans of Component II and without clear guidelines for Component III, which was the most delayed in its execution. This important deficiency in the design, coordination and execution of the Project components was partially mitigated by the capacity and dedication of the MGAP technical team, both at central and territorial levels (interviews with central level technicians). Some MGAP difficulties, such as managing the project in a timely manner, were evident and not only due to time planning. The changes in the organizational structure and governance of the project suggest that the coordination and articulation agreements, roles and responsibilities negotiated before the beginning of the project were not adequately identified and incorporated. On the other hand, it is necessary to consider another factor that has an impact on these difficulties, which is the structural mismatch between the ministries and the budget appropriations.

3.3 Changes in the Organizational Structure and Governance of the Project

The original structure designed in the project was not fully implemented since the beginning.

The MVOTMA was supposed to work in partnership with the MGAP "for the implementation of specific actions in the Knowledge Management component" (MGAP-FA, 2011), but it did not manage to incorporate any instance of the process. The Project was to form an Advisory Group composed of the MGAP (DGDR, UACC and RENARE), MVOTMA, UDELAR, INIA and IPA, whose functions were to "ensure coordination and information at the institutional level" (MGAP-FA, 2011).

At the same time, the project underwent important changes in its organizational structure and governance since its inception. This gave certain particularities to the development of the activities, according to the information that emerges from the different documents published and the interviews to territorial referents and central teams.

The evolution of the organizational charts published in the lessons learned document (Acosta, 2019) does not account for the power relations and tensions that were evident throughout the Project. There were changes to the original structure (Figure 5), both in contradictions and power disputes between actors, and these account for two major stages of the Project's operation. In the first stage, these power disputes created obstacles to project implementation, especially at the territorial level and in the Rural Development Committees. In the second stage, with certain organizational and managerial restructurings, these contradictions were partially resolved, guiding the implementation of the Project until its end.

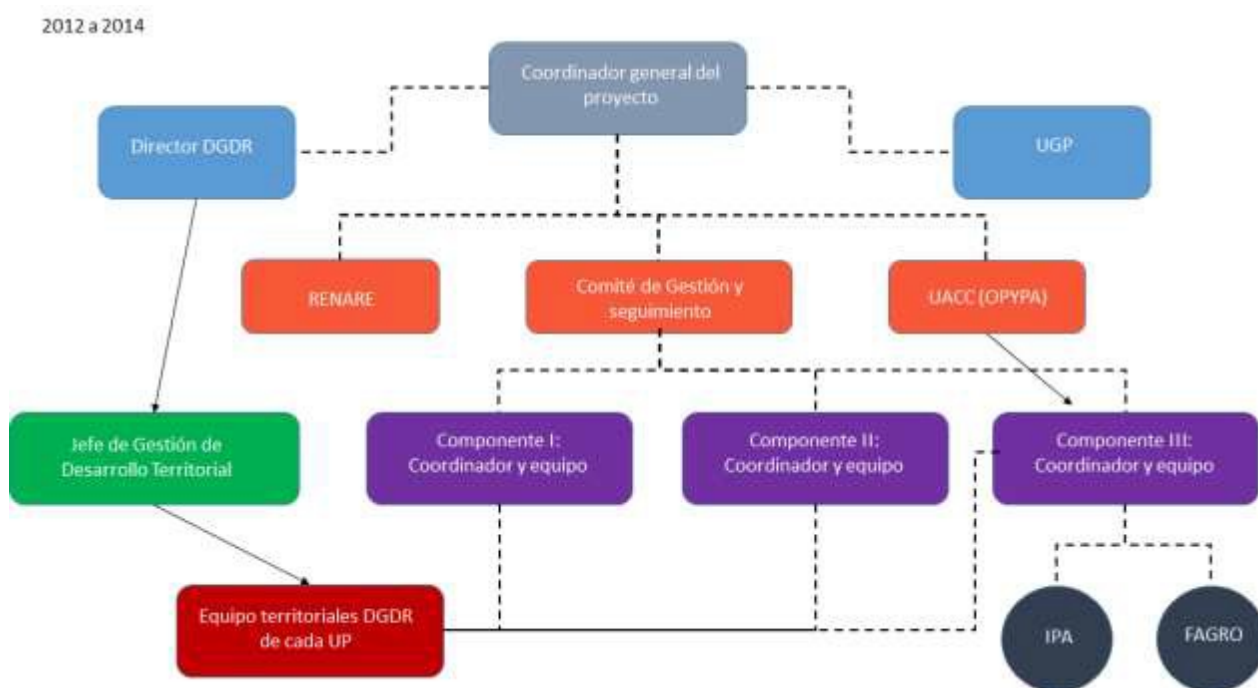


Figure 5: Organizational chart (2012 - 2014) of the GFCC Project.

References: dotted lines represent coordination links; arrows represent hierarchy relationships.

Source: Acosta (2019).

Stage 1: Contradictions

At the outset, the Project was made feasible through a matrix structure that consisted of the newly created UGP and the DGDR, but with a General Project Director appointed directly by the Minister of Livestock, Agriculture and Fisheries. The UGP had administrative, management and coordination duties such as facilitating and supporting the contracting processes, making resources available and generating agreements to implement the project. The UGP, at least in this first stage, did not have duties related to the technical

content, field execution of the projects or the form of intervention with producers, as these are not part of its responsibilities. The UGP coordinated with the General Coordinator of the project, but difficulties arose with the Director of the DGDR, who, because of his hierarchy of command, guided the actions of the DGDR's territorial teams.

The approach of intervention in the field with producers proposed by the General Coordinator and supported by the UGP was one of the points of disagreement with the DGDR and of interference in the work with the territorial technicians, at least partially. The latter came with a work dynamic resulting from their trajectory and experience in previous projects, which the GFCC Project came to modify.

Subsequently, the General Coordinator resigned and, a few months later, a replacement who had a more technical and less political profile (Technical Coordinator) was appointed. Some interviewees and documents identified that new difficulties regarding governance arose due to the intervention model that was attempted. An even greater gap was generated between the direction and execution of the Project by the territorial technicians. Acosta (2019) states that these problems can be summarized as mainly administrative difficulties.

From the analysis of the interviews conducted for this evaluation, it is clear that these conflicts were fundamentally related to political leadership and internal power disputes.

Stage 2: overcoming bureaucratic hurdles

With the appointment of a Technical Coordinator for the Project, who lead the Management and Monitoring Committee, the problem of power disputes began to be resolved. This figure of Technical Coordinator does not interfere in the hierarchical line of the DGDR and does not focus on the power dispute for the leadership of the Project. The dependence of the territorial technicians in the framework of the project is now more clearly defined in the figure of the Head of Territorial Areas of the DGDR. In this way, the DGDR begins to assume more responsibility for the management of activities in the territory linked to components I and II.

An important milestone that gives better governance to the project is the creation of a team made up of members of the UGP and the DGDR. This team articulates and leads the training activities at the territorial team level, subsequently generating the bases and the realization of the call for Strategic Planning projects of the Rural Development Committees. The articulation work of this team, which had a strong presence in the territories, generated the confidence necessary at the project's field execution level.

Contradicciones vinculadas al Componente III:

Within the framework of Component III, other contradictions arise, partly because of the relative independence in the structure (UACC) and execution with regards to the other teams and components. This component, which should have a cross-cutting role throughout the Project, emerges as a second level of hierarchy, relatively isolated from the rest of the structure. On the other hand, this independence led to a certain distance in the coordination of actions, which lacked the homogeneous participation of the locals in the construction of knowledge linked to the project.

A differential acceptance at the level of the two UPs was detected in the interviews. At the same time, the DGDR director and some territorial technicians strongly criticized the methodological proposal of Component III linked to the Reference farms, which was seen more as a research activity than a rural development activity.

Finally, and reinforcing this poor coordination between components, a significant gap was identified in the execution of the three components (reference farms, land projects and work

with MDR) as shown in Figures 6, 9 and 11 in the results by component.

4 Implementation Work by Components

4.1 Component I: Adaptation Investments and Technical Assistance

The component covers actions aimed at increasing resilience at the farm level (either at the family or group level), generating adaptive capacity, including investment subsidies, technical assistance and the generation of Revolving Funds.

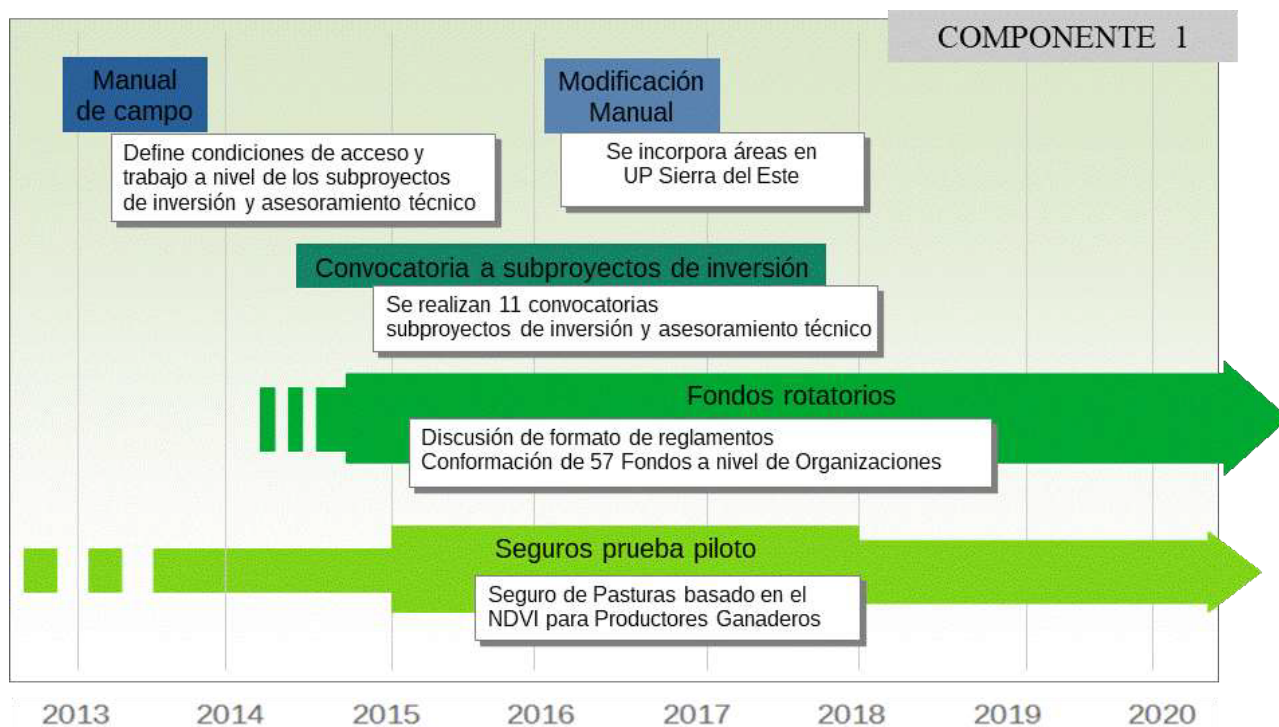


Figure 6: Timeline of main actions related to Component I of the GFCC

The project sought to reduce vulnerability to CC, increasing resilience to CC and VC, facilitating the adoption of adaptation measures at the individual or group level that included:

1. increased efficiency in water harvesting, reserves and use.
2. grazing management, aimed at the protection and restoration of natural grasslands (increase diversity and avoid overgrazing); subdivisions (increase number of paddocks), adjustment of stocking rate, selection and breeding based on performance records; and feeding management, eventually carrying out strategic supplementary feeding.
3. provision of shade and shelter by means of trees and promotion of silvopastoral systems.

These measures are intended as climate risk management tools. The project finances part of the investments and supports the implementation of part or all of these measures combined, depending on the needs of each farm and/or group of producers.

It finances 80% of the total costs and up to a maximum of USD 8,000 per producer, in line

with the policies of the subsidy and the operating procedures of existing MGAP plans and programs. Funding proposals are mainly group initiatives for shared services, complemented with individual subprojects and common plans carried out by organizations (common breeding fields, forage banks, etc.). The beneficiaries receive technical support for the elaboration and implementation of the proposals through private technicians hired by the DGDR for this specific purpose.

Revolving Funds were implemented to partially recover subsidies, with each producer contributing at least 15% of the funds received. Most of the Revolving Funds were left in the hands of the producers' organizations, which defined their operation. The aim was to improve the sustainability of the actions and increase the territorial scope of the project. The beneficiary or target organization of the resources created by the revolving funds was chosen by the beneficiaries themselves.

At the beginning of project implementation, an Operations Manual was prepared. This included the eligibility criteria for beneficiaries and investments and the main procedures for selecting subprojects: contracting technical assistance and paying funds to beneficiaries.

Eligible beneficiaries would be selected through open calls involving local MDRs and organizations located in the LU and participating in the project. There would be a Project Selection Committee at the LU level responsible for the selection and approval of subproject proposals, taking into account the technical feasibility of the proposal and the priorities established by the Local Network Strategic Plan.

The technical evaluation would be carried out by MGAP staff (DGDR regional and central offices) and assisted by RENARE and UACC for the elaboration of the evaluation protocols, in order to ensure compliance with the technical standards.

Technical assistance is intended to be comprehensive, encompassing the planning and implementation of the financed infrastructure, productive technical advice at the farm level and, in some cases, at the group level. One requirement is that it must adopt a sustainable and integral approach to resource management and adaptation to climate variability.

It was also proposed that the GFCC should work in collaboration with the livestock insurance line that OPYPA had been carrying out. This included the project "Feasibility Study: Pasture Insurance based on NDVI¹¹ for Livestock Producers in Uruguay" (2011-2013), designed with the support of the World Bank.

¹¹Normalized Difference Vegetation Index

4.1.1 Expected Outcomes and Goals

The following table presents the expected, general and specific outcomes for Component I.

Table 3. Overall and specific expected outcomes for Component I

COMPONENT I : Adaptation investments and technical assistance	
EXPECTED OUTCOME	EXPECTED SPECIFIC OUTCOMES
General increase in productivity and decrease in its variability due to moderate and severe droughts in the supported farms, measured in terms of forage availability, animal performance indicators (mortality rate, fertility rate) and the stability of herd composition over time.	Around 700 farmers in the LU Cuesta Basáltica benefit from investments in water supply, improved native grassland management practices, shade trees, and animal management improvements. 25% of the beneficiaries are women.
	640 LU farmers in the Sierras del Este region benefit from investments in water supply, improved management practices for native grasslands, shade trees, and improvements in animal management and agro-forestry systems. 25% of the beneficiaries are women.

Source: MGAP-FA (2011)

The following are the goals foreseen in the original Project, the result or performance and the degree of achievement of the goals, for Component I.

Table 4. Project goals, final performance and degree of compliance with physical and budgetary goals of Component I.

	Project Goals	Final performance	% of compliance
GENERAL	1.340 producers make adaptation investments	1,125	84 %
	All subprojects receive technical assistance	1,125	100 %
	25% of beneficiaries are women	29 %	116 %
LU Cuesta	700 producers with adaptation investments	478	68 %

Basáltica	25% of investments for female beneficiaries	26 %	104 %
	Area affected by investment projects (ha)	114,068	n/a
LU Sierra del Este	640 producers with adaptation investments	647	101 %
	25% of investments for female beneficiaries	31 %	124 %
	Area affected by investment projects (ha)	103,163	n/a
Budget	Subsidy fund Component I: USD 7,260,000	6,505,481	87 %
	Basalto: USD 3,792,537	2,417,459	64 %
	Sierras del Este: USD 3,468,880	3,880,867	112 %
	USD 5,830,000 in adaptation investment in land (sub-projects)	6,298,326	108 %
	USD 1,430,000 in comprehensive on-farm technical assistance services.	1,749,680	122 %
Type of Investment	Number of solutions associated with WATER* issues	861	n/a
	Number of solutions associated with MANAGEMENT OF GRASSLANDS*	996	n/a
	Number of solutions associated with SHADE* issues	334	n/a

Source: Prepared by the authors based on PPR, 2020; MGAP, 2021; Interview with central level technician.

References: the sum of the implemented budget of both PUs does not coincide with the total implemented budget due to the fact that information from different sources was considered. These amounts should be taken as an approximate because it was not possible to have disaggregated global data. This comment is also valid for the amount spent for adaptation investment in land and technical assistance services, which, when added together, greatly exceeds the amount implemented for component I.

* These goals were not foreseen as such in the original project. They were incorporated as a way of monitoring actions.

n/a: not applicable

4.1.2 Calls for Proposals and Investment Subprojects

The first task of the Project was to elaborate and agree on an operational format at the MGAP level. This task took more time than expected to define the role of the different units involved (UGP, RENARE, DGDR, UACC). The operational format that ended up being adopted was partially based on the operation of the DACC Project and the PPR background, consolidating with the development of the Field Manual in 2013, which was subsequently modified in September 2016 (MGAP, 2016). With that modification, there was a proposal to add another area in the LU Sierra del Este, partly due to local demand and partly due to the need to add new proposals since the number of proposed projects was not reached. As of 2016, the Electronic Field Notebook (CCE), which will be discussed in the section corresponding to Component III, was also made mandatory.

Presentation activities were carried out by each LU and a central office was established in Montevideo, in order to launch the project, opening calls for proposals for funding starting in July 2013. 11 partial closures were completed over a period of 6 years. The project took longer than expected, but a relatively good number of proposals were implemented, mainly in Sierras del Este.

The calls for proposals involved local referents, private technicians, MGAP locals, dissemination through official MGAP media and networks, reaching not only a repeated audience for MGAP projects, but also incorporating new ones in both UPs. The latter, largely due to the participation of organizations and involvement of the MDRs in the project (Interview with territorial technicians, 2021). One aspect that reinforced the transparency of who were potential beneficiaries was the existence of the National Registry of Family Producers (Ministerial Resolutions 527/2008, 219/2014, 387/2014). Non-family producers could apply only in group proposals where there were registered family producers (either medium-sized producers or family producers under 50 ha). These were specifically excluded from the GFCC but were included and received funding from the DACC.

The broad dissemination allowed equitable access to potential eligible beneficiaries. A differential aspect of the project was to promote the access of women and young people to the project's opportunities and services (Survey of technicians and producers, Annexes II and III).

The project especially promoted group processes, involving shared fields and services and the establishment of recovery plans at the local level, strengthening producer organizations and groups. Local capacity building was strengthened not only by the development of collective ventures that require an organizational base to be successful but also by the territorial approach used.

The proposals had to be submitted by a technician authorized by the DGDR-MGAP. The DGDR technical team technically validated the proposals and managed the endorsement of the local MDR. At the LU level, the social endorsement or approval went through the MDRs, but it was not possible to make local proposal approval committees work on a permanent basis as planned. The proposals validated by the regional technical teams and that have the social endorsement of the RDR are considered by the Project's Technical Evaluation Committee.

The delay in the operation of Component III (responsible for systematizing the management alternatives to be promoted) meant that the technical evaluation criteria were not very specific, especially with regard to the management of cattle and native grassland. In this sense, the Livestock Roundtable on Natural Countryside (MGCN) created in 2012, played an important role in the project and contributed to the discussions raised in it. The MGCN,

made up of the MGAP, IPA, INIA, Agronomy School, Faculty of Sciences and SUL, organized seminars and meetings during the project implementation period. In 2016, the MGCN agreed on the aspects that should be promoted in our cattle breeding and only in 2019, when the GFCC was finishing the reception of proposals, did they approve the *Lineamientos para el Plan Estratégico de Ganadería sobre Campo Natural* (Guidelines for the Strategic Plan for Livestock Production on Natural Field) (Cáseres y Caballero, 2020) document.

Once the proposal was approved, two contracts were signed: one with the responsible technician and another with the producer. Approved proposals with a contract received an advance on the funding and the technician followed up on the proposed activities. Supervision of the implementation of the proposals was carried out by the Project's regional teams and the DGDR's Territorial Teams.

A total of 1,125 subprojects were implemented, including 93 individual proposals, 189 producers (included in 26 collective fields) and 843 producers (based on 113 group proposals), covering a total of 1,076 producers. Some producers received funding through individual proposals and also participated in collective ventures.

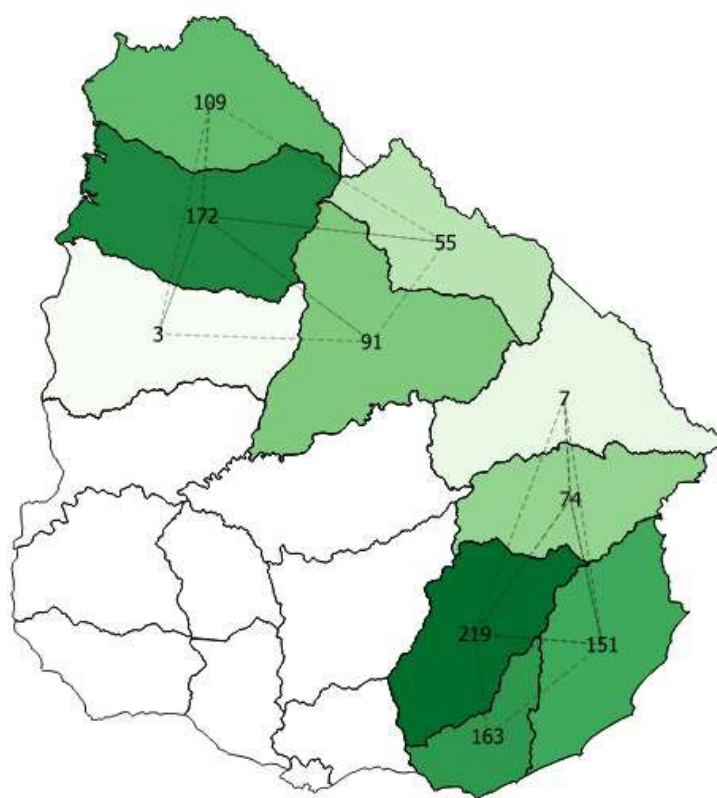


Figure 7: Number of producers implementing investment subprojects by department.

References: The map shows the distribution of 1044 producers, the remaining are domiciled in other Departments).

Source: Prepared by the authors based on MGAP (2021).

The fulfillment of physical goals (calculated based on the closing reports prepared by the technicians responsible for each proposal and supervised by the territorial team of the DGDR) reached 88%, in line with historical levels of physical execution of MGAP projects. Meanwhile, the financial execution of farm activities had a fulfillment of 83%, somewhat lower than its physical counterpart (Baraldo, Nogueira and Honorio, 2020, p. 13).

The project financed 861 solutions related to water management, 996 subprojects related to feed and/or pasture management, and 334 subprojects incorporated solutions linked to shade and shelter forestry management.

At the time of project submission, the target group for the Adaptation Investment Component was estimated at 3,295 farmers in both UPs, based on 2010 DICOSE data. Based on the change in the number of producers in the UPs, among other factors due to land concentration processes, the new universe of producers that can apply for the project estimated by MGAP in 2021 was 2,052.

The 1,076 direct beneficiary producers correspond to the 52%, which exceeds the initially proposed goal of 40% (MGAP, 2021). A total of 1,290 proposals were submitted, 1,185 were approved and 95% of them were implemented, totaling 1,125 subprojects implemented (Baraldo et al., 2020).

In Basalto, 64% of the planned funds were implemented, while in LU Sierra del Este the execution was of 112%. The relatively low number of properties supported in Basalto was compensated to some extent by the execution of the LU Sierra del Este.

4.1.3 Technical Assistance

The private (or field) technicians played a fundamental role in this project as they were the direct link between MGAP and the producer families. In some cases, the technicians had already been working with the producers and/or organizations, which facilitated the work and promoted a better relationship between both parties.

For its part, MGAP had a history of working with private technicians, articulated through territorial technicians as a direct link with producers. The Responsible Production Project, the Uruguay Rural Program, the Livestock Program and the Development and Adaptation to Climate Change Project represent the main background of MGAP's intervention methodology with producers.

During the GFCC Project, 65 private technicians worked on the project. In the LU Cuesta Basáltica, there were 3542 workshop days, where 26 technicians assisted an average of 18.4 producers each. In Sierras del Este, 39 technicians worked with 16.5 producers each in 7088 days. This greater use of days in is also reflected in the amounts of investments: in Sierras del Este the average amount was USD 5988 while in Cuesta Basáltica it was USD 5957 (MGAP, 2019).

In the survey to private technicians, forms were sent to 100% of the technicians. The total number of responses received was 34, representing 52% of the total. These 34 technicians assisted 560 families (52% of the total beneficiaries) and 82 groups of between 4 and 15 members, (on average, 7 beneficiary farms per technician). The average number of farmers assisted by the technicians who answered the form is 16 families, while the average number of farmers assisted for the entire GFCC Project is 17 families per technician.

The project calls for proposals are generally evaluated as good or very good, especially in terms of clarity of the terms and conditions, accessibility (level of requirements and necessary documentation) and the link with the climate change issue. However, divergent opinions emerge regarding the planning of the opening and closing of the calls for proposals.

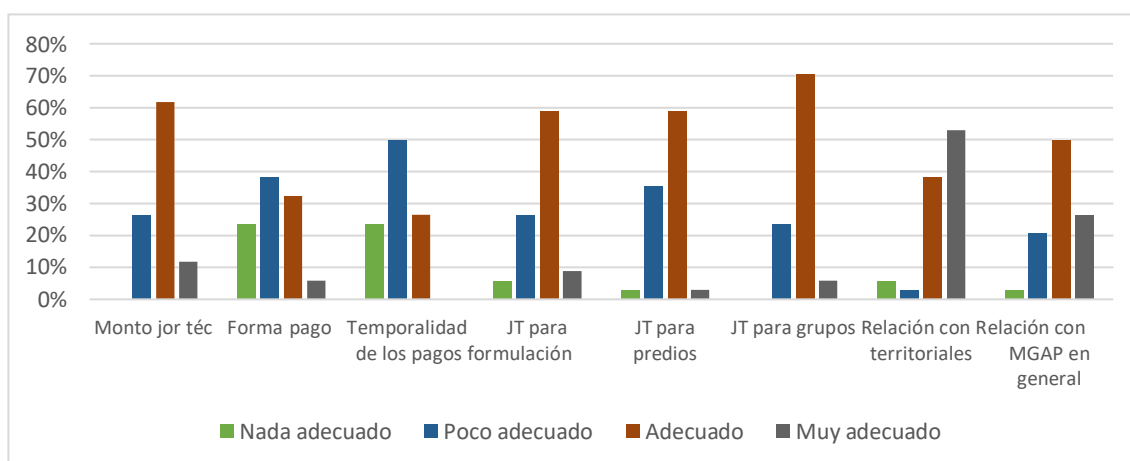
Regarding the focus of the TA, the technicians consider that there was a certain bias towards

focusing the work on productive aspects, leaving climate change issues in second place and social aspects in third place. This contrasts with the opinion of some producers who perceive that it was more focused on climate change issues (86% of the producers who responded to the survey).

The amount of the technical working days was positively evaluated (adequate or very adequate) by 74% of the technicians. The form and timeliness of payments was the item that showed the highest number of negative evaluations: 62% of the private technicians evaluate that the form of payment is little or not at all adequate for their work, while 74% negatively evaluated the timeliness of payments. Acosta's paper (2019) clearly reflects the process of delay of up to 10 months in the payment of working days that explains, at least in part, this perception. In interviews with central team referents, it emerged that the procedure, in reality, was unclear and poorly implemented due to communication problems. There were also suggestions made, which will be discussed in the conclusions and recommendations were also made.

In general, the technicians positively evaluated the number and distribution of workshops for formulation (68%), individual workshops (62%) and group workshops (76%).

Figura 8. Evaluación de técnicos privados sobre la gestión general del proyecto: asistencia técnica y relación con el MGAP.



It was considered appropriate to extend the technical assistance work in those farms that met adequate data systematization conditions and that in the course of the project reached correct performance standards. The new intervention proposed soft management goals (without investments) and was supported with additional technical workshops (Interview with territorial technician, 2021).

Regarding the relationship they had during the project with the territorial technicians, it was noted that it was very good: 38% considered it adequate and 53% considered it very adequate. However, when asked about the relationship in general with the MGAP, although it was positive in 76% of the responses, the unsatisfactory evaluations increased to 24%.

During the course of the GCFE project, 79.4% of the technicians were linked to the revolving funds and 29.4% were linked to the Reference farms. Fifty-six percent of the private technicians worked with the Electronic Field Notebook (CCE) although there were some technicians (9%) who worked with the non-electronic version (notebook). The specific evaluations of these tools can be found in the corresponding section.

According to the perception of the private technicians, the TA contributed to meeting the planned goals, although they also highlight that in general, the advice is very specific and does not favor a long-term process that allows a permanent incorporation of the technologies and, therefore, structurally modifies the production units. "The technical assistance was especially limited to planning, executing and reporting the measures, actions and investments that were executed in each of the farms. It was not possible to guide the technical assistance towards the global management of the farm system, due to the characteristics of the call itself" (Testimony of a private technician, Survey, 2021).

64% of the technicians consider that their assistance had a high or very high influence on other beneficiary farms. Possibly this is linked to the networking and exchange activities carried out among the beneficiary producers. However, when asked about the influence that their technical assistance had on non-beneficiary farms, 77% considered that the influence was low or very low.

The producers agree that they had a good level of relationship with the private technicians. In their opinion, the TA was important to generate productive changes, and it contributed to improve aspects related to the family and the farm, as well as promoting participation in group activities.

The good general evaluations of the impact of TA contrast, in part, with what was gathered in interviews with MGAP referents from central and decentralized teams. The latter stated that the task required greater control. At the same time, these referents point out that the project modality allows these failures: since the project had to be presented by a technician (and not by a producer), a subordinate relationship was generated where the producer's power of control over the activities was reduced.

They identify some failures in the implementation of investments. These are attributed to the poor performance of private technicians (interview with central and territorial managers, 2021). They also highlight a certain lack of training in extension methodology and work with producers and in specific topics addressed by the project (natural field, natural resource management, economics, etc.). The design and evolution of the EFN aimed to fill some of these gaps and provide tools for the work of private technicians. In previous projects, the focus of the technician's work and the link with the MGAP was centered on accountability linked to investments.

4.1.4 Revolving Funds

Revolving Funds are part of what is known as micro-finance and solidarity finance. One of the objectives of this tool is to provide access to credit to people who, for various reasons, are unable to access the traditional market. It also seeks to increase the impact of a financial tool, since the revolving funds are available to be used by other producers. It aims to generate a certain economic autonomy for the communities, since they are managed by the producers themselves. Finally, it seeks to strengthen ties and links in the community, since they work on the basis of reciprocity and trust, and at the same time it is a tool that should give continuity to the actions initiated.

A total of 57 revolving funds were generated. These were managed by rural organizations and producer groups and their total implemented amount was USD 550,381 (PPR, 2021). The contributions to the revolving fund (15% of the funding received) were initially made by the producer directly to the organization or group to which he/she belonged, either with the first or second payment. Due to difficulties in the implementation of the payment, the project coordination made a change in the operation, where the MGAP retained 15% of the funding received. This was established in the bases of the second payment to each producer and they would transfer it to the organization chosen by the beneficiary, which made the

operation easier.

To ensure proper and orderly operation, the organizations or groups selected by the producers had to draw up regulations for the use of funds. To this end, they had the support of the DGDR's territorial team and the technicians linked to Component II for training, preparation, coordination, dissemination and exchange among organizations. The preparation of regulations for use and management by organizations and producer groups encourages them to improve their internal operations, as well as to jointly think of ideas that contribute to the common good and generate revenue for the group or organization, which is passed on to the beneficiaries. In general, there is agreement that one of the main tools to face the challenges is the collective and participatory construction of a regulation for the use of the fund that establishes who will be able to access the credit, at what times, who will manage the Fund, how the payment will be made and what happens in case the money is not repaid before it starts operating (Acosta, Piedracueva and Vázquez, 2019). The participation of producers and partners of the organizations in the elaboration of the regulations for use is identified as a positive practice, being a difficult and challenging process.

Regarding the internal organization of the groups and organizations to manage the Revolving Fund, it was suggested that many times the responsibility falls on a few people and that in many cases the Steering Committees assume the responsibility of "deciding to whom the benefit is provided" (Acosta, Piedracueva and Vázquez, 2019). In this evaluation, it has been possible to see the diversity of operations that exist in regard to the Revolving Funds. In some cases, they had to hire a person to manage them; others were managed by producer organizations through the MDRs; and in other cases, they were managed by producer groups. Each operation is explained by the characteristics of the organization: those with a history in the use of financial tools, with trained technical teams or a consolidated administrative structure and with control mechanisms to guarantee repayment, had more successful processes. In view of the highly positive evaluation of this tool in the surveys of technicians and producers, it is understood that it should be further developed, especially in those organizations with lower capacities.

The emphasis of use was different in both UPs: in Cuesta Basáltica a larger amount of funds was generated, generally smaller and managed by producer groups. In Sierras del Este, fewer funds were generated, but with more money involved and managed by producer organizations. As they are linked to a more consolidated administrative structure, these funds managed by organizations are better valued and more sustainable over time. Another aspect evaluated, which emerged from the survey to producers, is that smaller funds with many potential beneficiaries and long repayment periods tend to generate difficulties of access. It is necessary to establish priorities very well before granting them, since several producers may need them at the same time.

The tool has contributed to the development of administrative and self-management skills, allowing for links between producers and organizations and greater independence from external financing. The role of the development MDRs in this area is considered very positive. In some MDRs, there was an interesting process of accountability for the use of funds and there were instances of feedback with DGDR territorial offices on the results.

A negative aspect noted in relation to operations is that there was a time mismatch in the sequence of the process, between knowledge of the tool, the creation of the regulations, the timely and correct contribution of the producers to the funds and their (non) use. This was pointed out as a repeated problem and largely corrected during the course of the project (interviews with territorial technicians).

Based on the survey to producers, there is a good perception of the implementation of the revolving funds. The majority answered that it has been easy to make the contribution, access the revolving fund and return the money, and they also consider that the

organizations have managed the tool well. However, there is not a good knowledge about the current status of the tool, nor about the destination and use of the funds.

Initially, the revolving funds were intended to be used for events related to climate change; however, since they are freely available to producers (without MGAP control), the use of the funds is subject to each organization's regulations for use. Producers state that they have used the fund not only for situations related to climate change, but also for production improvements and to resolve family issues.

4.1.5 Insurances

The working proposal for the development of an insurance for the livestock sector for droughts in permanent pastures was prepared prior to the GFCC Project. It was designed with the support of the World Bank through the project "Feasibility Study: Pasture Insurance based on NDVI for Livestock Producers in Uruguay" (2011-2013).

To validate the insurance, the MGAP implemented a pilot test that included, during the first period (2015-2016), only family producers who were beneficiaries of the GFCC Project and who met the selection requirements and had shown interest in adhering to the proposal. For these, the insurance company was the State Insurance Authority, namely Banco de Seguros del Estado (BSE) and the DACC-BM project financed 100% of the insurance premium for all the producers included. Agreements were signed between the MGAP and the BSE, where the insurance conditions and premium payment were established. The pilot with the BSE and producers of the GFCC Project was extended for three years (until 2018) and a total of 178 producers were insured in the two UPs.

As part of the pilot plan, training activities that included workshops with insurance beneficiaries and producer organizations were developed, as well as various intra- and inter-institutional coordination activities (INIA and IPA). The activities were carried out by OPYPA and DGDR with the support of the UGP (Acosta, 2019).

4.1.6 Conclusions and lessons learned

In this Component we identified three areas from which to draw some conclusions and lessons learned on improving adaptive capacity, technical assistance and revolving funds.

Improving physical adaptive capacity

A high proportion of subprojects were completed. While in LU Basalto the target was not met, in LU del Este it was exceeded. This better performance in Sierras del Este in terms of subprojects carried out and amounts allocated is related, among other factors, to a better territorial organization linked to the project.

The goal set was very ambitious in terms of the number of family producers to be reached. Also, in the last decade the process of reduction of producers has continued, aspect that has been observed uninterruptedly in Uruguay since the 1960s. Although this project reached family producers linked to organizations that had already been working with other MGAP projects and programs, it also managed to reach a significant number of new beneficiaries.

Local capacity building was strengthened by the development of group processes, involving collective management fields and shared service enterprises, the establishment of recovery plans at the local level, strengthening organizations and groups of family producers with territorial action.

Technical Assistance

TA was considered to be generally positive and highly influential among beneficiary farms. However, this influence is very low for other non-beneficiary farms, indicating that there was no spillover effect to other producers. Although this was not an explicit objective of the Project, it was a concern of several of the central or territorial level referents interviewed.

When considering the medium and long-term effect, certain shortcomings arise. The TA within the framework of the Project is very specific, which limits the final adoption of the technologies. In global terms, we can agree with the evaluation of Durán and Laguna (in press) who state that the evidence gathered in this study does not allow us to affirm that the GFCC has had an impact in terms of increasing the average adoption of the management practices analyzed, at least in the short term.

The preparation of land subprojects was left under the responsibility of private technicians. In this sense, Acosta (2019) emphasizes the importance of the technician's characteristics and training, since it is the technician who mediates between the public institutions and the producer. However, it is perceived that there were few spaces for participation where proposals were elaborated jointly. Therefore, there is a need to build, design and implement these projects in a more participatory manner between private technicians, producers and organizations (private sector) and that these spaces also include the public sector.

MGAP thought that TA should be more comprehensive than previous projects. Certain shortcomings were identified in these projects, so specific tools were developed for the work of the technicians, which were unevenly evaluated: for some, they represented more bureaucracy, while for others they were useful tools for working with producers.

Some aspects of the management of payments strongly undermine the effectiveness of this type of technical assistance, generating some tension in the relationship between private technicians and the MGAP. This relationship was more satisfactory with the territorial teams than with the central teams.

In view of the role played by organizations with a certain trajectory and experience, both in terms of links with beneficiaries and technicians and their role in the revolving funds, it is understood that they could also contribute to the financial management of the projects. "They can be fundamental to make payments more efficient, as intermediaries, since they reduce the formal instances of payments and accountability processes, which is one of the biggest problems in accounting and financial management. Our suggestion is that the organizations should be Rural Development Agents and function as agencies" (Interview with central level technician).

Revolving funds

Revolving funds are solidarity funding tools with great potential for resolving not only issues related to productive aspects, but also family aspects.

The development of regulations for their use is an exercise that promotes the participation, training and development of groups and organizations. However, it is necessary to continue exploring and promoting this exercise in order to improve the functioning of the tool so that it can better respond to emergency situations.

The shortcomings were evident in the lack of coordination between the different stages of the fund's creation and use, and also in the control mechanisms used by producers. There is a lack of knowledge and training, as there is a certain aversion to its use.

"The generation of spaces for exchange and management of knowledge among peers is still subject to the presence of a private technician and, from the producers' perspective, to external funding. This allows us to think that an awareness about the self-management capacity that producers have, in order to meet and sustain their networks even without the presence of technicians has not yet been generated." (Acosta, 2019, p. 99). In this sense, the difference between groups that were formed specifically for these calls and organizations that already had a previous trajectory was evident.

From the point of view of the construction of the project and the trainings, it requires a differential approach between two populations, namely groups and organizations. The collective construction of this tool is a great challenge, but very good achievements have been evidenced in this sense: the support and commitment of the producers together with an administrative, technical and legal structure are key aspects for the achievement of the results.

In order to improve the impact of the revolving funds, it is necessary to improve the capacities and communication of the potentialities in order to develop the tool so that it can meet the multiple demands.

4.2 Component II: Strengthening Local Networks

The component will be evaluated on the basis of the tables below, which show the goals, main actions carried out, or products and means of verification used.

4.2.1 Expected Outcomes and Goals

It can be observed that at the goals level, the consolidation of a Local Network is proposed, based on the work with local producers' organizations. One of its first actions consists of a participatory validation diagnosis, based on studies carried out previously that allowed defining the two Landscape Units (CIEDUR- MGAP, 2011) and another work in which producers from both UPs were surveyed about their perception of variability and CC (Equipos Mori, 2011).

The component progresses through the implementation of different training activities that are maintained throughout the project cycle, operating at the level of territorial technicians, private technicians and producers who are beneficiaries of the project.

Cuadro 5. Component II expected outcomes

Component II. Strengthening of local networks	
EXPECTED OUTCOMES	SPECIFIC OUTCOMES EXPECTED
The selected vulnerable landscape units have a local institutional network that manages climate risk, involving young people and managing operational instruments that respond in case of emergency, in close coordination with the Rural Development Roundtables and the National Emergency System.	In-depth diagnosis of the landscape units and the development of a local network of grassroots organizations development of a local network of grass-roots organizations and public institutions that carry out a participatory assessment of local capacities and prepares and implements a strategic and implements a strategic plan to address CC and variability.
	A training plan is formulated and implemented at the local level to respond to identified gaps. It focuses on CC and variability issues. Demonstration plots in schools and organizations on adaptation measures. adaptation measures. Projects to involve young people.
	Action plans identified in the Strategic Plan are developed and implemented at the LU level with technical support and in coordination with the training program.

Source: MGAP-FA (2011)

Table 6. Component II Goals

Project goals	Main actions carried out or products	Means of verification
At least 28 organizations with established local networks	RDR consolidates its position as a project network Participatory diagnostics	Acosta (2019) Piedracueva (2020) Interviews with territorial and central level technicians (2021)
Diagnosis and strategic plan prepared for each UP	Participatory diagnosis in the MDRs (2013)	Interviews with territorial and central level technicians (2021)

Two fully operational networks	Operational MDRs incorporate the GFCC Project theme	Acosta (2019) Martinez (2020) Interviews with territorial and central level technicians (2021)
Training program in CC of the 2 networks	Participatory strategic planning training - 2015 Call for MDRs for strategic planning projects - 2016	Acosta (2019) Martinez (2020) Interviews with territorial and central level technicians (2021)
Training of 140 local leaders and members of MDRs and boards of the organization, 40% of whom must be women.	Trainings carried out in the MDRs on different topics related to CC and other general topics prioritized at the local level. Course for Youth Promoters in Natural Resources and Climate Change	Interviews with territorial and central level technicians (2021)
Training of at least 4,500 producers and technical staff, with a minimum of 33% of women	Trainings carried out in the MDRs on different topics related to CC and other general topics prioritized at the local level.	Interviews with territorial and central level technicians (2021)
Meteorological equipment installed in 6 local schools or institutions and periodic data collection.	6 pluviometric stations were installed in Reference Predios (in agreement with INUMET).	Martinez (2020)
Action plans and operational manuals according to the levels of climate alert.	Pilot test of Pasture Insurance based on NDVI for Uruguayan Livestock Farmers	Interviews with central level technicians (2021) Martinez (2020)

Eight demonstrative graphs in schools and rural orgs. per UP	Development of communication and information products with local climate alerts.	Interviews with territorial and central level technicians (2021)
Technical team providing support to the organizations and to the implementation of the selected strategic plan of the network, working with at least 33% female staff.	Advice to the project from territorial and central level technicians and technicians Diagnosis and strategic plans of the MDRs	Documents linked to the RDR Diagnoses and Strategic Plans Interviews with territorial and central level technicians (2021)
30% of the actions identified in the strategic plan of each LU being implemented or completed by 2014 and 70% by 2016.	The identified actions were implemented at the level of each MDR, starting in 2016.	Interviews with territorial and central level technicians (2021)
At least 14 youth projects implemented with gender equality	Fifteen proposals were submitted to the "Somos de Aquí Ganaderos Familiares" calls.	Summary of Completion of GFCC MGAP, 2021
At least 3 actions per network identified and implemented with funding sources external to the MGAP.	Youth Calls with MIDES- INJU (2016)	

Source: MGAP-FA (2011)

The temporal dynamics of Component II can be observed in the following graph, where the evolution of some actions related to the component can be seen from 2012 onwards. This graph also incorporates the modifications of the goals, where it is possible to observe the incorporation of goals in the project that were not planned at the beginning. One of the most important modifications consisted in the **incorporation of the specific call for strategic planning of the MDRs.**

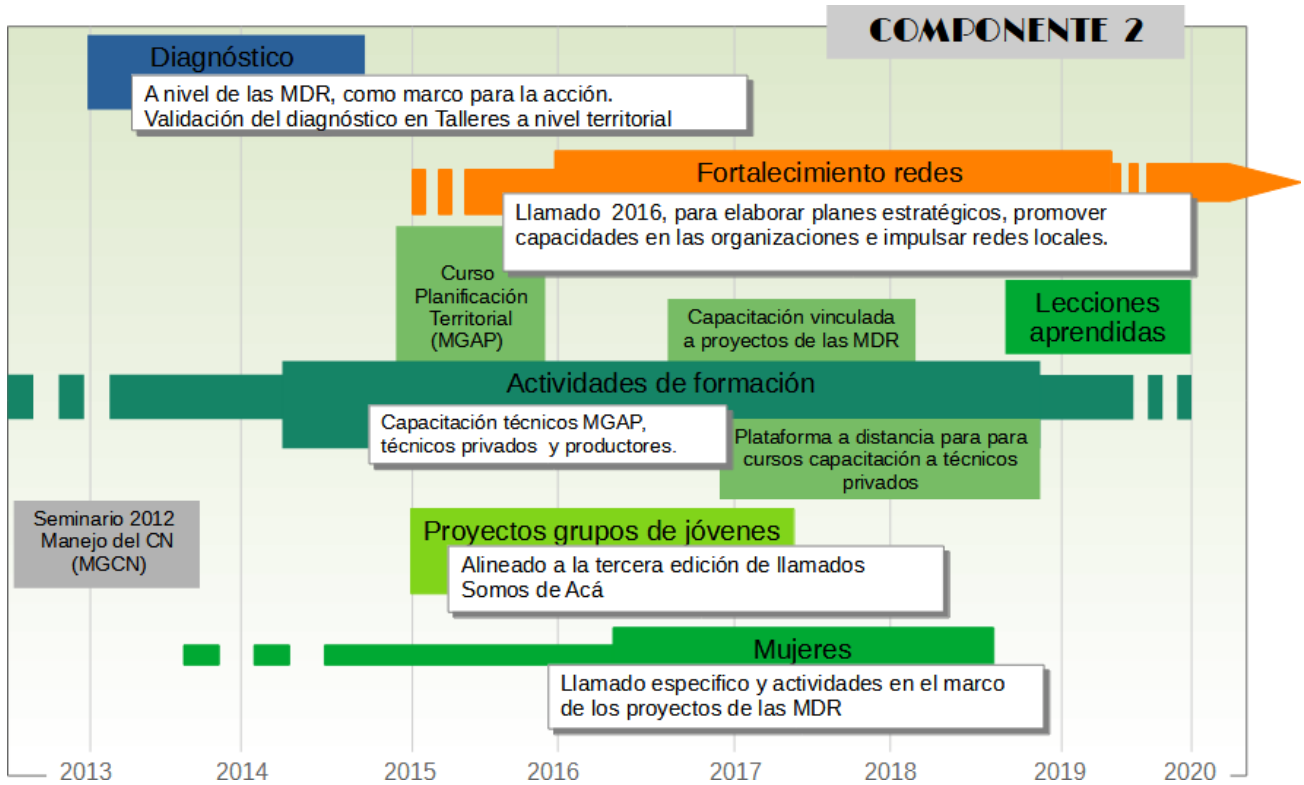


Figure 9: Timeline of the main actions of Component III of GFCC Project

4.2.2 Rural Development Roundtables (MDR)

4.2.3

The strengthening of local networks in each of the Landscape Units was centered on the Rural Development Roundtables¹², which preceded the project as a space for participation in the different initiatives promoted by the General Directorate of Rural Development of the MGAP. Eight roundtables were integrated into the project, four for each of the UPs, some of which had a regional delimitation and others operated at the departmental level: RDR Treinta y Tres, RDR Lavalleja, RDR Sur de Rocha, RDR Maldonado, RDR Tacuarembó, RDR Cuesta Basáltica de Salto, RDR Artigas and RDR Rivera. The following graph shows their territorial distribution.

The level of participation of organizations, producer groups and local public institutions before the start of the project was extremely heterogeneous. These differences depended on factors related to organizational capacity and the way in which, to a greater or lesser degree, the collective was able to manage aspects of coordination, information and communication.

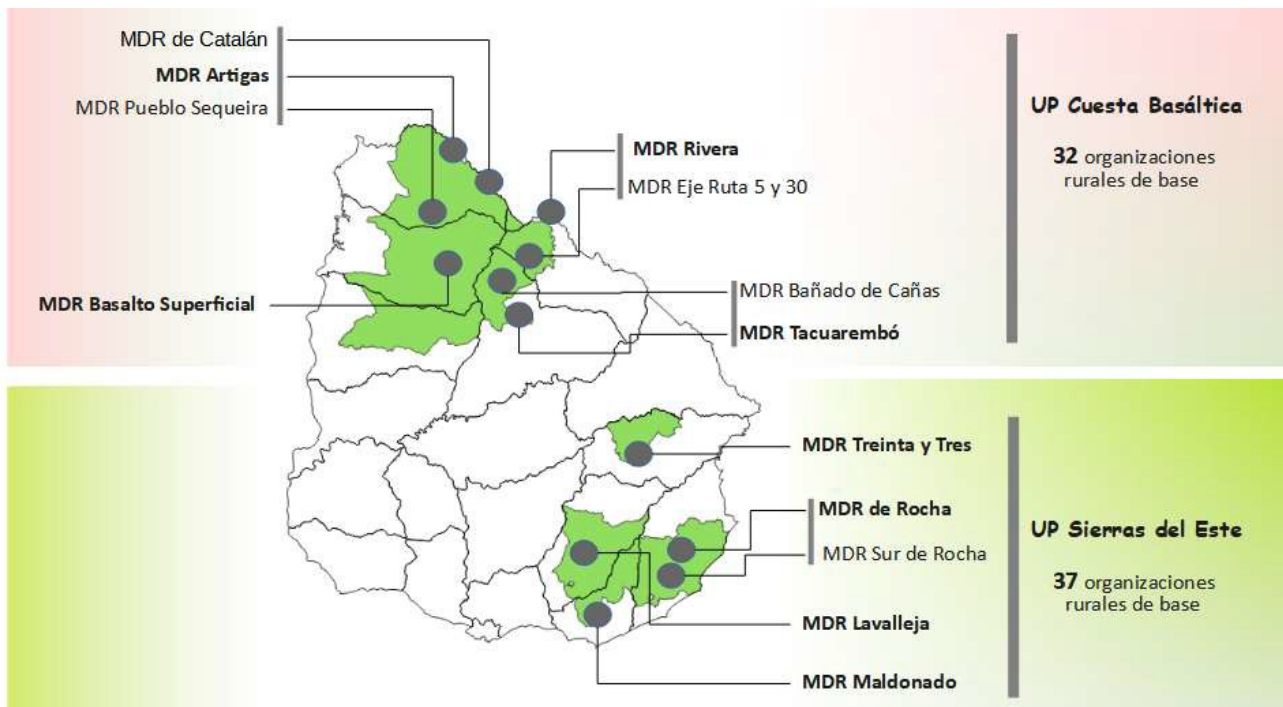


Figure 10: Territorial distribution of MDRs.

Source: Prepared by the authors based on Piedracueva (2020).

The main activities carried out by the MDRs during the period in which the GFCC Project was implemented were: the validation of previous territorial diagnoses complemented by the knowledge of those involved in this task, the validation of Component I farm use plans of the project¹³, the elaboration of strategic planning based on a training process focused on participatory territorial development and CC, the promotion of initiatives and projects on climate variability and change, and the dissemination of the project. In some cases, they also gave importance to improving internal communication with specific projects. On other occasions, they also played a fundamental role by collaborating in the preparation of regulations for the use of the revolving fund.

¹²The strengthening of the Local Networks was centered on the MDRs, which preceded the GFCC project and are already present as a local space for the articulation of producer organizations and institutions with local representation.

¹³At the beginning, the validation of local land projects could only be carried out in the LU Cuesta Basáltica and only for a short period of time.

4.2.4 Diagnosis and participative evaluation.

As mentioned in *Informe de Lecciones Aprendidas* (Lessons Learned Report) (Acosta, 2019, p. 15) it can be confirmed that the first activity proposed by the Project with the MDRs is the validation of the participatory diagnosis. This was carried out by the technical team linked to the GFCC Project with the MDRs of each Landscape Unit (UP). Such activity was developed in 2013.

The participatory appraisal used the workshop methodology and was aimed at validating the information gathered¹⁴, discussing it and adding new elements that had not yet been considered. The activities were carried out between May and July 2013 and approximately 260 people participated between the two UPs, most of whom were producers (Martínez, 2020, p.18).

As an aspect to highlight, the issue related to climate change and its economic, social and productive consequences "was not a topic spontaneously raised or prioritized by producers in the MDRs" (Acosta, 2019, p. 15).

This participatory diagnosis sought to update this initial data, to know how many roundtables were functioning, how many organizations there were by 2013, and from there the main ideas were extracted and a validation process was carried out to work on the roundtables" (Interview with territorial technician, 2021).

These actions contributed to identify the need to strengthen the MDRs and to have capacities for project monitoring and evaluation, which materialized in the MGAP-GFCC Call for Proposals for the Strengthening of Networks of Landscape Units with emphasis on Sustainable Management of Natural Resources and Adaptation to Climate Variability and Change¹⁵. This process culminated with the elaboration of a strategic planning (Interview with MGAP central team referents, 2021). The necessary resources for this purpose were only made available in March 2016 and materialized in the call for MDRs for this purpose. Funding of up to USD 10,000 was available (Cesilini, 2016, p. 23). From this experience it was possible to develop capacities to manage their own funds, as well as to consolidate the relationship with the member organizations of the Roundtables (Martínez, 2020, p. 61).

This process identified the need to improve access to information obtained from studies, research, surveys and systematizations, which could be obtained through the technical teams. The methodology used was the workshop, where the stakeholder map was used as a planning tool. "Based on it, the RDR organizations designed a set of actions that would allow them to strengthen the link with other institutions while improving the visibility of the Rural Development Roundtable space" (Martínez, 2020, p. 23).

¹⁴ The diagnosis of the UPs was based on the following secondary sources: Plan estratégico territorial, Cuesta Basáltica – Cuchilla de Haedo, junio de 2011 (FLACSO, 2011a); Plan Estratégico de Desarrollo de la Región Este – versión preliminar, diciembre 2011 (FLACSO, 2011b); Estudio de Percepción sobre la Problemática del Cambio Climático y el manejo de opciones de adaptación (Equipos Mori, 2011); Censo Nacional de Población y Vivienda 2011 (INE, 2012); Censo General Agropecuario 2011(DIEA, 2014).

¹⁵ See at: <https://www.gub.uy/ministerio-ganaderia-agricultura-pesca/comunicacion/noticias/fortalecimiento-redes-locales>

Some of the Plans addressed the strengthening of the MDRs by working on the identity of these spaces. The Roundtables developed different communication strategies: elaboration of Communication Plans (Maldonado and Tacuarembó MDRs), external dissemination through websites and press (Lavalleja and Rivera MDRs) and internal communication strategies (Rocha and Artigas MDRs) (Martínez, 2020, p. 23). "Training calls were also made, where plans were developed for the Roundtables in the 3 components, although due to the timing, when the course was completed and the plans were made, 2 years had already passed and the project was decoupled" (Interview with Territorial Technician, 2021).

On the other hand, some MDRs generated Geographic Information Systems and held workshops on climate change adaptation based on participatory mapping of agroecosystems with the support of institutions such as IICA in 2018¹⁶.

The original idea was that they would be territorial development plans, but they ended up strengthening the MDRs. They proposed improving communication and the dynamics of the roundtables and finally this process culminated in a general vision that resembles the institutional strengthening projects previously promoted by the General Directorate of Rural Development (DGDR) of the MGAP. In this context, RDR plans were developed and climate change adaptation networks were strengthened. Depending on the place, this idea of networks was modified, even distorted. In some cases, the strengthening of the roundtables was understood as the strengthening of communication (Interview with MGAP territorial technician, 2021).

In the first stage of the call to elaborate the strategic planning of the MDRs, 8 plans were presented, one for each of the MDRs, involving the participation of 69 rural civil society organizations. The total budget allocated in the first stage was USD 72,360. In the second stage, five subprojects (five MDRs) were presented and received funding of USD 43,700 (Piedracueva, 2020, p. 22).

The implementation of the project components took place at different times, since in 2013 the implementation of the land projects (Component I) began and later, the validation and work instances related to this component were established at the level of the local networks, specifically of the Rural Development Roundtables (MDRs). This was due, according to various testimonies, to the fact that the MDRs needed prior training, a matter arising from strategic planning, and this training was only completed in 2016 - 2017. On the other hand, in relation to Component III (knowledge generation), the establishment of the Reference farms occurred in the last stage of the project. "It was quite blurred because knowledge management was based on Reference farms that operated as of 2017. This is a design error in the proposal, namely different speeds, which is valid for Component II and III." (Interview with territorial technician, 2021)

The project was developed in parallel with other DGDR actions, which resulted in enhancing some activities, but also generated conflicts. In any case, it had a translation in the territory. It had an independent follow-up, but in a second stage and when the strategic plans of the MDRs arrived with a work background - with an extension group - a lack of knowledge of the MDRs, their role and functioning was identified in some producers, even being members of organizations with representation in the departmental MDRs (Acosta, 2019, p. 17).

¹⁶See at: <https://www.iica.int/en/node/16786> (9/NOV/2021)

The "bombardment" of calls by the DGDR meant a problem at this stage, where the land calls converged with those related to the sanitary emergency (drought). It was necessary to transcend the role that the MDRs had (Interview with territorial technician, 2021). This process demanded an important effort from the MGAP territorial technicians, and the lessons learned included the importance of having multidisciplinary teams that support the social dimension of the project, beyond the economic and productive aspects.

At the level of the work developed by the MDRs, it was understood that clear information, carried out in a timely manner and establishing good communication links, was very important to achieve good participation, highlighting the need to have young people and women in these spaces to give rise to generational change in the organizations that make up the MDRs (interview with territorial technician, 2021). In this sense, one of the first needs expressed in the MDRs was that of strengthening the space. "There is a need to strengthen the follow-up that the organizations and the MDRs carry out with producers after the end of the projects, both GFCC and other projects promoted by the MGAP, since the end of the project does not necessarily mean that the producer's need for technical support or accompaniment to consolidate the changes generated disappears" (Acosta, 2019, p. 19).

The project design had established roles for Component II over Component I, which in certain aspects could not be carried out. According to the provisions of the Field Manual (2013): "As defined in the project, a Project Selection Committee composed of a representative of the technical staff of the project in the territory, a representative of the MGAP through the staff of the regional offices of the DGDR and a representative of the producer organizations participating in the MDRs involved will be constituted at the LU level." In practice, in the LU Cuesta Basáltica the regional technician of the GFCC, a DGDR technician in the department and one or two delegates of the RDR of the department met, forming one committee per Department. These committees had a limited duration in the project, ceasing to be held in 2013 in the LU Cuesta Basáltica. In the LU Sierras del Este they were never formed (Acosta, 2019).

On the other hand, linked to operational aspects: *"Regarding logistical aspects, the need to hold RDR meetings at other times and days of the week is identified, so that everyone can participate. Currently, many producers state that the RDR meeting days and times do not make their participation possible because it implies losing a whole working day"* (Acosta, 2019, p. 19).

The MDRs also participated in the discussion of the operating regulations of the Revolving Funds managed by organizations or groups, generated from the contribution of the projects of Component I. "In this instance, their role was one of analysis and contribution, but also of validation of the regulations for their subsequent submission to the MGAP for final approval" (Acosta, 2019, p. 16).

The relevance of having technicians to support the management of the MDRs was also highlighted, but not only from the agronomic point of view, but also, and fundamentally, from the social and human point of view, insofar as the management of communication, relationships and roles is of vital relevance for strengthening the organizations from within and with others (Acosta, 2019).

4.2.5 Producers' Perceptions of Component II

According to the consultation conducted with producers participating in the project (Annex 4), taking into account those who responded to the consultation:

- 68% participated in MDRs during some particular period or on a more permanent basis.
- 83% consider that the GFCC Project contributed to the development of MDRs, while,
- 87% understand that the GFCC Project contributed to the development of the organizations, and finally,
- 93% of respondents maintain that the organization of producers (groups, networks, links with neighbors) contributes to coping with negative climatic events.

This perception of producers tends to confirm the importance and contribution of the MDRs as local networks that enabled communication, training and territorial planning processes, which included issues linked to CC, including other aspects linked to territorial development.

4.2.6 Private Technician's Perception of Component II

According to the survey conducted to private technicians, 88% of the technicians were linked to production organizations (mainly RDS and cooperatives) within the framework of the project. This is an important indicator of the project's contribution to strengthening local networks. This group of organizations with which the technicians surveyed were linked represents approximately half of the organizations participating in the project (69 organizations): 62% of the LU Sierras del Este and 38% of the LU Cuesta Basáltica.

Regarding the linkage with the MDRs, 44% of the technicians had medium or high participation and 56% had low or no participation. As this linkage is also an indicator of the strengthening of local networks, we can observe that it has a lower incidence than the link they have with the organizations.

Regarding the importance given by private technicians to the MDRs to strengthen the organizations, on a gradient ranging from none to very important, opinions are almost equally divided between those who consider them to be important and those who do not.

Based on the above responses, it would appear that having an incentive structure is a key factor in favoring participation in MDRs by technicians. The technical assistance was mainly focused on the land. On the other hand, it should be considered that the technicians who participate in the MDRs are those linked to the organizations.

Regarding the importance of the participation of producers in the MDRs, the technicians understand that if it is a matter of improving production and the family farming system, they clearly consider it important or very important. This is not the case for climate change adaptation, where 62% of the responses consider it to be of little or no importance.

According to the responses of the technicians, there was an important concern in linking women, youth and the family.

32% of the technicians had training in gender issues and 24% were trained through project activities, in courses organized by the MGAP and open to other technicians from other initiatives. There are also 15% of the technicians who were trained outside the GFCC Project. Finally, we observed that 30% of the technicians stated that they had no training in the subject.

Regarding the role of the technicians in facilitating women's participation, 82% believe that their role had a favorable impact on this aspect. Several questions were analyzed with respect to this point, which will be discussed in more detail in the chapter on the participation of women and young people.

Fifteen percent of the technicians were trained in youth issues, 21% were trained through project activities and 12% were trained outside the project. Finally, 51% of the technicians still had no specific training on the subject at the end of the project. This issue is particularly important if we consider that the training of technicians contributes to the succession processes that influence the socioeconomic and environmental sustainability of family farming.

Despite this lesser training in the subject, 64% of the technicians consider that the project had a positive impact on the participation of young people. With regards to the involvement of young people in the projects, what stands out is the number of responses that mention the lack of young people in rural areas. These aspects will be dealt with in greater depth in the specific chapter.

Regarding training on Climate Change, of all the responses received, 100% stated that at the end of the project they were trained on this subject. The project contributed to train 38% of these technicians.

Regarding the training sessions carried out by the MGAP, they were generally well evaluated in terms of format, relevance and usefulness, being the theoretical and methodological contents some of the aspects highlighted for improvement.

4.2.7 Conclusions and lessons learned

Based on the analysis conducted on Component II, some conclusions and lessons can be drawn related to:

Levels of participation in the MDRs

As previously analyzed, the level of participation in the MDRs was heterogeneous and responded to the particularities of the different regions and municipalities, with a management capacity with different levels of training and maturity as a collective process. In some MDRs of the LU Cuesta Basáltica region there were participatory instances that analyzed the farm projects, at least in an initial stage.

On the other hand, there was significant participation in the construction of revolving funds from the elaboration and validation of their rules of use. In the case of training processes, in general, the MDRs were instances of planning and organization of these actions, setting their agenda according to their own topics and interests.

The convening of the Strategic Plans to strengthen the MDRs was a milestone or culminating moment in the participatory processes. This instance led to the general development of installed capacities in most of the MDRs.

It should be noted that the strategic planning processes in the creation of Local Networks were foreseen in the design of the project at the LU level, a matter that was not developed at this level, but at the level of the MDRs, in each UP.

The job of territorial technicians: their role in Component II

As mentioned above, the territorial technicians and the MDRs preceded the implementation of the GFCC Project. In both cases this aspect was a strength, particularly the territorial technicians had a level of knowledge, articulation and trust, both with the producers and with the participating organizations of the MDRs, which were the basis for establishing the local network.

On the other hand, they had to pay attention to other MGAP projects and initiatives based on the MDRs (list), and in this sense they had to incorporate a new task that demanded a significant amount of time, an issue that can be seen as an obstacle to the development of the project and that is verified in the interviews with the MGAP territorial technicians who worked in both UPs.

The territorial technicians, in turn, depended directly on the DGDR - MGAP and therefore it was necessary to establish a level of articulation and agreements between the UGP and the DGDR. During the interviews, it was noted that some governance problems cited in a previous point highlight the conflicts and differences (mainly linked to communication and lines of command) at this level, given that the hierarchical dependence and supervision of the technicians was with the DGDR and not with the UGP.

In any case, and as a conclusion, it is understood that the task of the technicians was fundamental for the implementation and launching of the project. As a lesson learned, it is worth stating that the task of the technicians working in the territory requires a detailed planning of times and tasks to be carried out at the level of the territorial teams.

Interdisciplinarity in the conformation of technical teams: its importance in a holistic approach

The integration of the territorial teams recognizes, in a first instance, a multi-professionalism, integrated by disciplines both from the agricultural sciences and the social sciences. It is clear that in several strategic plans this interdisciplinarity is also present in some cases, an aspect that was favorable to have an approach to training processes that contemplated issues related to gender and youth. In addition, it provided an interdisciplinary vision in the environmental and productive dimension. It can be observed that this interdisciplinary approach did not occur in the same way with the technical assistance, neither at the level of the private technicians, nor with the follow-up at the level of the technicians who worked with the reference farms.

We found evidence that the project is a factor that contributed to the consolidation of the MDRs, leaving installed capacities for the management of various aspects of interest to its participants and organizations and that clearly collaborate with the sustainability of these collective spaces in the territory, at the level of the organizations and the cattle-raising families.

4.3 Component III: Knowledge Management

The timeline of the knowledge management component can be seen in the diagram below, which shows the main axes of the component, the processes of systematization and impact evaluation, the processes of knowledge generation and communication through the implementation of the network of reference farms and the associated discussion workshops, and the development of follow-up and monitoring tools that contribute to the work of the technical teams in the territory (CCE).

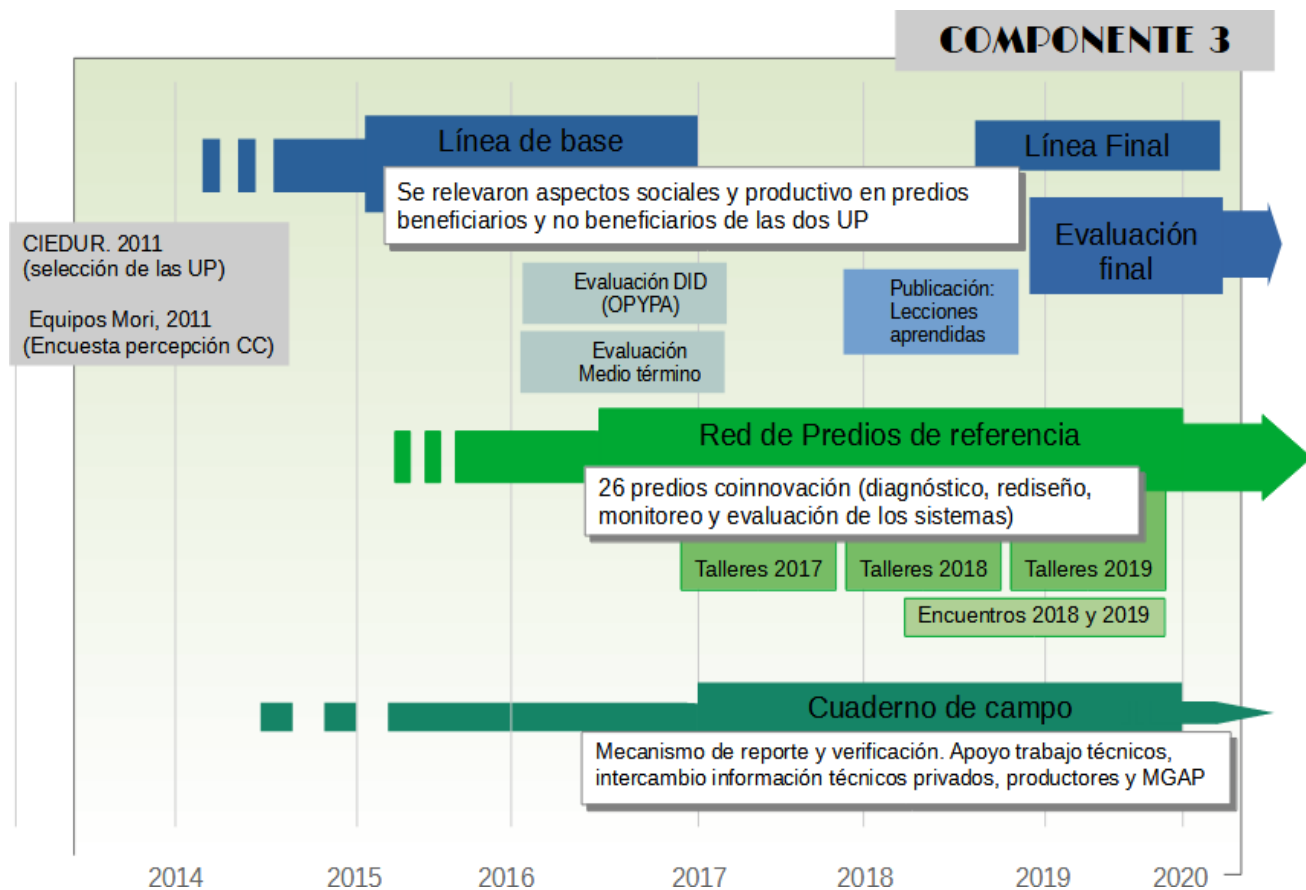


Figure 11: Timeline of the main actions linked to Component III of the GFCC

4.3.1 Expected outcomes and goals

Along with the above diagram, the following summary table of expected results and outcomes for Component III is presented.

Table 7. Component III expected outcomes

COMPONENT III: Knowledge Management in Climate Change and Variability

EXPECTED OUTCOME	EXPECTED SPECIFIC OUTCOMES
<p>There is systematic monitoring of CC and its impact on agriculture, new knowledge, a catalog of best practices, innovative tools and lessons learned from systematized experiences endorsed by all parties in relation to CC adaptation with special reference to droughts.</p>	<p>MGAP's UACC is strengthened to monitor and evaluate CC in relation to the agricultural sector.</p>
	<p>Indicators and methodologies for monitoring and assessing variability and CC are identified and applied.</p>
	<p>The research projects will provide a better understanding and/or technical recommendations to cope with climate variability, with special reference to droughts</p>
	<p>Systematic review and exchange of experiences in climate change adaptation, participation of research and extension institutions, and participatory systematization of the project experience to obtain lessons learned.</p>

Source: MGAP-FA (2011)

Table 8. Component III Goals

Project Goal		Main actions carried out and/or products	Means of verification
1	At least 1 annual assembly at the local level and 1 at the national level identify best practices and lessons learned and reach consensus on research priorities incorporated into public policies	Athenaeums (2013-2014)	Paparamborda et al. (2020).
		Dissemination activities of the reference farms, within the framework of the MDRs	
		3 regional workshops (2017,2018 and 2019) reference farms.	
		2 meetings to discuss Reference Farms (2018 and 2019)	
		Work process and dialogue for building lessons learned	Acosta (2019)
	At least 120 stakeholders participating in local assemblies per year	Activities in the 8 MDRs	Martinez (2020)
	At least 50 people from academic, research, and policy institutions attend national seminars per year	2012 MGCN Seminar	Paparamborda et al (2020)
		Meetings and seminars related to 3 master's theses related to the Reference Farms	
	National and international	Poor coordination between MVOTMA-MGAP	Martinez (2020)
	communication campaigns implemented annually by MVOTMA increase the awareness of the rural population in relation to CC and variability.	GFCC awareness and dissemination activities, both at the central level of the project and within the framework of the agreement with FAGRO (reference farms).	Interviews with territorial technicians 2021.
5	To have a project web page	No specific project website was created	Martinez (2020)
	Funding for 8 innovative and original research and study projects that follow agreed priorities	FAGRO-MGAP Agreement. Final Report of the GFCC- Fagro Agreement, Udelar.	Paparamborda et al. (2020).

	Conducted 2 evaluation studies and 6 case studies	Family Farmers and Climate Change Program Baseline Report	Fuletti (2017) Paparamborda (2017)
		Impact Assessment of the Family Farmers and Climate Change Project	Duran and Laguna (in press)
		Building learning. Experiences in the management of Revolving Funds of the Family Livestock and Climate Change Project.	Acosta, Piedracueva and Vázquez (2019).
		What do grazing management practices on family livestock farms tell us about their performance and productive outcome? (Master's Thesis)	Paparamborda (2017)
		Animal energetics in extensive grazing systems: Rationality and results of research models to improve energy efficiency of beef cow-calf grazing Campos systems.	Do Carmo et al. (2016).
		DIP Assessment: Family Farmers and Climate Change (GFCC)	AGEV-OPP (2016)
		Final Report. Collection of lessons learned. Project "Building resilience to climate change and variability in vulnerable smallholders" (GFCC).	Acosta (2019)

Source: prepared by the authors based on interviews with territorial technicians, Acosta (2019), Acosta, Piedracueva and Vázquez (2019), AGEV-OPP (2016), Do Carmo et al. (2016), Durán and Laguna (in press), Fuletti (2017), Martínez (2020), MGAP-FA (2011), Paparamborda (2017) and Paparamborda et al. (2020).

This component has two main areas in the original design: a) support to improve the knowledge base on CC and variability. This is done through studies, research projects and a systematic effort to exchange knowledge and experiences among all public and private institutions currently working on CC and variability, in order to create an open forum where all institutions can share progress and coordinate actions; b) systematization of experiences at the local level and evaluation of project results.

4.3.2 Improving the knowledge base

The conceptual framework of the original project implied conceiving that the generation of technological information and its subsequent circulation has lacked emphasis on adaptation, especially if it is kept in mind that such processes require the participation of the stakeholders, given the need to capture and value local knowledge, and to favor more appropriate behaviors and attitudes. As a way to overcome these shortcomings, the project adopts a methodological approach of co-innovation. These actions are carried out through an agreement with the Agronomy School (UDELAR), which provides the knowledge related to this approach.

The implementation of this component was the responsibility of UACC (OPYPA), from which it began to link with IPA and FAGRO to implement research and extension processes. When considering how to work with livestock production from the perspective of complex systems, the precedent of the *Coinnovando* INIA project in Rocha was taken into consideration. This project had intervened in very specific processes of livestock systems, resulting in an improvement in the productive adaptive capacity of these systems to CC. In this process of proposal construction, the need for a better knowledge of the characteristics of the family producers of both UPs was raised. It was decided to carry out a baseline study of the project, including beneficiary and non-beneficiary producers.

The two central aspects to be observed were productivity and management practices in the systems, including management practices for CC, decision-making criteria and producer links with territorial networks. In terms of prior theoretical design, the idea was that the baseline would be an initial reference input to later intervene in the reference farms. This would provide a good diagnosis of how livestock producers managed the systems, make a typology of different ways and forms of management and then choose reference farms that represented this typology. One of the drawbacks was that the baseline was made when the project was already underway, which implied reconstructing information backwards. Then, a closing evaluation was carried out with the same population in order to evaluate the impact in 2020 (Durán and Laguna, in press).

4.3.3 Network of Reference Farms

This component was based on the “Co-innovación” [sic] (Co-innovation) approach as a methodological proposal for research and extension. “Co-innovación” proposes a sequence of steps that includes the diagnosis and redesign of the productive systems, and the monitoring and evaluation of the systems. This intervention involved technical and technological assistance in a subset of farms of project beneficiaries in greater depth. This required promoting changes in management practices with permanent technical assistance and precise monitoring of a series of agro-climatic and productive variables. In this way, we sought to generate knowledge and draw lessons from an intra-systemic intervention (inside the farms) in relation to adaptation to climate variability and change.

To this end, a network of 26 farms was formed in 2016, based on a previous call for

applications from beneficiary producers. In both UPs, those with a greater predisposition to integration and change were selected, taking into account the typology of farms based on the baseline (Paparamborda, 2017). This process of building the typology and developing the baseline lasted a year and a half, and the selection of reference properties began in mid-2016. As part of the network, four agronomists were hired (two in each UP) through a selection process that involved evaluation of background and specific knowledge, interviews and an induction process developed between technicians from MGAP and FAGRO (Acosta, 2019, p. 80). The technicians hired were trained based on the knowledge and experience of FAGRO's Natural Field experts and in natural resource management practices, which, based on research conducted by these areas of academia, had the greatest impact on productive and economic results in the livestock production system (Acosta, 2019, p. 80).

Within the framework of the Network of Reference Farms, two types of activities were carried out: internal workshops with members of the network and field activities open to producers in the area to raise awareness and discuss outcomes. The data from the survey of technicians show that slightly less than half of the technicians participated in these activities (47%). Those who did participate felt that the knowledge they received was useful. Even so, it is important to highlight that 57% of the technicians did not use the information generated in the activities related to reference farms. From the point of view of the technicians who responded, 50% considered that the general participation of producers in the reference farms was low or very low.

There were doubts as to whether this model of working with producers would have a positive and lasting impact. There was mistrust as to how to work with extension. It was necessary to answer the question of whether the "Co-innovación" perspective could achieve good results in livestock production systems and this led to placing more emphasis on the aspect of intra-farm work and work with the group of reference farms than on dissemination activities (Interview with MGAP technicians, 2021).

When the perception of this methodology was gathered from several actors involved in the process, uncertainty about its generalization arose. Among others, the problem of it requiring a continuous presence of the producer, when there is a growing tendency of non-residence on the farm was mentioned (MGAP 2021).

On the other hand, it is stated that "producers with less predisposition to change the management of their productive systems in the face of climate change are still an issue to be addressed, as well as how to intervene together with them" (Interview with MGAP technician, 2021). It should be noted that in several interviews conducted with technicians from the Agronomy School and the MGAP, there was little evidence of the recovery of local knowledge related to practices and management that generate resilience to climate change in family livestock systems. This is an important issue for positioning "Co-innovación" as a proposal for knowledge dialogue or dissemination of technologies.

4.3.4 Electronic Field Notebook

The Electronic Field Notebook (CCE) was a tool generated by Component III and implemented within the framework of Component I. Its development was one of the products of the agreement between MGAP and IPA in 2014, where the livestock production results simulation model generated by IPA (MEGanE¹⁷) was updated and made available on the web. On this basis, the EFN spreadsheet was generated, which allows loading data on pasture height and body condition of cattle at the farm level, and carrying out simulations of pasture growth and evolution of body condition by paddock and by farm. This tool was incorporated, for use by the technicians in charge of the projects, in the last two calls (Sancho, 2019). It was implemented in 90 farms assisted by 26 private technicians.

The CCEs previously used were paper spreadsheets whose main purpose was to monitor and control the progress of investments and technical assistance. The changeover to a systemic electronic spreadsheet that allowed modeling, with the benefit of better interaction with technicians and producers, was considered a step forward. There was also a platform that offered distance learning possibilities that allowed for forums and training. The idea was to be able to use all the systematized information to hold exchange workshops by region to see what was happening at that juncture. According to the information available, these instances could not be fully implemented.

The technicians' perception of the EFN indicates that for 28% of them it was not useful. Of the remaining technicians, only 21% indicated that it was useful for working with producers, while 62% considered that the tool was useful for collecting data for the MGAP (more than one answer was possible in the survey). Several technicians agreed that the tool was interesting and that it allowed the systematization of data. As weaknesses they indicate that it was not viable for various reasons: access to technology, the tool was not very flexible, the process was cumbersome, or simply that it was never required of them, since it was not implemented until 2016.

¹⁷ Extensive Livestock Farming Model

4.3.5 Systematization and Evaluation of the Project

The MGAP has a long history of monitoring and follow-up of different programs and projects, which was built in parallel to the development of the GFCC. It has collected and systematized valuable information on interventions, the number of producers who were supported to make land investments, amounts and physical units of different land investments supported, courses and training provided, number of producers who participated in the courses, as well as a great learning experience systematization.

Different information gathering instruments were established, starting with a diagnosis of the UPs. Different monitoring tools were designed and implemented for each of the Project components. For Component I, progress in investments was monitored through reports from the private technicians hired and follow-up by the DGDR's territorial technicians. The EFN was a tool developed to monitor and control the project, gathering information from visits to direct beneficiaries, management and about productive results of the farms and was a guide for technical assistance.

For Component II, the territorial offices followed up and monitored the activities of the component. A database management system was created in which those responsible for the different components were asked for information on the progress of the work. The territorial technicians held coordination and action monitoring meetings. Throughout the project, various monitoring visits were made, both by the coordinators and by the management teams together with the territorial technicians, to verify progress and detect possibilities for improvement. The athenaeums held in different locations served as instances of balance and planning at the beginning of the project.

The work of Component III was centralized in the agreement with the Agronomy School of the University of the Republic (UDELAR), through which the construction of the baseline and the development of the "Co-innovación" and monitoring strategy in the reference farms was carried out. Through it, such carried out its own system of registration of activities and coordinated with the UACC team of the MGAP assigned to the project.

Throughout the project, follow-up and monitoring identified important experiences that were relevant to analyze and document. Monitoring always passed through at least two levels, the territorial and the central level of MGAP. The monitoring was centralized at the UGP, where the incoming information was uploaded and reports were prepared. "The UGP worked to homogenize information, trained the MGAP team in the cycle of indicators and developed support tools, including forms for the presentation, monitoring and closure of subprojects, as well as software to manage the entire cycle. This was the responsibility of the Monitoring and Evaluation Coordination" (Interview with central level technician). In October of each year, reports are submitted to the Adaptation Fund (PPR) and financial reports are submitted to ANII every six months.

An important part of the monitoring and evaluation was the Design, Implementation and Performance Evaluation (DID) of the GFCC, with emphasis on design and implementation. The team of evaluators consisted of members of the State Management and Evaluation Directorate (AGEV) of the Office of Planning and Budget (OPP) and external evaluators and had the technical support of the Office of Agricultural Programming and Policy (OPYPA) (AGEV-OPP, 2016). The study coincides with the Mid-Term Evaluation of the GFCC (Cesilini, 2016) which made a series of recommendations for the adjustment of some gaps identified at that time.

As of 2014, OPYPA formed a specialized technical team, with the objective of informing on the results, consequences and impacts of the different MGAP policies and projects implemented. The evaluations contribute to the transparency of MGAP with producers and the general public. For this project, an ex-post evaluation was proposed, constructing a baseline with a control group (those not participating in the project). This evaluation has a selection bias, given that the participation of the GFCC is voluntary and required membership in a producer organization, which makes it difficult to interpret the data.

At the time of writing this final report, OPYPA's Evaluation Area has completed an ex-post evaluation of the GFCC (Durán and Laguna, in press), based on the survey for the construction of the "Project Baseline" carried out in agreement with OPYPA - Agronomy School. This OPYPA evaluation surveyed both beneficiary and non-beneficiary producers (as a control group). The baseline results of the survey conducted in 2015 are published in Fuletti (2017) and Paparamborda (2017). In 2017 a seminar was held to discuss the results of the baseline (MGAP, 2017) and in 2020 the Evaluation Area of OPYPA carried out the second survey to follow up on the results.

The project included several systematizations works, both of the actions and of the lessons learned, from which several recommendations were derived. Acosta's (2019) lessons learned collection work was developed with a participatory methodology, which involved direct consultation and consultative work with representatives of all groups of project stakeholders, both from its management, as well as beneficiaries and partner organizations. Workshops lasting three to four hours were held, with differentiated themes and participatory methodologies with the project stakeholders. Individual interviews were also conducted, and Learning Recovery Cards were used, with the aim of collecting significant experiences in each of the topics analyzed in a case study format.

There were other systematizations on different aspects and components of the project, including, among others, the works of Acosta, Piedracueva and Vázquez (2019) that analyzed the management of the Revolving Funds, and the master's thesis of Paparamborda (2017) that focused on the management of livestock practices in the operation and productive outcome of family farms, taking the Reference Farms as a model.

4.3.6 Conclusions and lessons learned

In this Component we identified four areas from which to draw some conclusions and lessons learned:

Articulation between components

Based on the analysis carried out in the different components, a very marked temporal decoupling was identified in Component III, which particularly affected Component I. The generation of knowledge was not available at the beginning of the implementation and evaluation of the investments and pre-farm technical assistance processes, nor was it available in the training and capacity building processes carried out by Component II linked to the MDRs and organizations.

The explanations identified are linked to temporalities intrinsic to each component and to design and governance problems. In the first case, the MGAP already had internal experience and installed capacity, linked to the formulation of calls, execution and monitoring of investment projects and technical assistance to farms, using external private technicians. This experience facilitated the initial implementation of Component I in the short term. It contributed to its speed since there was no effective participation of the MDRs in the evaluation and selection of projects, except in a few MDRs where monitoring committees were established and functioned for a short period of time.

On the other hand, Component III depended on the UACC with only three staff members assigned to the project and had to coordinate with the DGDR, which was in charge of Components I and II. This situation generated the need for a coordination that went through different articulation processes (analyzed above). In addition to this situation, the particularity of knowledge generation must be considered, which requires time for implementation, observation and analysis, prior to drawing conclusions that can be transferred to the other components. This process implied having a technical team with training and experience in family livestock and climate research, present only in some MGAP teams. This generated the need to make agreements with institutions outside MGAP, finally reaching an agreement with the Agronomy School, which concentrates the project's process of knowledge generation.

Knowledge generation

Component III is centralized within the framework of the agreement between MGAP, the Agricultural Plan Institute (IPA) and the Agronomy School (Udelar). It is then entrusted to a team with experience working with livestock and natural field, which is linked to others who had training and experience in technical assistance and extension methodologies linked to "Co-innovación".

The knowledge generated was focused on building and proposing a typology that tries to identify different production logics. On the other hand, it also focused on proposing that every livestock breeding family has its own pace and ways regarding the adoption of the proposed technologies. The latter has the particularity that it happens in a homogeneous environment of producers in which all of them voluntarily accept to be included in the program. All of them are willing to change.

The vision of “Co-innovación” implies a set of technologies that make up a proposed model, which seeks to be adopted in whole or in part in a flexible manner, through planned, continuous and systematic pre-farm technical assistance. This form of technical assistance implies an advance in relation to traditional technical assistance which, although it does not seek to recover existing knowledge, proposes a dialogic process when proposing innovation. Based on the interviews and surveys, it was observed that there is no systematic recovery of knowledge from the producer families of strategies implemented in the farms and organizations related to climate change adaptation.

In the view of some of the technicians interviewed, difficulties arise when thinking about scaling up. They argue that it is necessary to have a technical team with adequate training on the subject, with a significant territorial presence, which requires a large availability of resources. In addition, they mention that in many cases producers show little disposition to systematic and permanent technical assistance processes.

The EFN tool promoted by the project has some positive aspects to be highlighted, such as the systematization of farm production and technical assistance information, providing objective information for decision making both for private technicians and for MGAP monitoring. Some limitations related to the sustainability of the tool were also detected. The survey of private technicians revealed that the tool was not very useful and pointed out the difficulty of access to technology, lack of flexibility and the cumbersome process of filling in the data.

Territorial development approach

Component III, which has goals linked to territorial issues, focuses its development at the farm level, with the fundamental work on the network of reference farms. The “Co-innovación” approach worked at, was carried out at an intra-farm level and from a strictly agronomic disciplinary approach that does not incorporate an interdisciplinary vision when accompanying group-family processes.

A strength of the project was the link with agricultural institutions, but it was difficult to establish a relationship with MVOTMA and INUMET, which was linked to the achievement of several goals of this component. Thinking about a drought early warning system, not only the relationship with these institutions is important, but also the relationship with the departmental governments and municipalities.

One of the recommendations arising from this analysis is that extension should be incorporated into the territorial development approach as an articulated training-communication program operating at the level of groups, organizations and MDRs. The strategic plans developed by the MDRs were oriented in this direction.

Evaluation and systematization system

One of the highlights of the project was the monitoring, follow-up and evaluation processes carried out during its execution. This situation solves one of the most frequent problems of rural development programs and projects, which is linked to unsystematic and partial monitoring and evaluation processes. The diversity and participation of different institutional, organizational, beneficiary and technical actors involved in the project and the modalities of project analysis should be emphasized.

A particularly important issue is related to the implementation of the project's impact evaluation, which required the construction of a baseline and a final baseline to analyze project results. In this case, the construction of an installed capacity in OPYPA, which could be used in other projects, both of MGAP and other public institutions is remarkable.

4.4 Component IV: Financing and Accounting Management

Although this component did not have explicit specific goals in the Logical Framework of the original Project, it foresaw a fundamental role in the general administration of the project, monitoring and evaluation and accounting management of the Project. It was carried out from the UGP, where the incorporation of a set of human resources financed by the project (Coordinating Technical Assistant, Monitoring and Evaluation Assistant and Officer) were foreseen.

Several issues concerning project management and the structure of this component IV have already been addressed in the different sections of this evaluation.

Components	Total budget	Implemented	Balances
Component 1	7,360,000	6,505,481	854,519
Component 2	952,362	1,004,236	-51,875
Component 3	784,424	1,608,029	-823,605
Component 4	374,643	520,948	-146,305
Contingencies*	191,539	21,807	169,732
Total (USD)	9,662,967	9,660,501	2,467

Table 9: Total budget based on component, implemented expenditures and balances

Source: Interview with central level technician.

References: The amount implemented in contingencies* corresponds to the foreign exchange difference.

As can be seen in Table 9, Component I was under-implemented and was allocated to Component III.

The lower implementation of the planned budget in Component I throughout the project could be linked to the difficulty of attracting more producers, mainly in the LU of Cuesta Basáltica. Unlike the LU of Sierras del Este, where part of the Department of Treinta y Tres was incorporated to cover more producers which allowed reaching and exceeding the planned goal, in LU Cuesta Basáltica there was no expansion of the territory.

The consequence of this, at least in part, was that the implementation was 88% of what was foreseen. It is our understanding that these funds were diverted to the rest of the components, mainly Component III, which at the end of the Project period (2020), could have financed the knowledge generation and management agreements, among other expenses.

5. Gender and youth participation

The purpose of this section is to focus on the aspects of the program related to the participation of women and young people as a result of being populations of special interest for public policy¹⁸.

In this regard, gender relations and dissidences between men and women were considered, understanding the latter as determining elements of the ways in which people know and experience the world, how they interact with others and, connected to this, what opportunities and privileges are offered or denied to them. In this sense, it is from gender relations that we can observe how power relations are solidified through oppression, violence, discrimination, marginalization and privilege in a society (Baylina Ferré, 2004).

To account for gender relations and the associated inequalities in a project that aims to address family agricultural production implies problematizing the concept of family production as a homogeneous whole. This problematization will then make it possible to understand that the realities of families are the result of unequal power relations between men and women. In this way, the notion of complementarity of roles and tasks is called into question and, therefore, each person in the family lives his or her condition within the family in a different way (Siliprandi, 2010).

On the other hand, relations between generations also bring about inequalities within rural families, generating specific conditioning factors for rural youth. Giving visibility to rural youth in projects inserted in rural development processes implies an adequate approach to accompany the transition from childhood to adult life in the rural world (Durstun, 1998). This is especially relevant if we take into account that it is young people on whom the continuity of family farming depends (Gallo, Molinaro and Osorio, 2011).

It is from these conceptions that this chapter intends to focus on young people and women in order to show how these existing inequalities are reflected in the development of the program.

¹⁸ Although in this document we have opted for the generic use of the masculine to represent men and women, for this specific section, inclusive language will be used since it is of special interest to discriminate when we refer to men, women or both cases.

5.1 Institutional Perspective

If we take into account the background documents, we find lines of action oriented to youth and women in different ways. The following is an outline of the references from the background documents.

Specific calls in the MDRs for youth and women's projects.

In 2018, within the framework of the celebration of the international year of empowerment of rural women and girls, the RDR Cuesta Basáltica proposed a revolving fund for productive agricultural enterprises of rural women, covering 4 productive enterprises and 15 rural women (Cesilini, 2016).

At the same time, the mid-term evaluation states that, although the work with young people has yielded good results, achieving 14 projects involving 120 people, it is still necessary to think of a tool to incorporate women in the coming year (Cesilini, 2016).

Women Regional Meeting

In 2019, the Rivera RDR holds a regional meeting in which 50 rural women involved in livestock, handicrafts and horticulture, among others, participated. (Martínez, 2020).

Somos de Acá Program

The GFCC Project promoted actions specifically aimed at supporting productive projects presented by youth groups. To this end, it was aligned with the Somos de Acá Program, which was already being carried out by the MGAP, promoting 15 "Somos de Acá GFCC" projects and a meeting with 120 young people (Martínez, 2020, 2021).

MGAP - INJU (MIDES) Agreement

In 2016, MGAP and INJU (MIDES) promoted the course "Promotores Juveniles en Recursos Naturales y Cambio Climático" (*Youth Promoters in Natural Resources and Climate Change*), aimed at developing training for young people linked to the rural environment.

5.2 Lessons Learned and Recommendations

Regarding the lessons learned and assessments contained in the background documents, with respect to the incorporation of women and young people, the incorporation of actions to reduce the gender gap is recommended, with the understanding that in critic situations women have been able to sustain family groups, leading groups of organizations (Cesilini, 2016). In addition, the analysis of the population structure in the implementation area of Component I is promoted, to evaluate the possibility of working with young people and women heads of household.

The main lessons learned are also valued as the very positive impact on the construction of life projects in rural areas for young people, acting favorably against migration and contributing to generational replacement. As a contribution to future projects, there is a demand from the young people to be able to give continuity to the groups formed and the technical support received after the end of the projects, in order to generate sustainability of the results obtained (Martínez, 2020).

On the other hand, we proposed to resort to interviews with local referents of the DGDR and central MGAP teams that were institutionally linked to the GFCC Project. The following is a summary of the main references to gender and youth issues, distinguishing between those related to the composition of the technical team and those related to the beneficiaries.

With respect to the participation of women technicians, it should be noted that the technicians hired for Component II occupied a subsidiary position at the beginning of the project, having to claim their place as technicians. Regarding the approach in the territory, gender is also mentioned as a conditioning factor since the receptivity of the women or men producers with private techniques is different.

On the other hand, with regard to actions aimed at young people and women, it is pointed out that these lines of work did not carry much weight and that it was not until the fourth year of the Project that work on the subject began. In addition, the work with schools is mentioned as something "too imposed", opting to work with young people rather than with educational centers. It should be noted that in the evaluation protocols of the land proposals it was foreseen and made explicit to prioritize proposals aimed at young people and women.

Considering the conception or the basis from which specific actions aimed at young people and women emerge, it is clear from the interviews conducted that a paradigm was adopted where women become interlocutors in the MDRs and on the land/property. It was also mentioned that gender and youth were more emphatic in Component II due to the disciplines involved and were not incorporated in the same way in the rest of the components.

Regarding the requirement of a percentage of women as full members, it is mentioned as "extremely primitive and difficult to negotiate". The existence of an ideal of rural women promoted by international organizations associated with emerging countries is questioned, since "there are demands that have to do with other realities".

Finally, regarding the work with women and youth, it was stated that it is not something that emerges from the Project itself, but from the DGDR guidelines. From there, an attempt was made to incorporate the topic with some specific activity in the Project that had to do with this. This line has its basis in the DGDR with *Somos Mujeres* and *Somos de Acá*.

5.3 Territorial Perspective

We also propose an approach to the different assessments made by those who were involved in the program as technicians from the intervention territories. In this sense, allusion is made to the perceptions shared in two group interviews with technicians from the North and East. In addition, the information gathered from the form submitted by private technicians and technicians is also used.

Regarding the program, the importance of the creation of the revolving fund and the support to women producers' projects stand out, particularly the experience of the RDS Basalto Route 31 together with the articulation with the MDR. Linked to this aspect, the importance of the fund in the generation of organizational capabilities is highlighted. Regarding the training of female and male field technicians, according to locals, they could have contributed more if they had had the necessary training in gender and youth for the intervention.

According to the women and men interviewees, the project did not focus on the gender issue. The determining criterion was not whether it was a woman or a man, but who was the owner of the livestock. Furthermore, although there was parallel gender training during project implementation, it was not something that was worked on either at the farm level or at the level of the MDRs.

It would be interesting to include gender issues in future projects, not with an excluding perspective, but with a more general view. In this regard, the need to incorporate more female and male technicians from the social area who can incorporate these visions was raised.

Finally, it was mentioned that the project was not intended to address the issue of gender and youth, and that the teams made an effort to incorporate it according to the more general policy of the DGDR.

5.4 Perspective of female and male private technicians

The assessments in terms of the gender and youth perspective at the time of the approach in the territory and how reaching these populations as a result of inequality may have particularities, will be addressed in terms of the survey of female and male private technicians. The general data related to the administration of this survey were presented in section 4.1 (Component I) and additional data can be found in Annex II. Of the female and male technicians who responded to the survey, 27% were women and 73% were men. According to the information gathered regarding the role played by female and male private technicians and the importance attributed to the participation of young people, women and families in general, we obtain the following scenario:

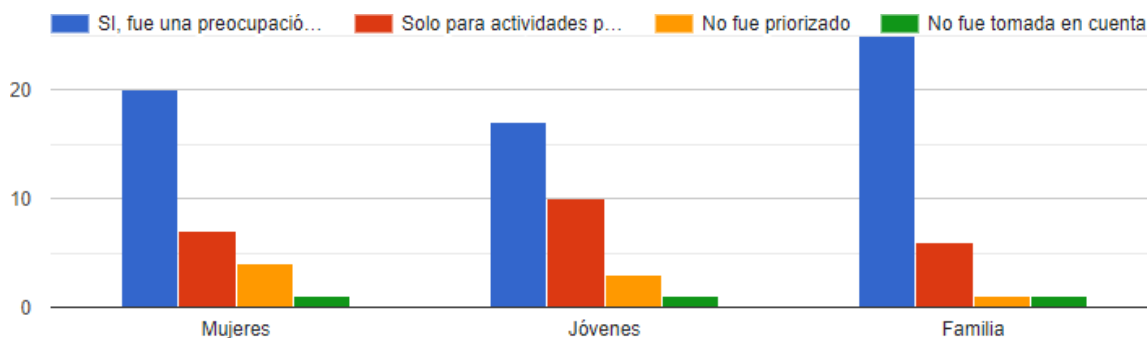
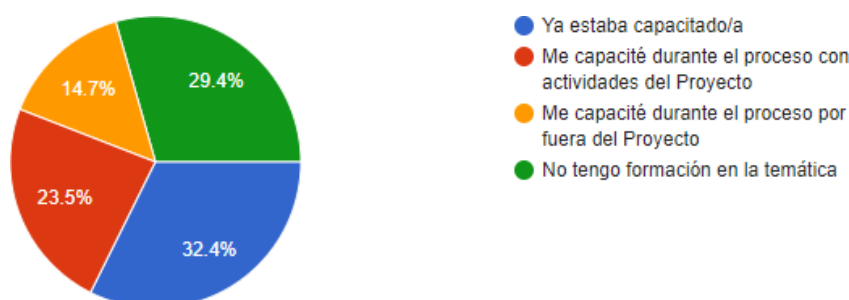


Figure 12: Evaluation of private technicians on the general management of the project: technical assistance and relationship with the MGAP

We can observe how in most cases there is special interest in the participation of young people, women and families in general. In terms of variations, we can observe how family participation was considered a major concern, and how the incorporation of young people for some activities was a frequent concern.

If we consider whether those who occupied the role of female or male private technicians had previous training in gender issues, or during their participation in the project, the responses show the following:

Figure 13. Evaluation of private technicians on the general management of the project: technical assistance and relationship with the MGAP.



It should be noted that although a large number of those who responded to the survey had training in gender issues, an even larger proportion received training during the course of the survey, both within and outside the framework of the program.

As for the identification of determining factors regarding the participation of women in the project, referred to by the female/male private technicians, aspects that can be related to the characteristics of the families involved and others referred to the technical team are mentioned.

Regarding the relevant characteristics for the incorporation of women linked to the families, the women's residence on the land and their link to agricultural activities are mentioned as a determining factor. Another relevant factor is the role of women in the household, with the participation of women being more favorable when they are the heads of household. In other cases, the division of tasks within the family acts as a conditioning factor. In addition, the distance between the place of residence and the place of the meetings is mentioned as a relevant aspect.

Regarding the characteristics of the technical team and the form of intervention, the previous knowledge of the technicians about the families through the grassroots organizations, and in particular the link with the MDRs, was considered a positive aspect. Also, the fact that they were women technicians was considered to have favored reaching other women producers; and the fact that they had training in gender issues was highlighted as relevant. Finally, with respect to the characteristics of the intervention, the existence of field visits and an approach oriented to the producer family and not to the producer was considered beneficial for the integration of women.

Regarding the question on how the gender condition of those who worked as private technicians influenced their role, in some cases it was not something that influenced them and in others it did. In the cases where gender was considered to have influenced their role, several aspects were mentioned.

On the one hand, it is mentioned that "as women it is more difficult to reach men because of the tradition that it is a man's job". But that, at the same time, it allows a greater connection with the rest of the family members. This is also identified on its flip side, where being a man is seen as an obstacle to involving rural women. All these aspects are linked to gender stereotypes from which intervention in the territory is not exempt. In this sense, reference is made to a process of adaptation to working with a female technician, mainly for farm male managers and producers. Another aspect that is visualized is the age of the female and male technicians as a conditioning factor, being young as an obstacle to legitimacy, giving rise to the questioning of the proposals.

On the other hand, if we take into account the incorporation of young people to the program, regarding the previous training in youth issues by the technical team, it is expressed as follows:

Figure 14. Evaluation of private technicians on the overall management of the project: technical assistance and relationship with MGAP.



From the information gathered it is possible to conclude that more than half of those who responded to the form have no training in the subject, while a smaller percentage received training during the project.

Regarding the identification of determining factors for the participation of young people in the program, the residence of young people on the farms and the possibility of generational change are mentioned as relevant. In addition, the farm visit is referred to as a facilitator for reaching the whole family, while in the workshops, their absence was frequent. This is linked to the division of tasks within the family, since in some cases the participants mentioned that young members performed productive tasks while adults attended the workshops. Reference is also made to typical aspects of technicians, such as empathy for dialogue with young people and the possibility of forming teams with interdisciplinary approaches.

Finally, regarding how the participation of young people and women was incorporated in the project from the perspective of the beneficiaries, when asked about the importance of

women's participation in the program it is observed that most of them consider that women's participation was relevant in the implementation of the program. This is similar for young people, although there are some in-between opinions.

OVERALL EVALUATION: PROJECT ACHIEVEMENTS



1 Evaluation of Project Outcomes

The level of achievement of the project is evaluated as satisfactory, considering its relevance, effectiveness and efficiency. It was a highly relevant project, with some structure and governance problems that moderated its effectiveness. Efficiency was in line with similar projects executed by MGAP, although it could have been improved if other execution alternatives had been explored.

The project's relevance is highly satisfactory, showing consistency between the main results achieved and the objectives and strategic guidelines identified at the time of project design.

It adequately responded to the problems it was intended to solve, with an appropriate proposal of lines of action and selection of the geographic scope and beneficiary population. Previous studies, such as the technical assistance agreement between MGAP and CIEDUR, within the framework of the project design, were fundamental to objectify and carry out the intervention in a transparent manner.

Although the project was not built and designed in a participatory manner with local and institutional stakeholders, its adaptation approach took into account the current state of knowledge on climate change, perceptions and priorities identified in local communities (surveyed through polls, meetings and other specific activities at a local level). On the other hand, it was aligned with the policies promoted by the Executive Branch of the National Government and with those of the Adaptation Fund.

The permanent dialogue between technicians, producers and organizations, mainly through the territorial technicians of MGAP and the MDRs, was decisive in responding adequately to the problem that gave rise to the intervention.

The effectiveness of the project was satisfactory since it achieved a good performance (both at a global level and by subcomponent) in the achievement of objectives and goals according to the parameters initially foreseen, especially in the investment component.

A significant number of water and shade solutions were generated, as well as works on management linked to the natural field (investments and technical assistance) that improve resilience at the farm level.

Strategic plans were generated at the RDR level, a factor that consolidates and strengthens this space for local participation of both producer organizations and institutions in the intervention territories, in a rural scenario where depopulation and social differentiation processes are evident and have accentuated during the first decade of the 21st century.

It contributed by generating guidelines and important lessons learned for future actions. It also contributed to the preparation of the MGCN guidelines, to the discussion and consolidation of the National System for Response to Climate Change and Variability and to the National Plan for Adaptation to Climate Variability and Change for the Agricultural Sector in Uruguay. Contributions related to changes in the internal structure of the MGAP and improvements in its technical capacities (training) are evident.

A negative point was the insufficient inter-institutional coordination, which could have improved effectiveness, especially with regards to institutions linked to climate change and those linked to actions in the territory (including municipalities and municipalities). Although there were several points of inter-institutional coordination, some of them well valued, it is understood that some aspects should have been addressed in a broader and more planned manner.

The possibility provided by the AF to carry out adaptive management, favors a relatively efficient management because of the possibility of adapting what was planned to the changing conditions of the context and to unforeseen events that arose during execution.

The modifications to the original design and the management of the Project generated problems that were not always well resolved, but also generated challenges and opportunities that were partially taken advantage of. At certain times, the project had a "dual management", one centered in the DGDR and the other in the UGP, a factor that generated conflicts and conditioned the work in the territory. This situation went through processes of increasing dialogue and articulation that were resolved but affected the schedule of activities.

The work of the territorial technicians and the work carried out through the MDRs was gradually detached from the project's focus on adaptation to climate change, which did not affect the comprehensiveness of the action, but gave greater relevance to actions linked to the sustainability of family livestock producers, including, for example, the issues of strategic planning, gender and youth. Although this more holistic thematic opening may have relatively affected the effectiveness of the project, it generates impacts that are evident when it comes to thinking about integral and sustainable rural development.

A noteworthy aspect was the creation of revolving funds, a tool highly valued by producers and technicians, despite some problems regarding their sustainability. This aspect requires specific and differential support according to the capacities of the groups that carry them out.

A system of indicators to evaluate or assess the effectiveness of the measures proposed and implemented to reduce the vulnerability of family livestock producers to climate change was not developed. There is a clear need to continue with the development of a monitoring system on the quality of agroecosystems and ecosystem services that would improve resilience.

Finally, the effectiveness of actions with respect to adaptive capacity was limited by the

vision of the problem focused on technology transfer and adoption. According to this view, technologies exist and are available to producers, but they are not adopted by producers. Other aspects of the agri-food and economic macro-system in which these producers are inserted are not sufficiently considered in this analysis. A positive aspect is that this project prioritizes low-cost technologies, which are better suited to producers with scarce capital and which generate less dependence on external inputs.

Its **efficiency is not very satisfactory because**, although it has achieved a good budgetary implementation, at the average execution levels of other MGAP projects, the decoupled execution of its components and the changes in the technical and institutional coordination negatively affected the planned schedule of activities.

Component I was unable to meet the planned goal (budget and number of beneficiaries) because LU Cuesta Basáltica did not submit a sufficient number of investment proposals. This was compensated in part by a higher execution in LU Sierras del Este, which exceeded the planned goal, and in part by a greater dedication to technical assistance in the projects submitted.

Both the remuneration of the private technicians and the disbursements for the property projects suffered delays beyond what was foreseen, an aspect that was negatively valued and that affected the implementation of the investments. These delays are partly due to the process established by the norms of transparency in the rendering of accounts, which are based on the Constitution of the Republic itself and which imply that the transparency controls require that the file must go through different stages (accounting controls, signature of the corresponding authority, Court of Accounts, General Accounting Office of the Nation, and then return to the MGAP). In short, it takes no less than two or three months to pay the technicians, and no less than nine or ten months to obtain the funds for the investments. On the other hand, however, difficulties in communicating the procedure were identified by the interviewees (central level). This is an aspect that should be considered in the design of future projects; it is basically a communication problem: "a producer is told that the project has been approved and thinks that he will immediately receive the funds, and this is not the case" (Interview with central level technician).

The fact that the MGAP, IPA and FAGRO agreements were used in Component III made it possible to channel resources into a single area and improved the internal coherence of this component. On the other hand, this prevented us from venturing into other visions for the generation of knowledge, whether linked to more interdisciplinary and holistic approaches, such as those arising from agroecology, which are also necessary to think about sustainability at the level of families and territories. In mid 2020 there were two agreements, one with SUL on sheep animal health and the other with IPA on livestock animal health and climate change.

The analysis of the project's financial management showed that international organizations that finance actions to mitigate the effects of climate change use implementing entities such as the IDB or the World Bank to manage the funds given their experience and capacity. But with the GFCC, the AF wanted to innovate and generate capacities that would remain in place in the country, which is why it was agreed that the ANII would be the implementing entity. This aspect of financial management was not positive, as the UGP strongly criticized the level of ANII's involvement and its lack of experience and capacity to manage projects of such size.

The innovations incorporated in the project design related to the implementing entity affected the efficiency of the project, but it is understood that this was compensated by the management skills within the executing entity. Given the structure and capacities generated in the UGP as a result of the experience in the management of previous international organizations' projects, it is understood that these difficulties were minimized (Interview with central level technician).

In short, the difficulties related to communication and governance had a negative impact on the project's efficiency. However, the redesign and the creation of new coordination spaces within the project made the last stage of execution more feasible and efficient.

2 Contribution of the Project's Achievements to the Objectives and Goals of the Adaptation Fund.

This Project has a strong affinity with the strategic framework and the intended impact of increasing the resilience of communities, regions and countries to climate change and variability proposed by the Adaptation Fund. As previously mentioned, the Project has devoted significant efforts to institutional strengthening, knowledge generation and local capacity building at the farm level and through the MDRs, aiming to increase resilience at a local and national level. The basic impact indicators to assess progress at the project level are shown in the following table.

Table 10: Basic indicators of the impacts of the Project

Results at the impact level	Basic indicators	
Increased capacity for adaptation of the communities to respond to the impacts of climate change.	Number of beneficiaries (direct)	4,300
	women	45%
	young people	26%
	Number of early warning systems	1
	Assets produced, developed, improved or strengthened	2,191
	solutions associated with water issues	861
	solutions associated with pasture management	996
	solutions associated with shade issues	334
Increased ecosystem resilience in response to climate change-induced stresses.	Protected or rehabilitated natural habitats (ha)	217,231
	Cuesta Basáltica Landscape Unit	114,068
	Sierras del Este Landscape Unit	103,163

2.1 Direct and Indirect Beneficiaries

The number of high intensity direct beneficiaries, supported with financial resources and targeted technical assistance, was 1076 people (targeted and high intensity). Of these direct beneficiaries, 29% were women and only 3% were young people (of up to 24 years of age). Considering that in an average household in rural areas of Uruguay the average quantity of members is 3.2, it can be estimated that the population directly affected by the project through Component I was around 3,450 people.

The other group of direct beneficiaries, considering activities related to Component II and III, were the participants in training, discussions, workshops, awareness-raising sessions, participants in producers' organizations and in specific activities of the MDRs, participation in educational centers and young people participating in calls and specific activities. This second group of direct participants was estimated at 850 people.

The indirect beneficiaries are all the families that depend on livestock production in both UPs, where the dissemination of certain benefits is expected as a result of the intervention carried out.

2.2 Early Warning System

The early warning system is fundamental for disaster risk reduction, generating the possibility of timely and adequate responses in order to reduce the possibility of loss of livelihood sources, damage to physical assets and the environment. Early warning systems comprise four main components: (1) risk awareness, (2) monitoring and warning service, (3) dissemination and communication, and (4) response capability. The project contributed to the development of information systems, tools for monitoring agro-environmental variables and contributed to the construction of an early warning system (not yet operational) at spatial-temporal scales suitable for making productive decisions at the level of livestock farmers. In this case, work was done on early warning services for droughts and water deficits at the Landscape Unit level. The weakest point to continue working on is the capacity to respond to water deficit and drought at the level of producers' organizations. Also, at the State level, there is still work needed regarding the elaboration of predefined disaster management plans.

2.3 Improvement and Development of Assets

The number of assets produced, developed, improved or strengthened assesses the extent to which project interventions have achieved the expected results of responding to climate change variability by improving, developing or strengthening assets. This includes services in the development sector: in this case, work was carried out on insurance mechanisms based on climate indicators at the local level. The project contributed to validating the Pasture insurance system based on the NDVI for Uruguayan livestock producers.

On the other hand, a wide variety of physical infrastructure associated with drought resilience was improved and produced. Among the assets improved and produced, we find the 861 water solutions and those corresponding to the 334 shade subprojects that include

tree planting. Within the 996 subprojects that included solutions associated with grassland management, divisions and facilities for animal feeding and management were built.

2.4 Income Increase or Decrease

Livestock activity is the main source of income. The project focused on improving the resilience of livestock producers by improving physical infrastructure and through management changes, strengthening the local network and generating revolving funds. The actions implemented contribute to improving and/or maintaining income levels. There was no quantitative evaluation of the change in income.

The adoption of sustainable and adapted practices and technologies by producers significantly reduces their vulnerability to the impacts of climate change, allowing them to maintain their productive and economic activities, reducing the risk of losses and generating reinvestment capital. Revolving funds have contributed to reducing the economic vulnerability of producers and are a tool that is highly valued by family livestock producers.

2.5 Protected and Rehabilitated Natural Habitats

The natural assets effectively protected or rehabilitated by the project were the associated grasslands and native woodlands. The subprojects provided the possibility of improving the integrity of the agroecosystems, reducing the risk of erosion and degradation of natural grasslands, and improving rainwater retention in the ecosystems. The area directly affected was 114,068 ha in Cuesta Basáltica and 103,163 ha in Sierras del Este. Although the project's timeframe is too short to measure the specific impacts of the measures and actions implemented, the changes in management practices and the sensitivity of the participants with respect to the care of natural resources and climate change have been highlighted in the different evaluations carried out. The project contributed significantly to the work of the MGCN and the inter-institutional discussion on the guidelines for the Strategic Plan for Livestock Farming on Natural Countryside. The area affected by the project is one of the most vulnerable, from the point of view of the protection of the Pampa biome in Uruguay.

3 Assessment of Sustainability of the Results and Progress toward Impacts

3.1 Sustainability of Impacts

Sustainability is understood as "the likelihood that the results achieved will continue after the Adaptation Fund funding ends. An impact evaluation carried out by Durán and Laguna (in press), in terms of technological adoption, indicates that "the evidence gathered in this study does not allow us to affirm that the GFCC has had an impact in terms of increasing the average adoption of the management practices analyzed, at least in the short term". However, an interview with a central level technician shows that, according to the sensitivity and adaptive capacity index (ISCA) developed for the DACC and applied to other projects, nearly 40% of the producers analyzed are in a better position to face climate change

problems. The sustainability analysis will focus on the achievement of goals at the level of the three project components.

About Component I:

The sustainability of project impacts is associated with investments, technical assistance and revolving funds.

Infrastructure investments, provided they have been made correctly, have a medium and long-term scope. Despite this finding, there were some technical weaknesses that may have compromised - in some cases - the sustainability of these impacts.

Regarding technical assistance, the sustainability of its impacts, is fundamentally linked to technological adoption from the MGAP approach (Aguirre et al, 2018). From this conception, sustainability is seriously compromised based on the analysis of the information derived in the present work and the report by Durán and Laguna (in press) who do not find evidence of an increase in the average adoption of management practices by the project. Despite this result, we can reflect that the sustainability of the technical assistance impact had interesting advances at the level of other dimensions, for example, the encouragement of family participation, particularly of women and youth.

The sustainability of the impacts of revolving funds should be analyzed in different contexts.

On the one hand, there was a context in which it was managed through producer groups without a consolidated legal and administrative structure, with less technical support, where the sustainability of the tool is more diffuse. In the other context, where the management of the tool was in the hands of the organizations and within an institutional framework, sustainability is more consistent. An important heterogeneity is observed at the level of operation and its impacts, detecting situations in which the funds have been adequately managed and are maintained, while in other situations inadequate management was detected and the fund was extinguished. In any case, the tool as such is seen as relevant and facilitating the processes of land and collective sustainability.

About Component II:

In Component II, the development of a local network was one of the most important goals. This result was achieved by focusing the work on the MDRs in the two UPs. Although the level of functioning and consolidation of the MDRs was heterogeneous at the beginning, the GFCC Project was an important factor in consolidating and installing capacities that make these collective structures more sustainable.

As part of the process of increasing sustainability, at the RDR level, the work linked to the participatory diagnosis carried out at the beginning of the project and specifically the strategic plans planned and executed by the MDRs can be mentioned.

At the level of training processes on issues related to climate change, such as gender and youth, the training processes provided knowledge and skills to technicians, producers, groups and organizations that are linked to processes of analysis and reflection that are incorporated into different projects and activities.

About Component III:

Component III, linked to knowledge management, has the construction and implementation of a network of reference farms, whose sustainability is given through the development of the Livestock and Climate project currently under implementation as a central element.

The sustainability of the methodology implemented by the farm network, linked to “Co-innovación”, shows positive aspects in terms of the relationship with the producer families. Nevertheless, it does present difficulties in its implementation at larger scales in the medium term.

There is a trend towards sustainability linked to internal MGAP capacities, such as the training and experience of DGDR territorial technicians and the monitoring and evaluation system developed by OPYPA.

The sustainability process is linked to the incorporation of public and inter-institutional policies such as the National Plan for Adaptation to Climate Change and the discussion and preparation of guidelines for the Strategic Plan for Livestock on Natural Countryside within the framework of the MGCN.

3.2 Risks and Assumptions Affecting the Sustainability of Results

For the presentation of these results, four categories were used to classify the risks. The scale used is presented below, followed by the main risk axes evaluated for the probability of sustainability of the project's impacts.

1. Highly Likely Sustainability: There are no (or negligible) risks affecting this dimension of sustainability.
2. Moderately Likely Sustainability: there are moderate risks affecting this dimension of sustainability.
3. Moderately Unlikely Sustainability: there are significant risks affecting this dimension of sustainability.
4. Highly Unlikely Sustainability: there are serious risks affecting this dimension of sustainability.

3.2.1 Financial and Economic Risks and Assumptions

The guiding questions were: is there any financial or economic risk that could jeopardize the sustainability of results? And what is the likelihood that economic and financial resources will be available once AF funding is completed, considering the perspective of the different stakeholders?

Regarding external economic and financial risks, there are two areas where damage may occur: at the level of intra-farm results (investments and technologies) and at the extra-farm level (revolving funds, MDRs and the Network of Reference Farms).

Given the characteristics of the farm investments (low maintenance), it is considered that there is a low probability that external financial and economic effects could affect the sustainability of the results. The main technologies proposed (temporary weaning, seasonal weaning, gestation diagnosis, body condition management and pasture height management) consisted in improving processes and not in the incorporation of inputs, which reduced the economic and financial risks when considering their sustainability. The difficulty that arose in economic and financial terms was more about how to transcend to non-beneficiary producers (of the LUs and at the country level for family livestock farming). Although this was not a risk for the sustainability of the results of the project itself, it is an element to be considered in public policies for similar future actions.

With respect to revolving funds, the interruption of payments by producers generated moderately probable economic and financial risks that threatened the sustainability of the tool. As seen above, there are elements related to the structure and installed capacity of the organizations that can contribute to minimize these risks.

The MDRs do not depend on external financial support for their permanent operation. Therefore, it is understood that it is moderately unlikely that there will be risks to the continuity of their operation and results.

The Network of Reference Sites requires an intense participation of technicians, which requires a significant budget to keep it going. Therefore, it is identified as highly dependent on funding from new projects.

Based on a policy of reducing public spending (highly likely financial risk), there are certain risks that are moderately likely to affect the budgets allocated to maintaining the public policy of rural development.

3.2.2 Socio-Political Risks and Assumptions

The sustainability of the project based on socio-political assumptions and risks is moderately likely because the project has been implemented through a broad network of public and private actors and because of the high degree of ownership of the problem shown by all of these actors. Although the contributions of some components are more sustainable than others, the creation of revolving funds and the work in the MDRs are two aspects that give continuity to the actions. On the other hand, the implementation methodologies used did not always prioritize and enhance local knowledge and know-how.

There is a change in the political leadership that maintains priorities with respect to environmental care, but with a different view on territorial development and differential policies, evidenced in its position of cutting public spending and reducing the financing of plans and projects such as the GFCC. Such conditions the adaptive capacity of the most vulnerable producers. There is a clear concern and uncertainty about the role of the MGAP

and its way of working in the territory, as evidenced by testimonies such as the following: "For the landing of public policies, the presence of the State with territorial teams working together with the producers is essential. If there is no continuity from public policy, they are lost" (group interview with territorial technicians, 2021).

3.2.3 Risks and Assumptions Related to the Institutional and Governance Framework

The project showed special concern for providing skills and knowledge to producers and private and MGAP technicians. Likewise, much progress was made in the creation of local networks proposed in the GFCC Project, which was centered on the MDRs. Within this framework, the promotion of articulations for the creation of revolving funds and the work with producer groups and organizations was evident. It is understood that the continuity of these actions is highly likely, if the general conception of rural development of the MGAP that was put into practice is maintained.

The project was managed on the basis of inter-institutional coordination within the agricultural sector. However, there were important limitations when it came to coordinating with non-agricultural sectors. One of the greatest difficulties was identified in the articulation with MVOTMA - INUMET, where there was a very low participation of these institutions in the development of the implementation of the Early Warning System. Since this result was significant for knowledge management in the project, it is a moderately high risk for the sustainability of this component and requires a better articulation capacity.

Regarding agricultural inter-institutional arrangements, the MGAP reached certain formal agreements with the Agronomy School (Udelar), IPA, BSE, SUL and INJU (MIDES). However, there was no articulation with a key actor at the territorial level, such as the municipalities, whose link was only established in cases where they participated with representation in the MDRs.

As mentioned in the section on Changes in the Institutional Structure and Governance of the Project, there were strong contradictions and management problems that were solved by a coordination group that coordinated between the different sectors of the MGAP. There is a moderately likely risk for the governance of future projects that combine different units of the MGAP, if the articulation and complementarity between them is not contemplated.

The risks to the sustainability of intrainstitutional and inter-institutional coordination are moderately unlikely. In general, the issue of climate change has been incorporated into the political and institutional agenda, particularly in the discussion of the Guidelines for the Strategic Plan for Livestock Production in the Natural Countryside within the framework of the MGCN and the National Plan for Adaptation to Climate Variability and Change for the Agricultural Sector. The National Plan for Adaptation to Climate Variability and Change for the Agricultural Sector provides a framework for the continuity of the actions implemented in the project in relation to climate change.

The GFCC Project generated certain advances in the integrality of interventions (research-communication-organization) and in the articulation between institutions (intra and inter), which was not an explicit objective of the project. Even so, difficulties that are a moderately high risk for future actions became evident if stagnant and disciplinary visions are maintained, from the perspective of specific projects, without the potential for processes of greater complementarity.

At the level of rural development conceptions, there is a lack of global vision linked to a national research, extension and development program that would give coherence to the articulation and complementarity between the different public institutions and organizations. This perception raises the possibility of a highly likely risk of maintaining disjointed and inefficient actions when it comes to promoting long-term sustainable development processes.

3.2.4 Environmental risks and assumptions

The project was designed and began to be implemented at a time when awareness of climate change and its risks was still very incipient in the country, both at the level of producers, agricultural institutions, the government and the general public. There have been advances in awareness in recent years, but they are still insufficient and are not consolidated. National plans and public policies related to climate, at the agricultural level, have a high component of institutional discretionality.

The project focused on strategies linked to risks associated with drought and water deficit. However, there is no clear signal in the meteorological records that, by itself, explains the widespread perception that the frequency and intensity of droughts have increased. From an intra-farm perspective, if CC events escalate or change their pattern, the project leaves the beneficiary producers with a set of investments and capabilities to mitigate their effects, making them more resilient. Some of these capabilities are related to the technologies promoted by the Project. In particular, there are two strengths in factors that minimize environmental risks. On the one hand, the technological proposals promoted and addressed to reduce vulnerability and adaptation to climate change are the product of national research, developed by Udelar and INIA for several decades. On the other hand, the approach adopted seeks to promote process technologies, low in external inputs and based on strengthening ecosystem services in and from the national livestock sector.

This approach was adopted from Component III of the Project, in line with the proposal of ecological intensification or ecologically intensive livestock farming, promoted by the Agronomy School. The central focus of the proposed model is to simultaneously increase the economic result and the provision of ecosystem services.

Perhaps a negative point is that the technologies promoted concentrated on cattle production, leaving sheep production in the background, which tends to be concentrated in the shallow soil areas of Uruguay, mainly in the Basalto area. Although the focus was not limited a priori to cattle production, there was no specific agreement by MGAP to focus on

sheep production until 2021. The evaluations of the private technicians indicate that both the investments and the advisory services had a significant impact on the beneficiary families, especially in those farms where there was a more comprehensive dedication of the technical assistance and not only referred to the property investments financed by the project.

There are moderate risks that affect this dimension of sustainability, especially in terms of national research capacity. Although, as we saw in relation to the economic aspects, the problems related to the lack of a national extension plan and how to transcend to non-beneficiary producers at the country level (particularly for family livestock) are more important. Although this is not a risk for the sustainability of project results in itself, it is an element to be considered in public policies.

The design of adaptive management plans based on the principles of eco-physiological management of natural pasture and cow-calf management was a priority to the determination of stocking rates. In general, in the Reference Farms of the project, it was recommended to lower or maintain the stocking rate with which they had been working, and to combine this with management measures to increase individual productivity in order to compensate for the reduction in the number of animals. The scarce knowledge and studies on the evolution of stocking rates for the different native pasture communities in the different regions of the country would be a fundamental issue to work on to reduce environmental risks.

The reduced vision given to the generation and management of knowledge, centered on the farm and productive aspects, is a limitation, compared to agroecological approaches. This latter framework would provide a greater perspective of territorial work, multifunctionality of the ecosystems on which livestock farming and agri-food systems in general are carried out. The territorial development approach given to Component II, to some extent compensates for the lack of the other components in this regard, although a good articulation with the generation and management of knowledge was not achieved. Having a network in operation, such as the one linked to the MDRs, increases the likelihood of maintaining the positive environmental impacts of the project.

CONCLUSIONS, LESSONS LEARNED AND RECOMMENDATIONS



The following is a synthesis of the main conclusions drawn from the different chapters. In addition, there is a critical discussion of the lessons learned and recommendations arising from the published documents. In accordance with the structure of the report, the conclusions will be presented by component of the Project. However, it is considered necessary to include a section on the articulation between the components, which is presented later. Finally, conclusions on the cross-cutting factors of the project are presented.

Regarding Property Subprojects and Revolving Funds

Property investments

The impact of the land investments financed by the Project is highly positive. The number of establishments reached in terms of land investments is considerably good; there have been different results in the landscape units, even reaching the totality of the target in the LU Sierras del Este. It is also worth mentioning the number of beneficiaries who are going through their first work experience with MGAP. This type of investment contributes to the development of capacities to better face the problems related to climate change, as it tends to improve the basic needs of any productive system, such as water, shade and resource management. However, specific long-term evaluations are needed to draw more accurate conclusions in this regard.

Technical Assistance

The TA played a central role in the development of the Project because it was the direct link with the beneficiary producers and because they were the ones who formulated and presented the subprojects. The training prior to and during the execution of the Project, on various topics, together with the work trajectory between the technician, the producer family and the grassroots organization, are key to avoid focusing the assistance exclusively on specific aspects.

Although TA is an important factor, there are certain criticisms regarding the final impact of the actions. The TA is seen as necessary and important, although in some respects it was limited to complying with formalities and failed to incorporate other aspects related to the integrity of the property. In the medium and long term, once the project is completed, this type of technical assistance model does not generate the expected impacts. Some aspects of the design and planning of the project and the formulation of the subprojects (including the place given to the technical assistance and the producers), together with management problems, contributed to the impact of the technical assistance being less than expected.

Revolving Funds

The revolving funds are positioned as a tool capable of providing continuity to the improvements and even of continuing to expand the horizon of producers reached to the extent that they link up with the networks of organizations and thus gain access to the tool. Because of its characteristics of self-management, solidarity and flexibility, it is a device that presents itself as an opportunity to think about development from the territory for the territory, configuring endogenous rural development processes.

In turn, the agreements necessary to regulate, implement and consolidate the fund promote participation, training and development of groups and organizations. It is necessary to understand this whole process as a continuous collective construction that needs to be reviewed and worked on systematically and periodically. Only in this way can the producers as a whole appropriate and benefit from the tool, having a clear knowledge of its purposes and characteristics, which will give dynamism to its use, control and development in the long term.

The support provided by the organizations (with their administrative structure, technical and legal advice, etc.) contributed positively to the creation and maintenance of the funds. This process requires commitment, collective work and training of producers, which is a great challenge, but should be seen as an opportunity.

2 Regarding the Strengthening of Local Networks

The MDRs, as an environment for generating organizational and management capabilities, required a fairly extensive participation and training process (2013 - 2016). In this sense, the adjustment between the design of the proposal and the realization of the maturity of these spaces to implement it had a lag that resulted in a decoupling of this component with the investment component (Component I).

One of the first actions carried out by the MDRs was the territorial diagnosis, where it was possible to observe a relevant participation of organizations and producers. This even led to discussions of departmental and regional perspectives in inter-roundtable meetings that allowed for a strong appropriation of the proposal.

The operational and strategic planning process that took place from the call for this purpose in 2016 marks an important milestone in the Project. Based on the thematic linked to climate variability and change, it allowed the MDRs to consolidate and generate proposals with their own identity, covering not only training actions in the specificity of the project, but also projects that favored the participation of young people and women. The communication and dissemination projects on CC collaborated in several MDRs, with one of the expected results of putting the issue on the public agenda and favoring awareness-raising processes in this regard. As an observation to be made, in terms of learning processes, the 2016 call for the strengthening of MDRs was not foreseen in the original project.

It should be highlighted that the participation of the MDRs in the validation of the farm projects operated only in some of them and for a short time. The original proposal foresaw the creation of local committees with the participation of representatives of the organizations. On the other hand, there was significant participation of the MDRs in the construction of the revolving funds through the validation of their regulations for use.

The task of the territorial technicians and their role in the GFCC Project was relevant. Their role in convening and organizing meetings in the MDRs preceded the GFCC Project and they had a high level of knowledge and trust, both with the producers and with the organizations participating in the MDRs, which was important to consolidate the local network. On the other hand, they had to attend to other MGAP projects and initiatives and in this sense, they had to incorporate a new task that demanded a significant amount of time, an issue that can be seen as an obstacle to the development of the project. At the same time, they depended directly on the DGDR and therefore it was necessary to establish a level of articulation and agreements between the UGP.

As a lesson learned, it is possible to state that the task of the technicians working in the territory requires a detailed planning of times and tasks to be carried out at the level of the territorial teams. The territorial teams were made up of professionals from both the agricultural and social sciences, providing them with an interdisciplinary approach. This integration allowed training processes to include dimensions such as gender and youth and permeated the productive and environmental approaches.

It can be observed that this interdisciplinary approach did not occur in the same way with the technical assistance than with private technicians, or with the follow-up at the level of the technicians who worked with the reference farms.

Regarding Knowledge Generation and Systematization

In this Component we identified three areas from which to draw some conclusions and lessons learned: knowledge generation, the territorial development approach and the evaluation and systematization system.

Knowledge generation

The generation of knowledge materialized mainly within the framework of the agreement between MGAP, IPA and Fagro. There were other agreements executed later (SUL and IPA on animal health), but because they were materialized in the last year of the project, they did not have an impact on the actions related to the other components.

The agreement with the Agronomy School was made with a team that had experience in working with livestock and natural fields. This team, in turn, is linked to others that had training and experience in technical assistance and extension methodologies related to “Co-innovación”. Although the starting point is a “Co-innovación” approach, based on the interviews and surveys, it was observed that there is no systematic recovery of knowledge of strategies implemented in the farms and organizations linked to climate change adaptation from the producer families.

The knowledge generated was focused on building and proposing a typology that tries to identify different production logics and, on the other hand, that there are different paces and forms in livestock farming families tending to adopt the proposed technologies. The latter has the peculiarity that it happens in a homogeneous environment of producers in which all of them voluntarily accept to be included in the program and are willing to change. The vision managed of “Co-innovación” implies a set of technologies that make up a model, which seeks to be adopted totally or partially in a flexible manner, by means of planned, continuous and systematic pre-farm technical assistance. This form of technical assistance implies an advance in relation to traditional technical assistance which, although it does not seek to recover existing knowledge, proposes a dialogic process when proposing innovation.

Difficulties arise when considering its scalability, since it is necessary to have a technical team with adequate training on the subject, with a significant territorial presence, which requires a large availability of resources. It is evident that some producers show little willingness for systematic and permanent technical assistance processes.

The EFN tool promoted by the project has some positive aspects to be highlighted: the systematization of farm production and technical assistance information, providing objective information for decision making both for individual technicians and for MGAP monitoring. There are also some limitations regarding the sustainability of the tool, since it is not considered to be very useful and the access to technology is complicated. Additionally, there is a lack of flexibility and the process of filling in the data is cumbersome.

Territorial Development Focus

Component III, which has goals linked to territorial approaches, however, ends up focused on the farm level, with the fundamental work on the network of reference farms. The Co-innovación approach, was developed at the intra-farm level and from a strictly agronomic disciplinary approach that does not incorporate a global vision of the agrarian system, which is often the defining factor of farm sustainability.

A strength of the project was the link with the agricultural institutional framework, but the difficulty of the relationship with the MVOTMA - INUMET was observed, which was related to the achievement of several goals of this component. Thinking about a drought early warning system, not only the relationship with these institutions is important, but also the relationship with the departmental governments and municipalities.

One of the recommendations arising from this analysis is that, as part of a territorial development approach, a research, extension and development system should be incorporated as an articulated training-communication program operating at the level of groups, organizations and MDRs. The strategic plans developed by the MDRs were oriented in this direction.

Evaluation and systematization system

One of the highlights of the project was the monitoring, follow-up and evaluation processes carried out during its implementation. This situation solves one of the most frequent problems of rural development programs and projects, which is linked to unsystematic and partial monitoring and evaluation processes. The diversity and participation of different institutional, organizational, beneficiary and technical stakeholders and the modalities of project analysis should be emphasized.

A particularly important issue is related to the implementation of the project's impact evaluation, which required the construction of a baseline and a final baseline in order to analyze the project's outcomes. In this case, the construction of an installed capacity in OPYPA, which could be used in other projects, both of MGAP and other public institutions, is remarkable.

Articulation between components

A very marked temporal decoupling was identified in Component III, which affected Component I in particular. The generation of knowledge from Component III was not available at the beginning of the implementation and evaluation of the investments and of the pre-farm technical assistance processes, as well as in the training and capacity building processes carried out by Component II linked to the MDRs and organizations. The explanations identified are linked to temporalities intrinsic to each component and to design and governance problems.

In the first case, the MGAP already had internal experience and installed capacity related to the formulation of calls, execution and monitoring of investment projects and technical assistance to farmers, using external private technicians. This experience facilitated the initial implementation of Component I in a short period of time. The MDRs did not participate effectively in the evaluation and selection of projects, except in a few MDRs where follow-up committees were established and functioned for a short period of time. This contributed to the speed of the implementation process.

On the other hand, Component III depended on the UACC with relatively few personnel assigned to the project and had to articulate with the DGDR, which was responsible for Components I and 2. This situation generated the need of an articulation that involved different types of coordination. In addition to this situation, the particularity of knowledge generation must be considered, which requires time for implementation, observation and analysis, prior to drawing conclusions that can be transferred to the other components. This process implied having a technical team with training and experience in family livestock and climate research, present only in some MGAP teams. This generated the need to make agreements with institutions outside MGAP, finally reaching an agreement with the Agronomy School, which concentrates the process of knowledge generation of the project.

Gender and youth

Regarding the inclusion of women and youth in the program, as well as the way in which gender and generational conditioning factors were reflected in its development, it is pertinent to refer to a series of points.

In the first place, the incorporation of women and youth as populations of interest by the program is something visualized in the different levels addressed, with differences between the actions implemented for the incorporation of women and youth. In this sense, a greater implementation and valuation of actions oriented to young people than to women stands out. It should be noted that although there were references in the original project, the incorporation of these populations responds to a global institutional policy rather than to endogenous factors of the program.

Secondly, it is pertinent to refer to the elements addressed with regards to the conformation of the technical team and the form of intervention. It is possible that the private technical team identified aspects related to gender inequalities in their professional development which condition their role as well as the possibilities of incorporating women into the program, and there is a degree of problematization in this regard. In this regard, it should be noted that the vast majority of those who worked as private technicians were trained in the subject. Regarding the same point, this is not seen in relation to training in rural youth issues, where more than half of the technicians have no training. Another element that should be mentioned is the intervention at the farm level with a family-oriented approach, understanding that this allows the participation of the whole, including women and youth. This point is relevant, insofar as this form of intervention makes it possible to reduce the inequalities associated with the appropriation of public space and at the same time to accompany the incorporation of women and young people into it through the strengthening of organizations.

Finally, regarding the conditioning factors for the incorporation and appropriation of young people and women in the program, structural factors of the families themselves and aspects related to professional performance are established. At this point, it is essential to have information on the intervention areas to understand the way these populations relate to rural life, as well as to know the composition of the families in order to set intervention objectives in accordance with the characteristics of the areas addressed. Otherwise, the setting of initial objectives that do not take into account the characteristics of the families and the context tends to hinder actions aimed at these populations, thereby relegating their incorporation.

Project Governance

The processes of interaction between the different actors involved, from the perspective of an integral view of the project involving the State, the agricultural institutions, the market and civil society, was marked by a series of contradictions and conflicts. First of all, however, it should be made clear that none of the issues raised substantially affected overall performance. The project was an innovative initiative to the extent that, unlike other actions that preceded it, it was subject to significant challenges, in a practice where the articulation between investments and farm technical assistance was linked to the MDRs, on the one hand, and on the other hand, it sought to generate knowledge about the experience itself that would lead to changes not only at the level of the direct beneficiaries of the project, but also in the territory of intervention (defined Landscape Units).

6.1 Articulation at an Inter-Institutional Level

There were changes in the inter-institutional articulation that generally responded to interpersonal relations (knowledge and participation of the technicians involved at the central level) rather than inter-institutional relations.

Non-agricultural inter-institutional articulation had difficulties, particularly between MVOTMA and MGAP, where the former did not participate as expected. The relationship with INUMET in part may have been compromised given that it is a structure created in 2013, practically at the same time that the project began to be implemented. Although the project had a strong territorial anchorage, it had no relationship with the City Halls or Municipalities and there are no agreements or conventions, which is a weakness. At this level, one aspect to highlight was the achievement of the agreement with INJU - MIDES, which made it possible to have specific initiatives aimed at young people within the framework of the project.

Inter-institutional coordination in agriculture and livestock was achieved mainly through the agreement between MGAP - IPA - FAGRO, and it was limited to the knowledge generation component.

A noteworthy aspect is that the training for MGAP technicians, private technicians and producers was carried out with technicians from several agricultural institutions such as INIA, IPA, Udelar, SUL, among others.

6.2 Articulation within the MGAP

The articulation of different MGAP units required the decentralized structure of the DGDR in order to move forward and the role of the territorial technicians, as a transmission pulley from the central office to the territory and vice versa, was substantial.

The dependence of the technicians on the institutional structure of the DGDR and not on the UGP, which at the beginning of the project was the leader, generated conflicts that resulted in changes in the general coordination of the project. The DGDR had to coordinate internally, within MGAP, with the UGP and externally with the MDRs. In summary, the articulation of the different projects at the territorial level is an aspect to continue reviewing and adjusting so that ambiguities and contradictions are not generated at the level of institutional chains and hierarchies in the messages received and the responses given.

In order to achieve results in the specific area of CC and the effects of VC, the coordination between the UACC (currently USyCC), the DGRN (formerly RENARE) on technical adaptation measures, and the other units of the MGAP, was another level where agreements could be established. The problems in the coordination of these units were partly due to the delay in the beginning of Component III. On the other hand, the approach to pasture management was worked on by the Livestock Roundtable on Natural Countryside, since RENARE's priorities were on soil issues and there was no development for this aspect, which was central to the management of livestock production systems, based on the proposed results and goals.

Monitoring and evaluation of the vulnerability of the systems was also very important and specific to the project's theme, in which OPYPA and the UGP were involved. It was not possible to generate a system of indicators to assess the vulnerability of livestock systems to CC. The project design proposed a series of indicators. This process underwent changes

during implementation, but the construction of this monitoring and the validation of these indicators did not involve the participation of the producers, but were rather defined by the technicians.

6.3 Articulation with MDRs and Producer Organizations

The key actors with which MGAP articulated within the framework of the project were the MDRs, producer organizations and groups. The MDRs, in turn, were made up of producer organizations and groups that participated in the strengthening of the local network and had as one of their tasks the validation of the land projects proposed by the producer families and, on the other hand, the participation (according to the original project proposal) in the approval of these proposals within the framework of a Local Selection Committee. The validation of the projects went smoothly. However, the participation in the approval of the projects was left in charge of the central level of the project. Therefore, there was no participation of the MDRs in one of the key decision. The need to execute expenditures in the investment component may have accelerated this process, thus undermining the role of local stakeholders.

In terms of strengthening public and private institutional capacity to reduce climate-related risks, producer organizations with greater maturity and trajectory demonstrated a greater capacity to manage the resources made available by the project. The paradigmatic case was the revolving funds, valued by all the actors as a very important resource to respond to the needs of the producers operating in this direction and in the sustainability of the project once it was completed. The elaboration of regulations for their use required a significant period of time and a work of articulation between technicians and producers, who had to establish areas of participation, in some cases within the framework of the MDRs. The project shows that the participation of multidisciplinary technical teams was a strength for the construction of these agreements, which have a particular focus, depending on each of the organizations. In spite of this finding, with the end of the project, some situations were observed where the funds were paralyzed. In this sense, continuing to work on this aspect and foreseeing actions to install management capacities, especially in the organizations with greater weaknesses, is still an aspect to be considered for future projects, since sometimes the producer groups are constituted ad hoc for the projects presented. The role of the MDRs can also be relevant in this regard, as a space for organization, training and management.

6.4 Articulation with the Market

Market trends during the project period showed processes of primary and industrial concentration, highlighting the concentration and increase in land value and the reduction in the number of family producers. In this context, the project did not address the relationship with central actors in the territorial meat chain, for example, slaughterhouses and greenhouses.

Intra-land changes are proposed, linked to the adoption of technology to increase competitive efficiency in the market. However, the local and territorial network is not addressed with a focus on the economic or macro issues that affect the way in which market competitiveness and the effects of these forms on the capacity to adapt to climate change are affected.

This coordination with the different links in the meat chain has, to some extent, been addressed in other projects (such as the PDPR and its calls for proposals to promote production chains). However, it is considered necessary to incorporate and integrate these

extra-industry and macro aspects in future projects, incorporating a vision of the overall agrarian and economic system in which family livestock farms are inserted.

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- Guidance document to complete Project Performance Report (PPR) for Projects funded by the Adaptation Fund.

<https://www.adaptation-fund.org/wp-content/uploads/2020/03/Guidance-Document-to-Complete-PPR-2.pdf>

ANNEXES

Annex I. Interviews and Interviewees list

Date	Name	Position during the Project	Role in the Project	Subject
July 6, 2021	Carlos Honorio	Monitoring and Evaluation Coordinator (UGP)	Responsible for Monitoring and Evaluation	Overview
	Johanna Raykoff	Responsible for Training Unit (UGP) for project funding. Training Area UGP - also creation of human resources of MGAP)	Component II Co-Coordinator	
	Karina Gasparini	Legal Advisor (UGP)	Legal advice	
July 13, 2021	Jorge Marzaroli	Executive Manager (UGP)	General Coordination	Overview
July 20, 2021	Eduardo Maldini	Initial GFCC Coordinator	Initial GFCC Coordinator until March 2014	Overview. Planning and start of implementation.
July 22, 2021	Cecilia Blixen	Technical Assistance and Rural Extension Assistant. Rural Extension and Development Division (DGDR)	Coordinator Components 1 and 2	Overview. Components I and II.
	Lorena Falero	DGDR Territorial Technician of Maldonado (hired by the project). Entered for Component II and worked with other DGDR lines in the territory.	Maldonado Territorial DGDR	
	Johanna Raykoff	Coordinator of Training Unit (UGP)	Component II Co-Coordinator	
July 23,, 2021	Julio Rodriguez	DGDR - UGP (hired by DACC project).	Operational coordination duties	Overview, Component I and Component II
July 26, 2021	Diego Sancho	Natural Field Advisor DGRN-MGAP	Component III Member	Component III
	Ignacio Narbondo	Natural Field Advisor DGRN-MGAP	Component III Member	
July 27, 2021	Maximilano Piedracueva	Territorial DGDR Salto in the North from 2013 to 2019	Component II Referent (north)	Component II
July 28, 2021	José Olascuaga	DGDR	DGDR Director	Overview
August 11, 2021	Ricardo Perez	Artigas Territorial DGDR	Artigas Territorial DGDR	UP- Cuenca Basáltica
	Pablo Montero	Artigas Territorial DGDR	Artigas Territorial DGDR	
	Martin Kuchman	Salto Territorial DGDR	Salto Territorial DGDR	

	Laura Allende	Salto Territorial DGDR	Salto Territorial DGDR	
	Mariana Brunel	Tacuarembó Territorial DGDR	Tacuarembó Territorial DGDR	
	Mikhail Pastorino	Territorial DGDR	Territorial DGDR	
August 12, 2021	Emiliano Guedes	Lavalleja territorial DGDR	Lavalleja Territorial DGDR	UP- Sierras del Este
	Natalia Gigena	Territorial DGDR Treinta y Tres	Treinta y Tres Territorial DGDR	
	Nandí Gonzalez	Rocha territorial DGDR	Rocha Territorial DGDR	
	Alvaro Pi	Rocha territorial DGDR	Rocha Territorial DGDR	
	Andres Barilani	Territorial DGDR	Maldonado Territorial DGDR	
	Elisa Rodriguez	Treinta y Tres Territorial DGDR	Treinta y Tres Territorial DGDR	
	Diogo Delgado	Treinta y Tres Territorial DGDR	Treinta y Tres Territorial DGDR	
August 27, 2021	Walter Oyhantçabal	Agricultural Unit for Climate Change (OPYPA)	Component III	Project design and Component III
November 3, 2021	Ignacio Paparamborda	FAgro Agreement	Component III	Reference Farms
November 22, 2021	Claudia Chakerián	Adm and Financial Manager (UGP)		Administrative and financial management of the project
November 22, 2021	Juan Baraldo	Monitoring and Evaluation Assistant (UGP)	Project management; OPYPA-UGP articulation	Global vision of the project. Articulation between components

Annex II. Technical sheet for the survey of private technicians linked to the GFCC Project.

The consultation was carried out using a self-managed electronic form (Google Forms), distributed via e-mail. The total number of technicians participating in the GFCC (study universe) was 65 people. The consultation was conducted between August 30 and September 22, 2021. The survey was not anonymous, although a commitment to confidentiality was made so as not to identify the responses in the resulting reports.

Thirty-four responses (52.3%) were obtained during the time the form was open. This number can be considered representative (although the response rate is not very high). This is reinforced by the fact that the technicians who responded attended 52.0% of the beneficiary families (560 families out of a total of 1076 beneficiaries).

Questions asked in the form:

- 1) Name and Surname
- 2) Training
- 3) Landscape Unit in which you joined the Project
- 4) Period in which you were involved in the Project (years)

Component I:

- 5) How do you evaluate the calls for farm investment projects?
 - a) Clarity of the bases
 - b) Accessibility (requirements and documentation)
 - c) Planification of opening and closing of calls
 - d) Link to climate change
- 6) Of the following statements about the Technical Assistance (TA) provided, indicate the degree of agreement:
 - a) The TA was mainly focused on climate change
 - b) The TA was mainly focused on production aspects
 - c) The TA was mainly focused on integral issues of the farm and the family.
- 7) In relation to the following points, how do you evaluate MGAP's management of the project?
 - a) Amount of technical seminars
 - b) Form of payment
 - c) Timing of payments
 - d) Number and distribution of technical workshops for the formulation of projects
 - e) Number and distribution of technical farm days
 - f) Number and distribution of technical workshops for group activities
 - g) Relationship with MGAP territorial technicians
 - h) Relationship with MGAP, in general
- 8) How many families did you assist?
- 9) How many producer groups did you assist?
- 10) Indicate the tools and devices you used during the project.
- 11) How do you evaluate the Electronic Field Notebook tool?
- 12) Indicate strengths and weaknesses of the Electronic Field Notebook:
- 13) On the farms assisted by you, was the revolving fund generated by the GFCC project used? How do you evaluate it in relation to farm performance?
- 14) Apart from the operation of the revolving funds of this project, do you consider that these funds, managed by the producer organizations, can be useful tools?
- 15) What impact did your technical assistance have on the beneficiary farms?
- 16) What factors explain your previous answer?
- 17) How do you consider the influence of your Technical Assistance to be?
 - a) In other beneficiary farms
 - b) In non-beneficiary farms (not served)
- 18) General considerations to your role as a technician (training, time available, methodology, logistics, accompaniment, others):

Component

- 19) With which producer organizations were you linked through the GFCC Project?
- 20) Indicate your degree of relationship with the Rural Development Committees.
- 21) During the project, how important were the Rural Development Roundtables for the strengthening of producers' organizations?

II:

- 22) How important do you consider the participation of female/male producers in the Rural Development Roundtables? Regarding:
 - a) adaptation to climate change
 - b) production improvements
 - c) integral improvement of the family-farming system
- 23) Within the framework of the project, its technical assistance proposal promoted the participation of:
 - a) Women
 - b) Youth
 - c) Family
- 24) At the time of working as a field technician, did you have training in gender issues?
- 25) Do you consider that your role in the project had a positive impact on women's participation?
- 26) What aspects facilitated or hindered women's participation in the Project?
- 27) In what way do you consider that being a woman/male influenced your role as a field technician?
- 28) When working as a field technician, did you have training in youth issues?
- 29) Do you consider that your role in the project had a positive impact on youth participation?
- 30) What aspects facilitated or hindered the participation of young people in the Project?
- 31) When working as a field technician, did you have training in climate change issues?
- 32) How do you evaluate the Training instances organized by MGAP in relation to the project?
 - a) Relevance to project objectives
 - b) Format of training (time, modality, etc.)
 - c) Theoretical and methodological contents
 - d) Usefulness of lessons learnt

Component III:

- 33) Did you participate in the exchange spaces generated by the Network of Reference Sites?
- 34) Did the Reference Farms provide useful information and knowledge for technical advice in the rest of the farms?
- 35) How do you evaluate the participation of the producer families in the activities related to the Reference Farms?
 - a) Families who worked with you
 - b) The families that participated in the project
 - c) Families not participating in the project

General evaluation of the project:

- 36) What do you think was the impact of the project regarding the level of awareness of climate change?
 - a) In the families involved in the project
 - b) In the population of the area
 - c) In organizations
- 37) What do you think was the impact of the project regarding climate change resilience?
 - a) On the project site
 - b) In the population of the area
 - c) In organizations
- 38) What do you consider the impact of the project to have been?
 - a) In the operation of the Rural Development Committees
 - b) In territorial development
- 39) Do you consider that there are risks for the continuity and sustainability of the project results?
- 40) Would you like to leave a general comment about the project?

Testimonials¹⁹ from technicians on the strengths and weaknesses of the electronic Field Notebook:*

I didn't use it, I had a paper notebook.

The notebook and, in general, the project bases are designed from a general point of view and have very little flexibility to adapt to the particular situations of certain territories or contexts of the groups involved.

Cumbersome. Always more requirements and paperwork to fill out

Generates a lot of information, it is difficult to be used by the producer.

I did not use it, I did not become familiar with the tool. It was not required of me either

Undoubtedly, it is a useful tool but not always easily applicable. I think it would be good to improve in the diversification of items in order to be able to clearly describe the characteristics and situations of each one.

We started to keep records, but the reality is that we did not do it electronically, since many of the farms we attended did not have computers or were elderly people who did not know how to use them very well. We did the course anyways.

I did not use it

Any record-keeping system is good if it serves to measure and draw conclusions. That was a strength.

Sometimes it overlaps information: a weakness.

It allowed us to keep the information up to date, giving a small orientation on how to organize the activities of the farm. I did not find it very useful.

Strength: the availability of data and weakness in working with the producer

there was no feedback from MGAP so that the technician could use it as a tool at farm level

With a lot of practical application

Small-scale farms, difficulties in adapting

Not used in my period

I didn't use it

I almost didn't use it

Not used by producers

Criteria for filling it out should be more concise. Simple strengths: files

backup. Weaknesses: agility in exchange

An agile instrument with simple values to collect. Does a quick diagnosis of the situation. Strengths: systematizes relevant data. Weaknesses: it is only used for access and technical support. Absences: it was not possible to convey the complexities of human, organizational and productive relationships.

I did NOT use it

MGAP strengthens its database of producers. The weakness is that it is not useful for small producers without access to technology.

I couldn't work with it

¹⁹ The testimonials are presented verbatim as they were collected in the survey. No editorial or syntax corrections were made in order to respect the words of those involved.

* Translator's note: Testimonials were not edited by the authors in order to preserve their accuracy. The translation intends to reflect the testimonial as faithfully as possible, such as in the original project in Spanish (unedited). Therefore, some of them may be poorly written and difficult to understand (same happens in source text in Spanish)

Testimonials about factors explaining the impact of TA

The impact of the technical assistance was especially limited to planning, executing and reporting the measures, actions and investments that were executed in each of the farms. It was not possible to direct the technical assistance towards the overall management of the land system, due to the characteristics of the call itself. Technical assistance is very specific, if the producer makes a well and a meadow is left there, the impact is not greater because the assistance would require more permanence in time and comprehensive tools such as the EGEA - genuinely applied - which requires, in addition to the training of technicians, the time necessary to apply them.

Advice and TA are always recommended, the impact of which depends on other factors, the decision-maker, the climate, the years that can be evaluated, the markets, etc.

Assistance is always welcome since the producer has little access to it

I think the TA contributed, but the main objective of the producer is to improve infrastructure

The technical recommendations were listened to but not taken up by most of the producers. However, there was a fluid exchange with each of them.

They were very small farms that, with technical assistance and guidance, greatly improved their management, and at the same time, capital was available to support and further enhance the improvements and recommendations.

The proposals were implemented and have been maintained.

The proposals were all carried out but then the producer does what he wants to do

The way of production improved due to property improvements and the technical advice and pricing experiences reference

The revolving funds without technical or MGAP follow-up are no longer useful because they do not continue to be used according to the regulations, there is no feedback, they are granted to anyone or are even used for other activities. Regarding technical assistance, the producers have high demands and most have improved with the technical assistance provided, and to date there is a technician-producer relationship; the percentage of producers who are not interested is very low.

The producer wants to receive the subsidy quickly and use it in some kind of improvement. In general, they don't get to do all the improvements they had in mind, but they do not want to work many days and it is difficult for them, for example, to measure the height of the pasture, adjust the load, take care of shade forests, wire fences, etc.

The focus of the producers was the subsidy

Time spent with the group

Producers incorporated technology, became involved in joint activities and improved their relationship with a rural reference organization.

Improvement in production indicators.

Group activities, purchasing and sales are achieved.

According to the approved working days.... [sic]

Acceptance varies according to the age and personality of the producers.

Without the assistance, the proposed goals would not have been achieved. I am still in contact with the producers to this day.

Better utilization of personal resources and tools acquired by producers

Producers achieved greater security in the availability and distribution of the resource. The project helped them to finance investments needed to reduce the risk of water deficit.

Generally speaking, the producers are very well disposed, which generates a good exchange with the technician that makes it possible to carry out the projects.

The degree of commitment and ownership of the farm project.

The technical assistance generated projects its potential to the extent that the organization has a productive and life project in the medium and long term, and that this is a tool towards its fulfillment. If it represents a strictly technical instance, I perceive that the results are very limited.

Producers were satisfied

Commitment and seriousness of the responsible technician first and foremost,

there were several farms that needed to organize their system and were able to do so after the group work, in addition to learning about and purchasing management alternatives.

General considerations regarding the role as a technician:

The technical dedication was in line with the project requirements, complying with all of them (project formulation and adjustments, field visits, group activities, documentation of expenditures and verifiers, reports and reports, closure and evaluation). The dedication of technical sessions and the tasks assigned to the technical advisor in this call were limited to these aspects. The relationship with the producer families was excellent, but was limited to fulfilling the actions committed to in each of the farm projects and the group activities.

I find it difficult to speak self-referentially. I believe that the producers with whom each technician worked are the ones who should give their opinion on this aspect.

The project was followed exactly as planned, with very good participation from 9 of the 11 farms presented. Total compliance with goals. Sometimes a lot of control and paperwork is cumbersome, which can reduce the impact on the properties in relation to the contracted time.

Acceptable, it should be extended in time as the last part of the project, it was very well accepted

It is a part time job and the balance between dedication (and I think), taxes, visits and other fixed tasks, could never be achieved to satisfy me in terms of efficiency.

I think it was the right one, since most of the producers had never participated in a call for proposals before. Mainly because we did not have a technician to visit such remote places.

I partially carried out the formulations of the projects and training lectures. Finally, due to personal issues of academic formation (UdelaR scholarship) I had to hand over the management of the projects to another colleague.

Good response from producers to listen to me and to apply the observations I made.

It was a project that generated a high impact in the area, since the producers have many needs in terms of technical assistance. My role was fundamental to be able to carry out the activities and achieve the goals set in the project, the support of veterinary and social technicians was of great help, especially the social technician who helped in the articulation between the producers and the organization. The training provided was of great importance. The time allocated to the activities was the time needed to carry them out, even though it was longer than stipulated in the project. The commitment to the producer is fundamental.

As a technician I had time to carry out some projects because I have other jobs and my own vehicle. MGAP provided us with training but lacked support from the ministry's technicians and lacked training in group dynamics and others.

We started off very well, but as time went by, we lost interest and mystique.

The time spent to get to know the family and the productive system is essential for the technical support to be adequate. In terms of methodology, group meetings with a clear and organized agenda allow the members to be greatly enriched.

I do not have time now to answer something that can contribute much. It was very useful to me as a technician, I was valued by the producers, it allowed me to train myself, to link up with other technicians, it helped me to incorporate the work methodology proposed by the project, etc.

Accompaniment with a lot of hourly load.

I would have liked to continue with technical assistance and outreach, but we couldn't cover the fees.

Same as previous answer

The farmer's willingness to be helped and accompanied is fundamental, otherwise the work of the technician and the contribution of MGAP will be in vain.

It is based on the trust generated, on the sensitivity that one must have because one is working with a family and one must contemplate economic and social productive aspects in the work that is done. The big problem of these projects is their short duration. It is impossible in cattle breeding to generate changes in 1 or 2 years of work. More time is needed. This is the big problem that all intervention plans in cattle breeding have had. Then the technician retires and the family goes back to what they did before.

Good in all aspects

There was a good relationship with the producers and their families, and there was also a better relationship between producers of the same group and with producers of other groups in the organized extra-daily meetings and training sessions. Producers were provided with tools for farm management that they did not know about and that facilitated their work. Producers were linked to the cooperative in the area and to other organizations.

At the time I had little training in the field but a lot of time available to dedicate to the projects. The comparative advantage I had was that I had known all the producers for some years and had a very good relationship with each one, so each proposal was well received by all of them and we were able to plan it in great detail. The accompaniment was given according to the number of days budgeted and planned in the call and in agreement with the regional coordinator of MGAP. Personal experience: it was an enriching experience both personally and professionally; financially the experience wasn't that positive. The fee paid daily wasn't much and there was a huge delay in the payment of such fees. Nevertheless, we needed to keep on paying DGI, BPS and CJPPU (considering income only for the project). In consequence, such monetary problems made the overall experience to be negative... This aspect is something that the MGAP should consider for future projects.

The role played tries to be appropriate to the circumstances of the farmer and his farm, since there are different realities in each one of them. In terms of the group, other less specific interactions are generated, but they also help each farmer in a particular way.

As a technician, I am limited by the conditions of multiemployment, which limits the quality of the intervention. The available time is restricted by the conditions mentioned above, which also has an impact on the methodology applied, but my advantage is the time I have spent accompanying this particular group (12 years) and my presence in the territory (about 13 years). I believe I have been able to contribute regarding organization, human relations and resolution of differences as well as with an interpretation of reality with other parameters that differ from hegemonic interpretation.

MGAP should train technicians from a practical point of view.

I link availability and support directly to the resources allocated to TA, which are always very limited....

good training, a good experience to be able to work on the project, but it should focus more strongly on the work on the farms and on the possibility of giving greater follow-up to the works carried out on the farms so that they have an impact on the entire system.

Testimonials on aspects that facilitated or hindered women's participation in the Project:

It facilitated prior knowledge with several of the families, through local organization. In all cases, the participation and involvement of women in the project activities (planning, field visits, discussion, group activities) was promoted, to the extent that the family situation and their interest in the subject matter allowed. In 3 cases there was open dialogue with both men and women, while in 2 cases the women did not live on the farms and had no connection with rural activities.

participated in workshops and some of them were heads of households Facilitated the visits to the farms

They were not involved in the project activities, the groups were mostly men who were the main interlocutors.

Representation at the meetings was low, attended mainly by men, although there were cases in which both men and women participated, or when the man did not attend, the woman did.

The fact that the technician was a woman facilitated participation.

The relationship with the development roundtable and rural societies

The scarcity of women in the group (few women producers)

The small number of women who came to the meetings

The fact that the technical team involved was made up of women

It makes it easier that I am a woman and I have been trained in the subject.

my experience as an extensionist and the continuous concern

In some cases, because of family logistics (children, school, household chores) and in others, because of family culture itself, where women do not assume roles at the farm level made women not participate in the project.

The proposed activities facilitated participation, but some personal problems made participation difficult.

Tradition, patriarchy

If the farm had women, they participated in decisions and activities. Women do not normally participate or are directly involved in all the farms.

Few women are linked to pricing today

There is a vision, which for me is wrong, about the participation of women. The presence of women in decision-making is much more important than what the academy says. Go out, talk to the families and put an end to this position, which is not shared by many field technicians.

Women were actively involved as the approach was family oriented.

Being a female technician encouraged the whole family to participate, especially in training sessions and workshops. In many cases, up to that moment, the role of the woman was only that of a housewife.

The distance

I honestly did not take it into account, during the project the whole family was encouraged to participate. Each family nucleus decided their degree of involvement with the project in private. Even so, in the group sessions, the whole family was always urged to participate, since it has an impact on their lives.

The owners of the property actively participated.

It facilitate their level of engagement in direct management prior to the project.

The history of the construction of the cooperative suffered a rupture with a gender approach as a result of the normative logic of ownership in the constitution and formalization of the legal status. This weakened the gender perspective and strengthened the patriarchal matrix. Therefore, at the time of the implementation of the climate change project, this situation was lived internally and did not allow its transformation.

I work quite well with both genders, but there are places in the country where the male presence is very strong in everything related to farm work.

the group meetings encouraged the participation of the groups.

Testimonials on the influence of their status (female/male) on their role as field technician

None

In my case, I don't consider that it influenced me too much, especially because we already knew each other beforehand.

as a woman I felt good, although I believe sometimes it is more difficult to reach men because of the type of business, the tradition that it is a man's job, etc.

Only one of the owners of the farms was a woman, the rest were all men; the group did not generate any instances of women's participation, except in specific cases.

No influence

I think it did have an influence. I don't have the tools to contrast.

I did not feel that my attendance as a technician was conditioned.

Question answered above

It influenced me because they would accept my proposal and then they would make excuses telling me that they weren't able to make the improvements.

I don't think it had any influence

In a positive way for the whole family nucleus, allowing me a greater bonding with all the members of the farm.

Influenced women's participation

None

I think it worked against me. I have the impression that a female technician is more likely to be able to involve rural women in activities.

I do not consider that being a woman or a man influences my role as a technician.

Empathy and understanding of the family situation were more influential than gender.

These producers already have experience working with me, but adapting to working with a woman as a technician is not easy for many farm managers and producers.

Positive

I don't know, I was never a woman

It had no influence

It had a positive influence on female participation.

The fact that I was a young man caused people to question (at least initially) the validity or feasibility of my proposals. After a while, it was not given any more importance.

It had no influence, the relationship was equally positive, I believe that in my case, it had no influence

It gave women another vision

Testimonials on aspects that facilitated or hindered the participation of young people in the Project.

As with the women, their participation was promoted in the 2 family farms where young people lived, with good results. In the remaining 3 farms there were no young people living there, so it was not possible to integrate them.

They participated in workshops

Some of the producers were young, with very active participation. Of the older producers there were no young people linked to the farms

Lack of young people in rural areas

Involvement in the issues being discussed. Encouraging them to participate in the meetings.

Something similar to what was described above occurred. The exchange took place with the whole family at the farm level, and the meetings were attended only by men or women (heads of household). They did not bring their children, although in some farm meetings the young people who lived there did participate.

There were almost no young people on the farms participating in the project.

It was not a project to work with young people, but with producers.

Shortage of young people in the area. There were no young people in the families that were part of the project

Many children taking over the properties due to generational turnover.

Stronger relationship with the family

The terms and conditions of the calls for proposals

The will to do it

It was determined by the culture of each family and the roles assumed by each one. In some cases, the young people were the ones who took the adult's place in the establishment when they retired.

There was no participation of young people.

I had worked with young people before.

Few rural young people

There were no young people among my producers.

No young people participated except for occasional activities

Empathy and understanding of the young guys

My profile as a technician facilitated the participation of young people and women

There was no problem, inclusion occurred naturally

Work in conjunction with the local high school.

The group sessions encouraged family participation

Low participation of young people

It made what in specific cases was already a reality easier.

I believe that the absence of a multidisciplinary approach was the main factor for the participation of both young people and women. However, I also think that the availability of limited time to maintain a dialogue with young people and women in the family space was also a decisive factor.

There were no young people involved

It is a difficult area for young people to be present in organizations Family integration

Consideraciones sobre riesgos para la continuidad y sostenibilidad de los resultados del proyecto

No

I understand that the processes of technical change for the adaptation of livestock systems to climate change require longer periods of work between technical advisors and producer families, and that the technical intervention should consider a more global and systemic view of the farms (productive unit + family nucleus). Producers' interest in the project seems to be more oriented towards receiving funds to invest in their farms than in improving the climate resilience of their systems. it would be necessary to see how the revolving fund works, since there is a lot of money left over and how it is used.

Yes, there are risks. Because if the technical work with the groups is not sustained over time, it is naturally very difficult for the results to be sustained. Interventions in a broad period of time are not enough since they are still very specific.

At the time, the groups demanded to continue with TA and with the groups functioning. This was not accepted. They decided to continue with reference farms for which they brought technicians from another area, choosing only 1 farm out of 11 in the project and without prior knowledge of the producer. Once changes are made in the infrastructure, there are subsequent and long-lasting lessons for the families (there is change and adaptation).

Financial and institutional risks

Regarding the revolving funds, I'm not sure about their continuity

If there are risks, I do not see continuity and sustainability in the project results.

In Uruguay, the culture is the following: once the project is completed, its effects are gone.

the support to the producers must continue so that the resources invested in the project can have a medium- and long-term result.

Financial

Yes, there are risks

Of course, there are no more subsidies.

Depending on their continuity

Institutions are very fragile and not all of them can manage them on their own.

I do not think so

There are risks associated with the maintenance of the infrastructure linked to the local institutional framework to follow up on the issue.

In my producers, the measures implemented are in full force and effect.

There are several risks: structural financial risks; the organizational configuration of the organizations and their political and ideological perspective in the territory; the productive profitability of the production units; and the economic and social impact of the organizations.

Family production; the levels of politicization of both organizations and family units.

NO

I do believe that there are risks in the continuity given that the focus, which is the producer, is still weak, The TA is poorly trained, with lack of commitment and lack of experience, and on the institutional side I do not know what to say...it would be better to make this exchange in person and make a reflection of the whole process of the projects and their operation.

There were complications in the management of revolving funds

General Comments about the Project[†]

The GFCC project has been useful in positioning the issue of climate change among livestock producers and their organizations, and has made it possible to carry out on-farm interventions (investments, technical assistance, management) aimed at improving adaptation. Revolving funds are a tool that, if well managed by the organizations, contribute to their strengthening and to the provision of services to their associated producers. I believe that the MGAP should focus on more comprehensive technical assistance models (systems approach, co-innovation), for longer periods of time (4-5 years with performance evaluations of technicians) and in coordination with producer organizations and their technical teams, to strengthen local capacities and generate impacts that transcend the intervention periods of specific projects, both in the farms and at the territorial level.

For me, the project was good and amicable. It generated a very good movement at the time with workshops and activities that were done in the area. Nevertheless, it had some issues of payments to technicians and producers.

I think it is essential that the projects have a global approach to the family/production system, that they incorporate dimensions linked to the care of the environment and biodiversity, and that they be further integrated into the Development Roundtables, the DGDR and other public policies. (I add my disagreement with the options in some of the questions, since they do not include nuances. Between "low" and "high" there are intermediate scales that would fit better).

Very positive impact on access to infrastructure for small producers that is inaccessible privately, which allows mitigating the consequences of climate change. At the productive level it is difficult to make a real change in two years of project and with the decision not to continue with TA. Projects managed from MGAP headquarters burden private technicians with controls and paperwork in which producers become a number. Little independence of the ETDRs. It was very useful for the producers.

The execution of tangible, visible and lasting aspects for the families such as subdivisions, electricity, water tanks, forests is essential for the technician's task of accompaniment. These tangibles are the basis for the subsequent monitoring relationship.

It was quite cumbersome to start working for MGAP, given the payment conditions and the poor functioning (bureaucracy of the institution). I believe that another way of linking MGAP and the technicians should be sought. Regarding the previous item. The sustainability risks of improvements should be considered.

There should be more support for medium-sized producers and facilities for irrigation systems.

It was an excellent proposal and of impact for the participants, unfortunately after the projects are finished there is no follow-up, so it is not known if there is a continuity after the project ends.

Yes, most of the projects reached the same producers and were carried out in the same territories. That priority was given to producers linked to development roundtables, but not all producers attend the roundtables. Therefore, the producers got the idea that "to get something you have to go to the roundtables" and so few of them and their friend producers were the only ones who received the opportunity.

There is a lack of training in climate change adaptation and environmental awareness. There is a lack of training in animal welfare.

It was part of a process in which people became accustomed to waiting for the subsidy.

Undoubtedly there are things to improve, but the fact that we have conducted this survey shows that we are in a process of continuous improvement. What I highlight and celebrate is that there are projects like these, where a fashionable topic, but still very important for the families is touched. The things we did with the project were made to stay and for the benefit of the rural family.

No

No

It would be interesting to continue with this type of projects in the area and to include new producers. It was a very good proposal, but it would have been better if it was extended in time

It was the last project that went quite well, then came MAS AGUA...and everything was shot to hell!!!!!!

I thank the opportunity of being able to participate but I find it unfair that the projects are corrected or evaluated with technicians from Montevideo, when there are locals that know better. This way, projects that shouldn't be approved were approved.

No at the moment

It was a very good professional experience; however, I would like to highlight my comment mentioned above regarding the timing of activities and fees.

Without belittling the strategic technical content of the project, from the environmental and productive point of view, I believe that this is another example of a logic of construction of a highly technocratic project without social participation. A project that appears under the pressure of a demand that was thought outside the specific social and territorial space.

We technicians are given little participation in the development roundtables. There are no regular meetings. Good since producers always make progress on their farms

Annex III. GFCC Project beneficiary producer survey data sheet.

The consultation was carried out using a self-managed electronic form (Google Forms), distributed via Whatsapp. The total number of producers participating in the GFCC (study universe) was 1076 people, of which 832 had registered cell phone numbers (the rest had a landline or no cell phone number). The people consulted via cell phone were **not** selected on the basis of a probability sample. Of the 832 producers, 206 did not have the Whatsapp application, so the link to the form was sent to 626 producers (58% of the total). The consultation was carried out between October 2 and 16, 2021.

The responses received during the two weeks that the form was open were from 57 people (9.1%). As can be seen, the number of responses obtained provides us with very precarious information and is totally unrepresentative of the universe of project participants. Nevertheless, based on the territorial distribution of the responses, it is considered to be a relatively interesting approximation of the participant's perception of the. The testimonies that appear in the answers to the open-ended question that inquired about their overall perception of the project are particularly interesting.

Questions asked in the form:

- 1) Where is your facility located? (Department)
- 2) What investments were made on your farm, financed by the Family Farmers and Climate Change Project (GFCC- MGAP)?
- 3) Do the investments made allow you to better cope with negative weather events?
- 4) The person who provided the technical advice:
 - a) [had already worked on the farm/family].
 - b) [had already worked with the organization/group].
- 5) For each of the following statements about the Technical Assistance (TA) provided on your farm, please indicate the degree of agreement:
 - a) [The TA was mainly focused on climate change].
 - b) [The TA was mainly focused on productive aspects]
 - c) [The TA was mainly focused on integral issues of the farm and the family].
 - d) [The TA was mainly focused on collecting data for the control of the project for the Ministry (MGAP)].
- 6) Of the following statements about the technical assistance you received on your farm from the Family Farmers and Climate Change (GFCC) project, please indicate the degree of agreement:
 - a) [I had a good relationship with the technician].
 - b) [It was important to generate productive changes].
 - c) [Contributed to improving aspects related to the family and the farm]
 - d) [The technician promoted participation in group activities]
- 7) Did your family make an initial financial contribution to the creation of the revolving fund of the Family Farmers and Climate Change (GFCC) Project?
- 8) Did you participate in the development of the operating regulations of the Revolving Fund?
- 9) Did you use the revolving fund generated by the project?
- 10) Please indicate the extent to which you agree with the following statements about the implementation of the Revolving Fund (RF):
 - a) I was able to make the contribution for the creation of the Fund]
 - b) [There was good management of the RF by the organization/group]
 - c) [It was easy for me to access the RF (receive money)].
 - d) [It was easy for me to return the contributions to the FR].
- 11) What is the current status of the Revolving Fund?
- 12) Apart from the functioning of this revolving fund, do you consider that they can be useful tools, managed by producer organizations?
- 13) Did you participate in any Rural Development Roundtable?
- 14) Do you consider that the Family Farmers and Climate Change Project (GFCC) contributed to the development of the Roundtables?
- 15) Do you consider that the Family Farmers and Climate Change Project (GFCC) contributed to the development of producer organizations?
- 16) Do you consider that the organization of producers (groups, networks, relationship with neighbors) contributes to face negative climatic events?
- 17) Did the Family Farmers and Climate Change (GFCC) project take into account and favor the participation of women?

- 18) Did the Family Farmers and Climate Change (GFCC) project take into account and encourage the participation of young people?
- 19) Did you participate in any of the activities related to the Project's Reference Farms (MGAP)? - Agronomy School)?
- 20) Was the knowledge generated in the Reference Farms useful for the work in your farm?
- 21) Did you participate in training activities related to climate change?
- 22) Do you have any comments on the Family Farmers and Climate Change Project?

Some testimonials with positive ratings:

- I hope that this project continues to reach more producers for the good development of their farms, to generate more opportunities, more money for the country and to contribute to improve our climate.
- The project was very important for us, because thanks to it we have an important water reserve!
- It was very well exploited; all the activities were very productive.
- What I could contribute is that the most important thing these things leave behind is the knowledge acquired.
- It was a good tool to face these types of climatic situations that are being faced annually in our country.
- They are very important to be able to implement productive improvements that would otherwise be very difficult for medium and small producers to undertake. This type of support should be structural.
- It was very important to be able to implement productive improvements that would otherwise be very difficult for medium and small producers to carry out. This type of support should be structural.
- We hope that these types of projects continue existing.
- I find it an excellent tool for development and improvement.
- Really very good, I hope to be in others soon
- They were openings for rapprochement with other groups to gather ideas on how to exchange knowledge and palliative ideas on the different hard climatic situations we have gone through (droughts with lack of water and fodder, joining in groups for the purchase of feed and finding long-term facilities for payment. Water, the same with wells and troughs
- It would be very nice if it had continuity and follow-up. It makes us a producing country and does not deteriorate the environment, a remarkable formula. But if we do not maintain contact and proposals, other offers appear, and we go back again.
- It helped a lot, mainly with the water reserve and distribution, since several consecutive droughts had been faced.
- Projects related to climate change are always a useful tool. Nevertheless, it would be good to have another one related to pasture and water memories in order to have resources in each farm, since each one lives in a very different situation.
- Very good project. In our case, we still haven't seen some of the outcomes because in some cases they are not seen in the short term. Other can already be seen. I am a member of a group of cattle farmers.
- What was done on the property, especially building troughs was very positive. I do not think the revolving fund is very good because there is no follow-up of that money. But the project was very positive for us and the TA was very good.
- Excellent tool to make a productivity leap for the small producer.
- Of vital help to the producer, whether young or adult.
- We consider these projects to be very useful; it was very good; it was very useful for us.
- This kind of support should continue on an ongoing basis
- These were very good projects for small and medium-sized family producers. They should continue to be carried out for the fundamental support of family enterprises.
- It was a very good experience, and I am very grateful. I had no water at all and partially I solved it...I am still waiting for a response from the last project.
- Very good. It would be very nice if these projects continued.

Testimonials with negative ratings

- It would be nice to have access to a machine to be able to clean slopes and trough. They gave me the contact of a machine owner but he never came. Summer is coming and they are announcing a drought, it is time to make water reserves.
- It took them two years to pay back the subsidy money for the project.
- When you are starting a family business, they are very welcome. But as time goes by, funding is slow, the weather changes and some supervisors feel like rejecting part of the project. Therefore, one chooses not to embark on new projects.
- We are in total disagreement with the management of the funds allocated to the project. The arrival of funds is completely out of time. For example: In our case we received the first batch in due time and form; while it took us forever (3 years) to be able to collect the final payment. In fact, we had to pay a large part of the investment with our own resources. We consider that there was a lot of bureaucracy (there was always some detail missing) as well as administrative negligence. We were beneficiaries and immediately executed the project completely (in 6 months) and we had to wait 3 years to collect the stipulated amount.

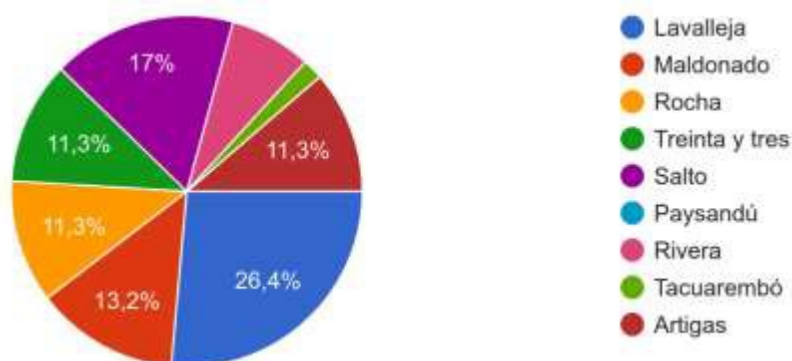
About revolving funds

- The revolving funds seem to be a good opportunity, but since they are reduced and the repayment times are long, it is difficult to use them. They should be available when needed and it is necessary to prioritize very well when requesting them since other producers may also need them at the same time. Organizing an equitable investment plan in the group of producers seems timelier and more productive. Greetings!

The following are some of the results obtained in the survey.

The following graph shows the spatial distribution of the female and male producers who answered the question. Thirty-nine percent of the responses were from the LU at Basalto and 61% from Sierras del Este.

Responses by Department:



Investments

- 78% have the perception that the investments made allowed them to better cope with negative weather events.
- 22% believe that the investments made it possible to do so in relative terms or not at all.

Technical assistance

- 86% have the perception that technical assistance was very focused on climate change and that it was important to generate productive changes.
- 77% believe that the project contributed to improving aspects related to the family and the farm.
- 75% stated that the technical assistance promoted participation in group activities.

Revolving Fund

- 44% participated in the preparation of the regulations of the fund.
- 51% used the fund, while 49% did not use it.
- 77% believe that the organization and the group handled the project well.
- 64% believe that they had easy access to the money they received from it
- 66% believe that they had an easy time repaying it.
- 51% of the producers do not know the current status of the fund, whereas
- 23% state that the fund remains active and 9% that the fund has been extinguished.
- 89% consider that these can be useful tools, managed by producer organizations.

RDR and organizations

- Of those who responded, 68% participated in rural development roundtables during a particular period or on a more permanent basis.
- 83% believe that the GFCC project contributed to the development of MDRs, while 87% believe that the GFCC contributed to the development of the organizations.
- 93% of the respondents claim that the organization of producers (groups, networks, links with neighbors) helps to cope with negative climatic events.

Participation of women and youth

36 men and 21 women (37%) responded

- 83% of the respondents have the perception that the GFCC project took into account and favored the participation of women, while 72% believe that it took into account and favored the participation of young people.
- 86% of the women who responded stated that the project took into account and favored the participation of women.

Reference properties

- 39% participated in the RP, 27% knew of its existence, but never participated.
- 18% never heard of them or were unaware of their existence.
- Differences between LU del Este and Basalto: 46% of producers on Basalto participated, while in the Este LU only 36% did. In both units, 33% did not know the reference farms.
- 65% of the interviewees consider that the knowledge generated in the reference farms was useful or very useful for the work in their farm. This percentage rises to 88% among those who knew the reference farms.

Training linked to climate change

- 75% participated in training activities related to climate change and found them useful.
- 25% did not participate in training activities.

ANNEX IV. Adaptation Fund Grant Amounts

Component 1: Resilience increase at the farm level in smallholders located in extremely drought-sensitive Landscape Units	<i>USD</i> 7,260,000
Component 2: Development of a local network for climate change monitoring, awareness and response	<i>USD</i> 950,000
Component 3: Knowledge management on climate change and variability	<i>USD</i> 780,000
Project/Programme Execution Cost	<i>USD</i> 480,000
Total Project/Programme Cost (= Project Component + Execution Costs)	9,471,428
Implementing Fee	<i>USD</i> 500,000
Grant Amount (=Total Project/Programme Cost + Implementing Fee)	USD 9,970,000

Note: The above numbers are according to the submitted project proposal. They are rounded up. The actual approved project amount is USD 9,967,678 including USD 496,250 of the Implementing Fee.

Source: <https://www.adaptation-fund.org/project/uruguay-helping-small-farmers-adapt-to-climate-change/>

ANNEX V. Logical Framework of the GFCC Project

Outcome	Goals	Indicator	Source of verification	Risks and assumptions
. Vulnerable small farmers have increased resilience through adaptation investments.	<p>640 small farmers in southeastern LU with adaptation investments by 2016. 25% are female heads of household.</p> <ul style="list-style-type: none"> - 10% of smallholder farmers in southeastern LU have been implementing agroforestry systems since 2016 - 700 smallholder farmers in Northern UP with adaptation investments by 2016. 25% are female heads of household - 1,340 livestock farmers receiving technical assistance for the implementation of investments. 25% are women - Adequate planting rates according to the carrying capacity of the beneficiary farmers - 10% increase in productivity of small livestock producers by the year 2016 - Increase in mortality rate below 20% and decrease in calving rate below 20% in the face of moderate and severe drought 	<p>The agricultural plans implemented by UGM</p> <ul style="list-style-type: none"> -Type of investments implemented by UGM. - Availability of water for animal consumption. -Availability and source of forage at farm level - Green Index -Carrying capacity - Fertility rate per year - Estimated animal weight gain per year by category - Composition of annual stock declared DICOSE 	<p>Semiannual and annual reports</p> <ul style="list-style-type: none"> - INIA - IPA records - Data from the INM - SNIG - Surveys 	<ul style="list-style-type: none"> - The health situation in the country remains stable (in particular, no outbreaks of foot-and-mouth disease)
There is a local institutional network that manages climate risk at the LU level, the participation of youth and operational instruments that respond in case of emergency, in close coordination with Rural Development Councils (MDR) and the National Emergency	<p>2. Local networks established the end of 2012 comprising at least 28 organizations</p> <ul style="list-style-type: none"> -Diagnosis and strategic plan developed for each LU by the end of 2012 - 2 networks fully operational in 2013 - Training program for the 2 CC networks started in 2013 - 140 local leaders and members of MDRs and organizational boards trained, 40% are women. 	<p>Networks that have regular meetings, as a sub-group or as independent MDRs</p> <ul style="list-style-type: none"> - Communication networks in the application of CC, variability and adaptation - Networks presenting proposals for MDR sponsorship, MGAP and SNE 	<ul style="list-style-type: none"> - Network of records - Studies and projects - Semiannual and annual reports - MGAP reports - Catalogs and brochures produced by networks - Climate data - Web of specific pages and references 	<p>There are local organizations able and willing to develop their skills in CC and variability. Young men and women are willing to participate in the network along with the adult population (60)</p>

<p>System (SNE)</p>	<ul style="list-style-type: none"> - At least 4,500 farmers and technical staff trained, 33% are women - Meteorological equipment installed in 6 local organizations and schools or local institutions since 2013 and data collected on a regular basis - Action plans and operation manuals according to the warning level by 2015. - 8 demonstration plots in rural schools and organizations established by LU for the year 2016 - Technical team to support the organizations and the implementation of the strategic plan network selected and carried out since 2013 with at least 33% of female staff - 30% of the actions identified in the strategic plan of each LU implemented or completed by 2014 and 70% by 2016 At least 14 youth projects with gender equity. - At least 3 actions by the network and executed with funding sources external to MGAP 	<ul style="list-style-type: none"> - Networks seeking and obtaining funding from other programs for the implementation of their development program and CC - Youth and members of youth organizations participating in the network - The proposals and initiatives submitted by young people 		
<p>3. There is no systematic monitoring of CC and its impact on agriculture, a catalog of good practices, innovative instruments and lessons learned from systematized experiences approved by all stakeholders with respect to adaptation to CC, with special reference to droughts and water scarcity</p>	<ul style="list-style-type: none"> - At least one meeting per year at the local level and one at the national level, identifying best practices, and lessons learned and reaching to a consensus on research priorities to be incorporated into public policies - At least 120 stakeholders participating in local meetings per year - At least 50 people from academic research and policy institutions attend national seminars every year. - 8 innovative and original studies and 	<p>Studies, periodic reports on climate data and early warnings of adverse events at the LU level through the website</p> <ul style="list-style-type: none"> - Participation of the main institutions and recognition achieved by national seminars as milestones in CC and variability through participant's evaluation - Catalog publication of best practices and toolkits for diagnostics, training, etc. - Positive peer and stakeholder review of funded study and research project <p>-Raising awareness of rural population on CC and variability increases</p>	<ul style="list-style-type: none"> - Semiannual and annual reports - Network of records - The documents published - External studies of evaluation and case studies - The surveys and consultations on the rural population - Web site 	<ul style="list-style-type: none"> - The main institutions are willing to coordinate and share knowledge, best practices and tools, as well as information in their own projects and studies of the priorities and discuss openly with other entities

	<p>research projects following the agreed priorities are funded</p> <ul style="list-style-type: none"> -National dissemination and communication campaigns implemented annually by the MVOTMA to raise awareness on CC and variability of the rural population. - Website for the change project available - Dissemination of information dissemination and promotion of experiences and lessons learned - 6 case studies and 2 evaluation studies carried out 	<p>according to specific surveys.</p>		
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