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Agenda item 11 c)

REPORT OF THE PORTFOLIO MONITORING MISSION IN CHILE

CONTENTS

INTRODUCTION

Background and scope of the mission

1. The Adaptation Fund Board (AFB) at its 28th meeting approved the updated Knowledge Management (KM) Strategy and Work Plan for the Fund and approved the Medium-Term Strategy (MTS) of the Fund at its 30th meeting. As part of the KM and MTS strategies the AFB will systematically use information from its funded projects/programmes under implementation as well as from its unique decision-making structure and operations to (i) enhance countries' capacity and knowledge to improve the design and increase the effectiveness of future adaptation projects/programmes, and to (ii) inform its decision making, enhance transparency and improve the Fund's overall effectiveness.

2. Under Component 1 of the strategy "Capture and Transfer Knowledge related to Adaptation, Accreditation, Direct Access and the monetization of Certified Emissions Reduction", conducting missions to projects/programmes under implementation is one of the ways to further collect and analyze lessons learned at a portfolio level. As of now, such missions have been conducted in Argentina, Ecuador, Honduras, Jamaica, Mongolia, Nicaragua, Senegal, Uruguay, Egypt, Turkmenistan, Georgia, Colombia, Cambodia, South Africa and Rwanda and have provided valuable lessons on the experience of direct access, project/programme institutional arrangements and implementation of adaptation actions in the countries visited, including water and coastal management, ecosystem-based adaptation, disaster risk reduction, as well as enhanced agricultural practices to strengthen food security.

3. The current portfolio monitoring mission detailed in this document had been included in the secretariat's workplan for FY19 approved by the Adaptation Fund Board (the Board) at its 31st meeting (Decision B.31/29). Given that a country exchange was included in the implementation plan for the MTS and that the first country exchange was planned to be conducted in Chile, the secretariat expanded the scope of the country exchange to include a learning mission. The selected project, titled "Enhancing resilience to climate change of the small agriculture in the Chilean region of O'Higgins" is currently implemented by the Agencia De Cooperacion Internacional y Desarrollo International (AGCID) and executed by the Ministry of Agriculture and the Ministry of Environment.

4. The project objective is to increase the resilience of rural farm communities in the coastal and inner dry lands of the O'Higgins region with respect to actual climate variation and future climate changes.

5. The project is comprised of two main components, namely:
   (i) Technology support and training to enhance farming practice with respect to climate threats to soil, water, crop and livestock.
   (ii) Installation of an information system for agro-climatic risk management and climate change adaptation.

6. This project was selected for the mission for a number of reasons including:

   a) It would help learning from the project's concrete adaptation practices, such as; innovative farming practices and, sustainable soil and water management technologies.

b) It would enable learning from the project's systematic and adaptive communication system that is allowing efficient and effective communication between different institutional and non-institutional actors (technical staff and project beneficiaries (farmers)).

c) It would help learning from institutional capacity building for replication and scaling up of concrete interventions.

Methodology

7. The secretariat was represented by the readiness program officer, the knowledge management officer and a project and knowledge management consultant. Additional stakeholders included National Implementing Entity (NIE) participants that were invited to participate in the Chile Country Exchange mission. These stakeholders were invited as part of a general effort to enable knowledge sharing and cross learning opportunities on sustainable water management techniques which was the focus of the knowledge exchange mission.

8. The mission was carried out from May 8th to May 9th, 2019, which consisted of a field visits to demonstration plots and project sites in Litueche and Marchigue provinces. The methodology used for the monitoring mission comprised qualitative semi-structured interviews and meetings with key community members (local producers, farmers and neighborhood board members and President), local government, project technical teams and technical coordinator (Institute of Agricultural Research or INIA), members from the National Agro-Climatic Network (RAN) and AGCID project coordinator. A set of guiding questions had been prepared for the mission and shared in advance with AGCID (see Annex I). These questions covered the aforementioned objectives.

PROJECT/PROGRAMME CONTEXT AND PROGRESS TO DATE

Context

9. The O'Higgins Region is deeply affected by climate change, which has caused notable changes in temperature and precipitation patterns over the last two decades. The region is currently experiencing a 10-year drought which has led to a nearly 50 percent reduction in water supply, devastating wildfires, and soil erosion due to lack of vegetation. Without adequate adaptation efforts, the region faces potentially devastating hardship.

10. The region of O´Higgins includes both, irrigated and non-irrigated agricultural systems managed on an intensive or extensive level either by small scale farmers or by export oriented ones. Small-scale agriculture has been the most negatively impacted leaving rural farm workers, who make up 87 percent of the Region's farmers, with limited resources. The Region experienced 5.8 percent agricultural growth during 2018 which is low compared to the country's other regions. The region depends heavily on agriculture and is best known for its production of wine, which has equally created a large tourism industry. The Ministry of Agriculture in this region holds a network of services and 10 already established activities related to capacity building, agro-technology transfer and climate change related research. The implementation of the climate change adaptation measures in the target areas are meeting the very needs of that region.

11. The target population of the project is the group of subsistence farmers with less than 17-20 hectares farm size. This group belongs to the rural population of the project area which is of

60% of its total population. This rural population has lower incomes and higher poverty (average index = 16,7%) than the regional and national averages, and unsatisfied basic needs are commonly detected in rural households. Furthermore, migration of the younger generation, especially women, from its rural homes to the cities has changed the age and gender structure of the remaining population and therefore increased their social vulnerability.

12. The project works with close to 2,000 small farmers and their families, to create resilience capacities in these communities vulnerable to climate variation, with respect to livestock, cultivation, water and soil management. For this purpose, the project is acquiring machinery that will be available to farmers for the improvement of agricultural practices. In addition, more than 500 farmers will be subsidized with the implementation of rainwater harvesters, storage tanks and a small greenhouse for vegetables, which will allow them to have better water supply and have additional income. The project in turn intends to improve the agroclimatic information of the sector which will be available to small farmers, which will improve their agricultural management in the face of climate variations. A component specifically focusing on training professionals from the sector, the Ministry of Agriculture and rural communities is also being implemented.

Progress to Date

13. The project was approved by the Board at its twenty-eight meeting, and the agreement was signed by AGCID in 13 November 2015. The inception workshop was held on 18 August 2017 and marked the commencement of the project implementation. The expected duration of the project is four years. In line with the performance-based grant financing used by the Fund, AGCID had submitted one annual project performance reports (PPR) to the Board at the time of the mission. To date, the Board has transferred the amount of US$ 5,878,885 or 59% of the US$ 9,960,000 approved for the project. The project's implementation progress has been rated satisfactory in the report provided since the project's inception.

MEETINGS, SITE VISITS AND FINDINGS OF THE MISSION

14. The representatives of the secretariat met with a number of stakeholders during the two days of the mission and met with the project technical team, four farmers of which two were women, the agroclimatic board and the President of the agroclimatic board.

15. AGCID's network of stakeholders is guided by national policy which encourages input from multiple ministries, private sector, beneficiaries, and local regional institutions. Overseeing the project is the Directive Committee (comité directivo) comprised of the Ministry of Agriculture, Ministry of Environment, and AGCID. It should be noted that AGCID falls under the Ministry of Foreign Affairs (MoFA). The project executing entities are the Ministry of Agriculture (MINAGRI), and the Ministry of Environment (MoE). The director of the project is attached to the Regional Secretariat of MINAGRI and provides direct oversight within the O'Higgins Region. Furthermore, there are three coordinators for the project each focusing on applicable project components related to their expertise.

16. At the local level, the project is comprised of representatives from each of the eight local committees which oversee activities at the project sites. The local committees are comprised of the MINAGRI Secretariat, municipalities, and citizens, which helps ensure transparency and financial oversight.

17. This transparency and financial oversight allow stakeholders to take an in depth look at the national procurement policy, proposal process for contractors, and tender process. Overall, AGCID emphasized their adherence to national policies, but at the same time highlighted how the project influences the development of new policy, especially related to climate change and gender.

18. The project also utilizes a unique private sector partner engagement wherein they hire experts in various fields to implement or advise on technical issues. This type of engagement falls under the Regional MINAGRI Secretariat.

19. The mission visited the INIA Hidango experimental station in Litueche where technical experts are training community members on different water collection techniques, using subsoiler plows, electric fences and other machinery that are being piloted at the demonstration plot. In the same province the mission visited a strawberry farmer who is successfully utilizing techniques of solar irrigation, sub-soiler ploughing technique and water collection techniques learned at the demonstration plot. The team also visited a female beneficiary farmer in Litueche who is benefitting from the green-house and a water collection unit. On the second day, the mission team visited the agroclimatic board members, producers and the President of the agroclimatic organization in Marchigue province. In the same province, the team visited another female beneficiary farmer who is also experiencing increased production of substance farming

20. This section summarizes the findings of such visits and meetings during the mission.

The project employs a "learning by seeing" component which refers to the guided visits to the demonstration fields to farmers

21. The projects visited by the mission covered the Hindago demonstration field, a strawberry farmer practicing climate smart farming techniques learned at the demonstration field and female beneficiary benefitting from a greenhouse and a water harvesting unit.

22. It is expected that through component 1 rural farmer communities will increase their resilience capacity to the negative impacts of climate variability and climate change through i) the enhancement of abilities in soil, livestock, water and crop management; ii) access to an agricultural machinery pool for soil management; and iii) an increase of water availability and crop productivity in farm holds in the project area. The Component provides responses to two of the project's specific objectives, therefore being divided in two Subcomponents, the first of which (Result 1.1) tackles farming practices and the second of which (Result 1.2) tackles water availability.

Establishment of 9 demonstration units

23. The project aims to establish 9 demonstration fields including its infrastructure and equipment (fencing, water troughs, electrical infrastructure, renewable energy sources, etc.) to demonstrate appropriate farm management for climate adaptation and resilience building. One principal demonstration was visited by the mission team that is located at the INIA experimental station "Hidango", in Litueche. The Hidango facility is a model for all the management practices and technology transfer activities, applied in the 8 project municipalities. The other 8 demonstration fields will be established in each one of the municipalities of the project area: Paredones, Pichilemu, Marchigue, La Estrella, Litueche, Navidad, Lolol and Pumanque. Each demonstration field will cover an area of about 4 to 5 hectares and will be located in an accessible location for smallholders. A contract is signed between the project and farm owner to detail the responsibilities of both parties. This installation allows for different local soil and climate conditions

to be taken into account for the practices that will be demonstrated and transferred in the local demonstration fields.

Machinery and equipment

24. The mission team learned of the Subsoiler ploughing technique (see figure 1 below) which is ideal to plough soils in non-irrigated and dryland areas. The subsoiler tool works between 35 to 45 centimeters under the soil surface, allowing the rupture of compacted soil layers or hardpan. This action contributes to reducing runoff and erosive processes due to sediment dragging. It improves water accumulation in the soil profile, enhancing root growth and vegetable cover such as grassland for animal feeding and others. It also progressively improves physical and biological soil conditions, increasing organic matter amounts.

25. A number of other machinery and tool are being piloted at the Hidango (Experimental Station INIA Litueche). These include: plow subsoiler scaler, moldboard plow, vibro cultivator, incorporator harrow stubble harrow offset disc seeder zero tillage, regenerative grassland, machine applicator guanos, spray bar, seeder, chipper stubble, backhoe, tractor, small truck, colossus, oil tank and manual fuel pump, manual bailing hay, honey extractor etc. Farmers have access to the equipment for their individual properties. INIA also acquires seeds, fruit, sheep, beehives and beekeeping equipment for management training.

Picture 1: (Left) Subsoiler plough; (Right): Subsoiler plough tool works between 35 to 45 centimeters under the surface, allowing the rupture of compacted soil layers or hardpan.

26. The project also considers the acquisition (including maintenance and operating costs) of agricultural machinery for the 9 demonstration fields. This equipment is used for works on demonstration fields and also as a machinery pool at the disposal of registered and eligible small farmers in each municipality. Small farmers, both direct beneficiaries of other project outputs and others qualifying (vulnerable small farmers) register in a machinery-pool applicant list. The Local Committee then organizes the calendar for machinery utilization outside the demonstration fields, considering the registered necessities. The requirements and employment of machinery by small-farmers are coordinated and monitored by the technician in charge of each demonstration field. Correspondingly, a mechanism is planned to be established to authorize the use of machinery outside the demonstration fields.

Laboratory for soil physics, profiling and biology

27. INIA technical team members also presented that the last comprehensive soil analysis for the region had been carried out during the 1980's. In this respect the project is building a new soil profile and the information is compared with newly gained climate information. This soil analysis effort is part of a larger effort to strengthen evidence-based farming and improving crop selection to help farmers better determine their planting strategies. Additionally, improving the quality of the soil could have indirect benefits for livestock production as some studies have shown that cattle with a better diet produce less green-house gas emissions.

Rainwater harvesting systems

28. As explained earlier, using indigenous knowledge from the south of the country, AGCID partners introduced a deeper ploughing system which helped to better aerate the soil along with a system of canals at the pilot sites to improve irrigation. Additionally, INIA piloted numerous rain catchment systems which included a traditional roof channeling system, which guides water into an open or closed cistern, an open pond type of system, and an innovative fog catching system to encourage water harvesting. Each system has been designed for use in applicable environments and adapted per the conditions of the region. The catchment systems are meant to reduce dependence on ground water and aquifers.

29. At the experimental center the project has been demonstrating to use of rainwater collection system. It aims to construction 558 collection systems, install polyethylene accumulation ponds with the capacity of 5000-5400 liters, flexible portable tanks of 10,000 liters, construction of 559 greenhouses with polyethene polycarbonate roofs, 40 square meters with irrigation technology, including hydroponic production of vegetables and fodder.

30. AGCID expressed that it was in a race against time to expand the project as the country enters its tenth year of drought. O'Higgins receives barely 50 percent of what would be considered its normal rainfall, and this has occurred for the last ten years. This has caused a decrease in ground vegetation and a need to alter ploughing methods. Current ploughing methods were not going deep enough and were causing the ground to become hard packed, preventing easier planting of crops.

Picture 2: INIA Technical Programme Coordinator demonstrates an open rainwater catchment system

31. During the field visit, AGCID representatives emphasized how their stakeholder engagement was key to the project's success. The Agency used a local committee structure (comité local) which works towards disseminating best practices. AGCID also highlighted the use of an evidenced-based approach which capitalized on the strong regional knowledge of the

principal technical advisor institution, the INIA, which oversees the water catchment demonstration plots.

Picture 3: (Left) INIA's "fog catcher" device. (Right) Mist and fog are collected on the large tarp and channeled into water catchment devices.

Picture 4: Rainwater collection tank with a capacity of 5,400 liters is also provided by the project to beneficiaries.

Capacity building through knowledge sharing and demonstration of good practice

Capacity building and technology transfer

32. Training activities are organized from the identification of two different target groups: project beneficiaries (farmers) and technical staff directly linked to the project and its beneficiaries and area. As stated above, the project is installing rain water and surface runoff harvesting facilities in 558 farms including the acquisition of materials and equipment (roof materials, rain pipes, mobile water cisterns, irrigation system, greenhouse installation), Farmers are receiving training by the advisory teams on the use and maintenance of this facilities. This intervention has been improving the climate adaptation and resilience building with respect to increasing water shortages and climate uncertainty and improving farm productivity in the most vulnerable smallholder farms in the project area. Rain harvesting systems and irrigation materials lifetime is estimated at least 15 years, according to their technical specifications. Each farmer will be responsible for the maintenance of her/his infrastructure. They receive proper technical support and training on the collection of water resources, storage capacity management, cleaning processes and preservation of pipes, seals etc.

33. At the time the mission was conducted basic technical assistance was given to the 64 farmers who were favored with the installation of water harvesters, accumulation ponds and greenhouses. In addition, 468 people were trained through 15 activities that included, home workshop, work in local committees, induction to technical teams and organization of seminars.

34. Additionally, a professional team was hired to advise on the agro-technological transfer for each municipality in the area of influence of the project. Four professionals were hired (1 coordinator, 1 secretary and 2 administrative managers), as well as a communications team to the development of an adequate communication with the different objective publics of the program, the necessary equipment was acquired for the classification and characterization of soils, these tasks are in full execution.

Renewable energy for pumping irrigation water

35. The project has been also encouraging the use of renewable energy for pumping irrigation water. It was explained by INIA staff that regarding the use of solar energy for irrigation systems, the alternative has been very successful on rural areas because it has no costs associated to energy consumption. Pumping bombs powered by solar energy are used in the country with very good results. The power generated by solar energy is enough to lift water for irrigation systems such as those ones planned by the project. Electricity and oil have higher costs of consumption. Furthermore, electricity is not always available for some rural areas, due to the lack of infrastructure and oil is not a sustainable alternative, and to promote its use will be in contradiction of climate change mitigation.

36. The challenge about solar energy systems is its high initial investment costs. The project is helping further improve the conditions of the small-farmers providing the necessary funds for this initial investment in 108 cases, those who can most benefit in terms of resilience. It is expected that the capacity building activities of the project, the dissemination of lessons learned and a continuation in the price drop of the equipment will motivate the support of more solar energy systems for future projects.

37. The project is installing photovoltaic panels in 108 properties for water extraction. Dissemination and training systems include maintenance and pumping. There at currently 9 demonstration units pumping systems with photovoltaic panels.


Picture 4: (Left) Strawberry field with solar powered irrigation system (solar panels not pictured). (Right) Fertigation system in which fertilizer is dissolved and distributed along with water in drip or spray irrigation system.

Picture 5: Strawberry farmer who benefitted from increased production due to technology transfer and capacity building activities of the project.

Considerations to women, youth and other vulnerable groups

38. The mission team learned that the project is targeting female-headed household for project initiatives. The project uses a system of safeguards including a new “Plan of Action for Gender Mainstreaming”. The new plan is necessary as AGCID noted most activities were carried out by women, yet men had access to the majority of resources.

39. The Gender Plan focuses on integrating gender issues into the governance and institutional structure as well as improving women's agricultural capabilities. AGCID also developed a monitoring and evaluation system to directly measure the outcomes and impact of project activities on the resilience of women and men to climate change.

40. The mission team learned that female headed household beneficiaries that benefitted from greenhouses and rainwater harvesting tanks have seen an increase in subsistence farming produce and are now able to sell the surplus at local markets. They also mentioned that the training received to install, operated and maintain rainwater harvesting tanks has enabled them to acquire second tank, and install it on their own. They are also able transfer this knowledge to neighbours and other interested vulnerable groups.

41. Another factor AGCID had to consider was the aging farming population. Seventy percent of the famers in the O'Higgins region are 50 years or older. Relatedly, 65 percent of the farmers did not finish high school. To deal with this issue, the Chilean Government is working to attract more youth to rural areas. AGCID is actively promoting farming as a viable career and has proposed a system of subsidies for youth in the region to encourage them to stay in rural areas or return from urbanized areas.

Picture 6: Female headed household beneficiary that benefitted from a greenhouse and a rainwater harvesting tank (not pictured)

Installation of an information system for agro-climatic risk management

42. The mission team visited the Agroclimatic Board in Marchigue, participatory agroclimatic committee members including the President of the Agroclimatic Board for Marchigue province and National Agro-Climatic Network (RAN) experts.

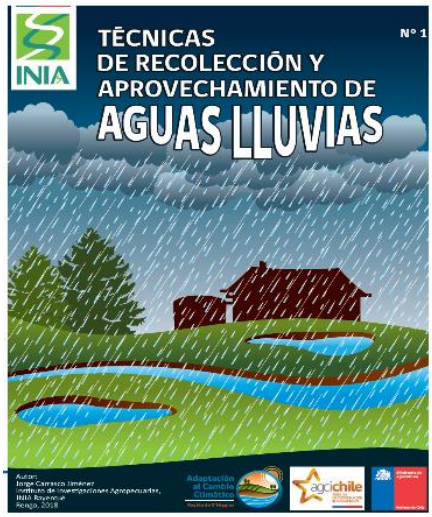
43. The project has acquired and installed 4 automatic meteorological stations (AMS) for relevant sites of the project area and that will enable their data transmission and automatic processing through to the RAN-network, including the elaboration of weather reports and forecasts and its dissemination to the local farmer communities. The 4 new AMS are located in the municipalities of Navidad, Pichilemu, Paredones and Pumanque.

44. AGCID shared that partnerships and knowledge transfer were important for stimulating innovation in adaptation. AGCID reiterated that the knowledge exchange with other countries enhanced their own development and helped them to catch up to the latest adaptation trends. The adaptation of the Agroclimatic Committee structure model that was developed was based on a Colombia model (Local Tech Transfer Model). It improved the discussion on the climate change crop impact. Additionally the project developed the Agricultural-meteorological (agromet) network in coordination with Birmingham University in England, who supplied expertise on the installation of ground sensors. Additional experts are hired via the Agricultural Secretariat and are used to improve the quality of the agromet network. The network itself is supported by an agroclimatic committee composed of technical experts and relevant stakeholders.

45. The project is implementing an agro-climatic indicator system and the communication strategy through the local INIA office, and dissemination of the respective information to the farmer communities. It is training local INIA staff, farmer advisors and farmers in the understanding of the agroclimatic information and its integration in the decision- making process for farm management and climate change adaptation.

46. These activities that fall under component 2 of the project, also include the diffusion materials for the target population: small farmers (men and women), adolescents, students from farm schools, etc., as well as the training of professionals and technicians in the interpretation and use of the provided agroclimatic information so they can provide adequate support to the implantation of the agroclimatic information system. The project has developed various bulletins on climate forecasts and alerts with project investment. It is expected that through the Component 2, the local MINAGRI Institutions will strengthen and improve their technological and methodological capacity in climate data sampling, processing and analyses, and ii) the rural farmers communities will increase their resilience capacity to the negative impacts of climate variability and climate change through climate-wise decision making.

Samples of bulletins informing community members of climate variations



LESSONS LEARNED

Evidence-based adaptation can be a useful approach to help shape national policy.

47. INIA-led demo plots of farmers offer visibility of water harvesting practices and encourages community support. Neighbor observance of good agricultural practices in the O'Higgins Region has helped to increase the overall drive in adapting to fewer water resources. Projects succeed more when aligned to national policies and strategies e.g., the nationwide 3-pronged action plan advancing gender integration has positively impacted the future access to resources for women, even at the O'Higgins level.

Person-to-person interaction supported by the use of demonstration sites should be at the center of stakeholder communication.

48. For AGCID this encouraged other farmers to try similar water and agriculture management techniques and the demo projects attracted the attention of the community in Litueche and Marchigue, including local schools, which led to the creation of children-oriented materials promoting climate adaption. Communication with project stakeholders should capitalize on existing communication platforms and is more effective when a bottom-up approach is used. AGCID used existing communication platforms and let stakeholders naturally select the platforms that work for them, which allowed for a more organic evolution of communication practices.

Forming partnerships is a good way to promote project sustainability

49. AGCID's active engagement with public and private partners promoted broader project communication and improved stakeholder access to information on innovative technology, modern agricultural practices, and potential access to future expansion funding. Partnerships are an important way of promoting project sustainability. For AGCID, partnership with regional institutions such as INIA, El Instituto de Desarrollo Agropecuario (INDAP), La Corporación

Nacional Forestal (CONAF), and building on the success of the regional stakeholders through creation of a local cooperative has been an important to ensure project sustainability and enhancing input from local farmers. Projects should capitalize on existing procurement systems and include in the project proposal, a plan for the management of project machinery and equipment post project completion. Collaboration with the local government on equipment usage agreements have been established for this by AGCID.

Agro-climatic stations were at the core of the communications system in the target region

50. At the core of the communications system is the O'Higgins Region network of agro-climatic stations. These stations helped to fill a gap between national forecasts and local agricultural conditions. The national forecasts were not detailed enough for local farmers therefore, AGCID established an information network to inform farmers of very specific conditions in O'Higgins. The stations gather key bits of information such as local weather conditions relevant to planting or harvest, which are disseminated to stakeholders.

Good practice to target female-headed households and provide incentives for youth

51. Since women within the O'Higgins Region participate at a much higher rate in project working groups than men, it is good practice to target the female-headed household for future project initiatives. The inclusion of women should occur at the initial stage of project design through to implementation. Women should also be included more during the scaling-up phase, since some of the best results from INIA plots have come from women. Additionally, incentives for youth can have positive benefits for sustaining project activities. It should be noted that the Government currently offers incentives for youth to encourage them to come to the rural areas (but this not happening through the project).

ANNEXES

- Key questions - A set of questions was prepared for the objectives of the mission, which were applied for the mission.
- Agenda of the mission

Key questions

Key guiding questions in the targeted learning plan	
Mission objectives	**Key questions for the mission**
Objective 1: to collect lessons learned from concrete adaptation practices in the context of innovative farming practices and; sustainable soil and water management technologies. • Lessons drawn from the agro-climatic information system of the project that is integrated in already-existing national agroclimatic information frameworks; • Learn from the project's approach of developing crop varieties resistant to water and thermal stress that are made available at scale through the project; • Lessons drawn from how smaller holder farming families, including women and youth, are benefitting from on-farm technical support where the demonstration fields are located; • Enhancing livelihoods and reducing climate change vulnerabilities of target beneficiaries by introducing training in sustainable soil management (plowing practices, fertilizing practices, soil fertility recovering practices, holistic soil management); • Enhancing climate change resilience through training in efficient water management on the demonstration fields (including the acquisition of the equipment) through the application of irrigation technology powered by renewable energy resources (sun, wind))	1) Based on what previous experiences/studies were the project adaptation options selected? 2) What, if any, were the main challenges faced by the project in implementing its identified adaptation options? 3) How have the soil and water management adaptation activities helped in reducing the agricultural production losses? 4) What were the most innovative options proposed through the project and how have they been accepted by the communities? 5) What are the considerations for the sustainability of the proposed innovative options? 6) What would you consider to be the most successful aspects of the project interventions for the target communities? 7) To what extent was local/traditional knowledge considered? 8) What steps have been taken to measure the success of dry land farming practices, installation of rainwater harvesting tanks, solar/wind irrigation systems, sustainable soils management practices?
Objective 2: to learn from the project's systematic and adaptive communication system that is allowing efficient and effective	1) How have the trainings conducted (small holder farmers, youth, students from farm schools) helped improve the

communication between different institutional and non-institutional actors • Lessons from how agro-technology transfer and capacity building activities of the project is building synergies with three already existing Ministry of Agriculture (MINAGRI) programs in the region i.e. PRODESAL (local rural development program), SAT (technical assistance service) and SIRDS (Incentive system for sustainable agricultural soil management). • Lessons drawn from the capacity building in weather and climate data analysis and its integration in meaningful decision- making for farm management • Learn from the project's general approach of involving women in farm production to strengthen their role and participation in farm management decision making; • Lessons from key aspects of project, such as knowledge sharing and community empowerment to foster the sustainability and scalability of a project;	decisions supporting agroclimatic information management? 2) Where there any challenges encountered by the local INIA staff in disseminating information about the agro-climatic indicator system to the farmer communities? 3) How were challenges in disseminating technical information outcome? 4) What are the visible positive impacts of the agro-technology transfer model pioneered by the project which involved a combination of "learning by seeing" and "learning by doing" methods? 5) The "learning by seeing" component also involves learning from best practice experiences from leading agricultural institutions of countries with similar dryland conditions (Argentina, Brazil, Spain, Mexico and Australia?). What have been the tangible benefits of this knowledge exchange? 6) Are there visible positive impacts obtained through the strengthening of the National Agro-Climatic Network (RAN)? 7) This project undertook a gender analysis before starting its implementation. In which way this helped to achieve a gender responsive intervention?

Objective 3: to draw lessons from the project's replication and scaling up of concrete interventions • Learn from the project's solutions at scale and its approach for a replicable intervention strategy that can be applied to the whole dryland area of the country;	1) To what extent has scalability of the project been considered at the project design phase? 2) Have there been any concrete plans to scale up the project activities? 3) Was the potential for replication and scalability outside the project areas taken into consideration when choosing the concrete adaptation interventions undertaken by the project? 4) What is the potential for the concrete adaptation interventions undertaken by the project to be replicated and scaled up both within and outside the project area?

Agenda of the Mission

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Team Mission

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