

# Approved Project Preparation Funding Application

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Application Title	Development of an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley
Country/ Region	Morocco
Accredited Entity	Agency for Agricultural Development – Morocco
Approval Date	14 September 2017



**GREEN  
CLIMATE  
FUND**

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<b>A. Executive Summary</b> <i>(in one page)</i>	
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<b>Concept Note Title</b> <i>(reference number)</i>	Development of an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley.
<b>Country/Region</b>	Morocco
<b>Request Summary</b> <i>(in 200 words)</i>	<p>“Office Regional de Mise en Valeur Agricole Souss Massa” (ORMVA SM) aims to pilot innovative measures in order to: i) increase the resilience of Souss Valley to the expected impact of climate change, ii) preserve groundwater resources and iii) improve surface water use and efficiency in agriculture involving the establishment of small-scale low carbon rural agriculture practices for sustainable watershed management. The proposed project aims to protect groundwater resources in the Souss Valley, a vulnerable perimeter in the southern region of Morocco, and to develop a sustainable model of water supply and watershed co-management. This will increase the resilience of farming systems in the face of climate change while relying on targeted research and analysis to guide policy makers, business leaders, and communities in this respect.</p> <p>The project will focus on key issues that are critical to enable the Souss Region in achieving its development targets and aligning with nationally determined contributions, national water planning, and climate resilient priorities. It will focus on climate-resilient agriculture, improved water management, and water supply, co-management of watershed and forestry, enhance relationships between end users and authorities on watershed co-management, and capacity building for sustainable farming practices and to address water policy reform in the region.</p> <p>The project comprises two interlinked components:</p> <ul style="list-style-type: none"> <li>• Component 1: Improved water supply and watershed co-management (in order to protect and reduce pressure on Souss groundwater, strengthen the efficient use of surface water, improve irrigation infrastructure, as well as enhance farmers knowledge and awareness in order to promote sustainable farming watershed management practices).</li> <li>• Component 2: Climate resilient agriculture in Souss Valley.</li> </ul> <p>The Project Preparation Facility (PPF) will be used to finance the following required studies and plans:</p> <ol style="list-style-type: none"> <li>1. Feasibility study which will inform the following aspects of the project: <ul style="list-style-type: none"> <li>○ Developing integrated, sustainable and climate resilient agriculture in the Souss Valley;</li> <li>○ Reducing pressure on groundwater and strengthening efficient use of surface water and watershed management of the Souss Valley;</li> <li>○ Designing an efficient drip irrigation system and promoting more efficient surface water use in the Souss Valley;</li> <li>○ Promoting sustainable agriculture and sustainable farming practices and watershed management.</li> </ul> </li> <li>2. Environmental and Social Impact Assessment (ESIA) and ESMP / Gender Analysis and Gender Action Plan</li> <li>3. Financial model and economic analysis</li> <li>4. Project Management Plan and Funding Proposal</li> </ol> <p>These studies and plans are required to determine the best way to design and implement the various aspects of the project. Furthermore, these studies will be needed by other financial institutions from whom ORMVA SM is also seeking financing.</p>
<b>Anticipated Duration</b>	12 MONTHS
<b>Estimated cost</b>	<p>Total Cost: USD 717 407</p> <p>Funding amount requested to GCF: USD 717 407 (including contingency –5% of total amount)</p>

## B. Description of Activities

With its annual renewable water resources totaling 22,000 million cubic meters (m<sup>3</sup>), corresponding to 730 m<sup>3</sup>/inhabitant, Morocco is a water stressed country according to the definition of the United Nations (the threshold is 1,000 m<sup>3</sup>/inhabitant). Morocco is divided into nine hydrological basins with large differences in specific discharge volumes. Surface water resources are unevenly distributed in the territory, with the three basins of Loukkos, Sebou/Saïss, and Oum Rbiaâ alone constituting 71 per cent of the national water resources.

Recent concerns about water shortages that are exacerbated by climate change forecasts have driven on-going water reforms to mobilize unconventional sources of water. New seawater desalination plants and wastewater treatment plants under construction are expected to provide an additional 725 million m<sup>3</sup> of water per year. The ambitious Morocco Green Plan, which aims at doubling the agriculture sector's added-value and creating 1.5 million jobs by 2020, includes water conservation measures. Additionally, the National Plan for Saving Water in Irrigation will promote more productive water use by introducing efficient irrigation technologies (mainly drip irrigation) on 555,000 ha of the country's irrigated land by 2020.

Agriculture is central to Morocco's economy, as evidenced by the strong correlation between GDP and agriculture's share of the overall GDP. Over the 2014 agricultural campaign, thanks to favorable weather, the sector represented 15.6 per cent of GDP, contributing the most to the country's overall growth. The agricultural sector represents a critical feature of the country's demographic and socio-economic makeup, generating 40 per cent of jobs nationwide, mostly in rural areas where the majority of the poor live. The sector is largely composed of small farmers mostly dedicated to low-value agriculture, but also counts a group of dynamic and well performing large farmers with state-of-the-art technologies that are well integrated into the national and international markets. In 2011, more than 60 per cent of women worked in the agriculture sector in Morocco, as compared to 32 per cent of men

The main activities to be funded by the PPF will include:

### **Activity 1. Feasibility study for designing the climate resilient and sustainable agriculture project (including two sub-activities):**

- Sub-activity 1.1: Developing an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley based on improved water management.
- Sub-activity 1.2: Reducing pressure on groundwater and strengthening the efficient use of surface water including implementing watershed management practices of the Souss Valley.

### **Activity 2. Preparation of an Environmental and Social Impact Assessment (ESIA) and related Environmental and Social Management Plan (ESMP), as well as a gender analysis and related gender action plan**

- Environmental and Social Impact Assessment (ESIA) and related Environmental and Social Management Plan (ESMP)
- Gender analysis and related gender action plan

### **Activity 3 Development of a financial model and economic analysis**

### **Activity 4 Development of the GCF funding proposal for the project**

Activities details are as below:

#### **Activity 1: Feasibility study for designing the climate resilient and sustainable agriculture project in the Souss Valley, including:**

##### ***Sub-activity 1.1. Developing an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley based on improved water management.***

The first sub-activity consists of: the design of the different components of the project, based on community consultations, as well as the identification of activities for each component, based on a resilient model for sustainable agricultural practices in the Souss valley. Detailed Terms of References are provided in Annex I.

##### ***Sub-activity 1.2. Reducing pressure on groundwater and strengthening the efficient use of surface water including implementing watershed management practices of the Souss Valley, through the following components:***

- Analysis of the climate change stresses affecting the Souss valley and therefore to design climate change adaptation responses around the predicted impacts;
- Analysis of the impact of groundwater use on climate resilience, surface water use and watershed management practices as an explanation as to how surface water sources can possibly be used more in the future (since the wadi is dry most of the year).

- Based on the analysis, explain what surface water storage structures or groundwater recharge will be proposed and planned;
- Feasibility for designing an improved system for efficient drip irrigation and groundwater management, and its potential for impact on climate resilience;
  - Technical feasibility and design phase of the project, including
  - collect records on the Souss' aquifer levels and river flow levels to see if discernable Climate Change and other trends are identifiable, and if other (non-Climate Change) drivers are affecting the water balance; note water quality challenges in the catchment (whether the surface water is polluted and if the groundwater is saline);
  - demonstrate that the proposed works do not exacerbate salinization problems in the project area; sufficient flushing must occur;
  - confirm how farms in the project are selected, to make sure the most climate-vulnerable and socially-vulnerable farmers (e.g. female headed households) benefit and evaluate the willingness of farmers to pay for irrigation infrastructure.

The feasibility study will develop the feasibility for each activity by component and will demonstrate how the project will contribute to reduction of the pressure on groundwater by the adaptation of more efficient usage of surface water. The feasibility study will provide the Preliminary Project Design and Final Project Design. It will provide the total cost of the project, the risks of the project, and a detailed work plan identifying phasing and costing of the project components with the key milestones and indicators. Detailed Terms of References are provided in Annex II.

## **Activity 2. Preparation of an ESIA, ESMP, Gender Analysis and Gender Action Plan**

### **ESIA and ESMP**

- The objective of the activity is to assist ORMVA SM to develop an Environmental Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) to ensure that the project is implemented in an environmentally and socially sustainable manner and in full compliance with Morocco's and the GCF's environmental and social policies and regulations.
- The specific objectives are: (i) to assess the potential environmental and social impacts of the project, whether positive or negative, and propose mitigation measures; and (ii) to inform the project preparation process of the potential impacts of different alternatives, and relevant mitigation measures (including implementation requirements).

Detailed ToRs are provided in Annex III.

### **Gender Analysis and Gender Action Plan**

The specific objectives of the Gender Analysis and Gender Action Plan are to:

- Examine the roles, rights and needs of men and women, including vulnerable groups such as female-headed households, widows and people living below the poverty line, in the context of agricultural development with a focus on irrigation activities in Morocco, in order to serve as a practical tool for identifying opportunities and entry points for promoting gender equality in the project.
- Improve the extent to which the project design is informed by a thorough understanding of gender roles, power relations and a disaggregation of women's and men's specific interests, needs, and priorities.
- Identify gender-responsive activities.
- Provide recommendations on how women can participate equally and actively alongside men, and how they can gain maximum benefit from project interventions and how the project can contribute to the Government's gender equality agenda.
- Develop appropriate gender sensitive indicators based on gender assessment that can be integrated into the project results framework.

Detailed ToRs are provided in Annex IV.

## **Activity 3. Development of a Financial Model and Economic Analysis of project costs and benefits**

The specific objectives of the study are:

- To develop a method for the Economic Analysis of costs and benefits of the project, and Financial Model, setting out the input requirements as determined by the technical feasibility study.
- To undertake a detailed Economic Analysis (EA) of costs and benefits of the project, drawing on the cost and benefit information

collected by the technical feasibility study. This will require close integration and work with the consultants for these work packages. The analysis should also identify the distributional costs and benefits of the project.

- To prepare a detailed Financial Model (FM) for each component and the project, drawing on the cost and programming information from the feasibility studies, collating the information on project and external finance and funding modalities.
- To use the information of the two assessments above to complete the relevant sections of the GCF application template.

Financial and economic information on the project components as inputs to the economic and financial evaluation of the costs and benefits of the project; Identifying and prioritizing locally relevant and cost-effective climate resilient farming and watershed management technologies and practices.

To assess the financial structure of the project and verify which other actors (eg local commercial banks and purchasers of agricultural produce, like food processing companies) could co-fund the project,

Detailed ToRs are provided in Annex V.

#### Activity 4. Project Management Plan and Funding proposal

The specific objectives of the study are to develop:

- Project Management Plan

A Project Management Plan (PMP) is required to be developed to ensure that the project is managed in a coherent and efficient manner, risks are managed effectively and outputs are delivered in time and within the budget. It will provide detailed guidance for the PMU –ORMVA SM and ADA and project's partners. It also covers project management, quality assurance, reporting and communication, coordination and phasing of activities, risks identification and tracking, cross learning and value for money.

Effective management will eliminate gaps and duplication in service delivery, determine an appropriate division of responsibility and establish a framework for information sharing, collaboration, and joint planning.

The PMP will provide a set of guidance notes for managers to ensure that the project management is executed effectively and the program is on track to achieve its targets.

The PMP will also include the initial design of the Monitoring and Evaluation (M&E) system. The M&E system will as much as possible be based on existing systems used by ADA. Monitoring and data collection is crucial for the successful delivery of the pilot program and the focus will be on building a responsive M&E system that provides almost real-time feedback to the PMU and the management team for each sub-project, to develop an evidence-based implementation, a continual assessment of progress and draw lessons for the future. A baseline study will be included as part of the M&E and a survey will be designed for after the project closure.

With the support of the PPF grant, the M&E Specialist will provide training and mentoring to key ADA staff and officers in the Souss Valley emphasizing the basics of data collection as well as data management, analysis and report writing. In the Souss Valley, the focus will be more on data collection and data governance, data storage and management. This will ensure that the learning gained, including the specific tools and systems developed, are transferable and remain in ADA and ORMVA SM for future oversight and evaluation of the program.

A Project Implementation Manual (PIM) is required to ensure that program implementation follows appropriate processes and procedures. It will provide detailed guidance for the PMU (and project partners) and include reporting obligations, payments, and other program-related requirements. The PIM will provide a set of guidance notes for managers to ensure project management is executed according to the regulations and rules relevant to the program. As well as developing the PIM, this assignment will also assess capacity needs of ADA and ORMVA SM with respect to adopting and applying all aspects of the PIM during implementation and prepare a capacity development plan if necessary.

- Funding Proposal

To develop the Funding Proposal for submitting to the GCF in line with GCF criteria and template form in the relevant sections, namely:

- Project / program summary
- Financing / cost information
- Detailed project / program description
- Rationale for GCF involvement
- Expected performance against investment criteria
- Risk assessment and management

- Results monitoring and reporting

Detailed ToRs are provided in Annex VI.

During the duration of this PPF grant, the project design team will produce the following reports:

- Weekly updates to ORMVA SM, and ADA,
- Monthly Progress Briefs to ORMVA SM, ADA,.
- Interim Report 1 – Development of integrated project,
- Interim Report 2 – Feasibility study for drip irrigation, groundwater management, and sustainable agricultural system,
- Interim Report 3- ESIA and ESMP,
- Interim Report 4- Gender analysis and Gender Action Plan,
- Interim Report 5– Financial model and Economic Analysis,
- Interim Report 6 – Project Management Plan and Funding Proposal
- Final Report, including:
  - a) final summary of activities,
  - b) lessons learned,
  - c) recommendations, and
  - d) Audited expenditure report.

Full proposal finalized and approved by ORMVA-SM, ADA, and the NDA with a letter of no objection

## C. Rationale

### C.1 Background

#### CLIMATE CHANGE POLICY IN MOROCCO (CCPM)

Climate Change Policy in Morocco (PCPM) includes strategic, horizontal and sectoral perspectives, for both mitigation and adaptation. This policy puts “green growth” in its economic and social priorities; these priorities are embodied in four pillars which aim to achieve a reduction in the overall carbon footprint and build a development model that is more resilient to the impacts of the climate change:

- Governance pillar favoring a participative and decentralized approach;
- Economic Pillar, implementing an inclusive green economy;
- Social Pillar, for the integration of social aspects in all public policy;
- Environmental Pillar, for the integration of the environment as a central concern of all socioeconomic and territorial development.

The sector-specific focus of different ministerial departments and lack of coordination between them, limited the ability to address national climate change priorities in an integrated and cross sectoral manner. Eventually, a process of identification and coordination of policies and the sectorial measures will be set up to ensure a complete plan of action to realize the CCPM. The six transversal strategic axes of the CCPM aim at:

- Strengthening the legal and institutional framework, by concrete legal and statutory measures, according to the capacities outlined in the National Charter of the Environment and Sustainable Development published in 2014;
- Improving knowledge and observation by strengthening the capacities of observation, follow-up, and forecast of the impacts of climate change;
- Committing to territorial implementation, by the taking into consideration the territorial specificities and the active commitment of local communities to implement the national objectives in Territorial Plans to fight Global warming (PTRC).
- Early warning to reduce climate risks in order to improve ecosystems’ and population’s adaptation capacities
- Empowering stakeholders through capacity building and raising awareness for better skills necessary to adapt and mitigate climate change impacts;
- Promoting research, innovation, knowledge and technology transfer in order to develop the scientific and technological capacities for forecasting, mitigation, and adaptation.

In this context, national initiatives were created and advanced to improve the resilience to climate change and reduce the emissions of GHGs. For instance, the adoption of the National Charter of the Environment and the Sustainable development in 2014 defines the rights and the obligations of the State and the citizens for the protection of the environment and sustainable economic development. Furthermore, the new constitution of July 2011 stresses the importance of sustainability of the environment. Moreover, Morocco signed in May 2012 the Declaration on Green growth of the Organization of Cooperation and of Economic Development (OECD) to target economic recovery and a long-lasting economic growth on the environmental and social fronts. Also, the Government of Morocco published in March 2014 an outline of the National Charter of the Environment and the Sustainable development Decree. The Government aspires to promote investments in green industries and technologies to strengthen sectors such as fish farming and ecotourism, and to contribute to efficiencies in sectors such as agriculture

#### **National Plan of Adaptation (National Adaptation Plan - NAP):**

**For the adaptation sector, a National Plan of Adaptation (National Adaptation Plan -NAP)** is currently under preparation which will identify the priority activities to fulfill the urgent and immediate needs for adaptation to climate change. For the agriculture sector, Ministry of Agriculture and Fisheries has a wide range of projects dealing with adaptation to climate change, most of them have already been implemented.

##### **a. Nationally Appropriate Mitigation Actions - NAMAs**

Regarding mitigation, a low carbon emissions development strategy (Low Emission Development Strategy - LEDS) is in the finalization phase. Morocco's NDC committed to a 32% greenhouse gases emission reduction by 2030 compared to its projected emissions for the same year according to its "doing business as usual" scenario. This strategy will take into account the mitigation measures suited to the national level (Nationally Appropriate Mitigation Actions - NAMAs) covering most of the industrial sectors generating GHGs.

#### **Morocco Green Plan – PMV:**

Integrating climate change in the Green Morocco Plan<sup>1</sup> was a prerequisite. This is illustrated in particular through the guidelines and the following priority action plan:

- The formalization and implementation of projects within the framework of improving the resilience of agriculture in the face of future climate change and the preservation of land and biodiversity;
- The promotion and integration of climate change into adaptation technologies through projects and through the dissemination of selected and certified seeds, the use of water and soil conservation techniques, wider use of fertilizers and good agricultural practices;
- Support the development of renewable energy use in agriculture, particularly solar, wind and biogas;
- The establishment of an ambitious program around the development of water resources: National Irrigation Water Savings Program;
- The contribution of Agriculture, through the measures taken under the PMV to allow the sequestration of 61.7 million T.eq. of CO<sub>2</sub>

As part of the PMV, Morocco has redefined its objectives in a global context concerning food security, climate change and the rising prices of agricultural products, producer responsibility and the fight against poverty.

The PMV is based on redesigning the sectoral framework and the improvement of crosscutting factors, particularly with regard to water policies, land, and inter-professional organizations.

The dimension of climate change is the seventh foundation of the PMV, which is the preservation of natural resources for sustainable agriculture. The seventh foundation is based on:

- The implementation of projects within the framework of improving the resilience of agriculture to future climate change and the preservation of land and biodiversity;
- Integration in PMV projects, technologies for adaptation to climate change through the dissemination of selected and certified seeds, the use of water and soil conservation techniques, fertilization of crops and good agricultural practices;
- Supporting the development of the use of renewable energy, particularly solar, wind and biogas;

<sup>1</sup>The agricultural strategy aims to accelerate growth, reduce poverty, ensure the long-term sustainability of the sector and consolidate its integration into national and international markets.

- Pillar I focuses on the development of productivist and modern agriculture and responding to market rules based on private investment in high-value and high-productivity sectors.
- Pillar II concerns the accompaniment of a solidarity agriculture and the fight against poverty particularly in areas with fragile economy and, improving incomes of poor farmers through intensification, diversification and the valorisation of local agricultural products.

- The establishment of the National Water Saving Irrigation Program (Programme National d'Économie d'Eau en Irrigation) ;
- Development of Cultivated Soil Fertility Maps, for better crop productivity at the national level;

**The National Program for Saving Water in Irrigation (PNEEI)**

The PNEEI promotes more productive and efficient water use by introducing more efficient irrigation technologies (mainly drip irrigation) on 550,000 ha of the country's irrigated land by 2020, of which 330,000 ha through individual conversion in private farms, and 220,000 ha through the modernization of collective irrigation networks and joint conversion in large scale Irrigation perimeters.

The first axis of PNEEI (among the six axes in total) calls for the management of water demand and efficiency through:

- The irrigation water savings plan: 2.4 Billion m<sup>3</sup>/year saved through conversion to drip irrigation, up to 550,000 in 2020 and 920,000 hectares in 2030, by improving yields of supply networks and raising awareness and coaching farmers on water conservation techniques.

It is within this context that the modernization of irrigation schemes in the Souss-Massa region aims to contribute to the national irrigation water savings plan, with the support of the GCF, as a way to strengthen climate resilience. The GCF project we are preparing, will enhance Morocco's resilience to deal with climate change impacts. This process is supported by the FDA, with up to 100 percent subsidy for the adoption of drip irrigation. Since PNEEI was launched in 2008, the adoption of drip irrigation is moving at a fast pace with over 340,000 ha completed (62 percent of the 2020 target). Field experiments in Tadla in Large Scale Irrigation perimeters demonstrated that agricultural water productivity (defined as the value of production per unit of water used) could be doubled by switching from the traditional surface irrigation systems to improved water management under drip irrigation. The variability of the climate has constantly been a major challenge for the development of the agricultural sector and that of the Moroccan economy. From year to year, Morocco experienced droughts and devastating floods. These climatic phenomena's effects are a costly burden to the economy, society and the environment. Given current trends marked by climate change and the consequences of extreme weather events, and future climate patterns remain unfavorable in Morocco and urge for more planning and accelerated investment. Aware of these challenges, the Moroccan government has developed policies to encourage farmers to modernize their irrigation systems with the goal of increased water savings by switching to drip irrigation thanks to readily available governmental subsidies program in place. Despite this progress, more project preparation support is needed to advance the design of water management a more in depth and local scale, including efficient drip irrigation strategies, for the Souss region. In this context, the GCF project we are preparing will strengthen the efforts of the Kingdom in its plan to protect water resources and improve its management in arid and threatened regions like Souss.

**C.2 Justification on request**

The request for financing the preparation phase of the project will help ORMVA SM develop the necessary studies for this sustainable and integrated project in the Souss Valley. These complex studies will form the basis for the request for funding, an essential component of the PPF. Justifications for the PPF are summarized below:

- ORMVA SM has mobilized the majority of its financial resources for the first project modernization of traditional irrigation systems and has an obligation to continue investing in the next phase of this integrated and complex project scheme. The PPF mechanism and grant will ensure ORMVA SM can conduct its studies fund the implementation of this crucial program.
- ORMVA SM would like to address the challenge to develop strong technical and technological studies to use them as a basis to strengthen the funding proposal of the project in the coming 12 months. This proposal will rely essentially on the studies described in this Project Preparation Facility (PPF) application which aims to design a smart project based on water supply and watershed co-management and will contribute to help to reduce pressure on groundwater resources in the Souss Valley.
- Supporting the proposed program through the PPF will demonstrate the Fund's commitment to assist developing countries, such as Morocco, in achieving their NDCs. The ORMVA SM and ADA will use this facility to develop projects hereafter described that are perfectly in line with Morocco's commitments in reducing GHGs by 42% by 2030.
- The PPF will help to develop a smart project and that can help Morocco to enhance its resilience and reduce the negative impacts of climate change.
- Delaying support will allow more time for carbon intensive practices to take hold especially in pumping groundwater and will make it more difficult and costly to switch to low carbon practices at a later stage.
- Taking into account the needs of Morocco, its lack of sufficient financial resources, and that the kingdom is particularly vulnerable to the adverse effects of climate change; there is a strong case for GCF support.

- FDA funding is the main financing tool to achieve the modernization objectives. This fund helps farmers finance modern drip irrigation systems on their farms. However, the funding of offsite infrastructure is supported by ORMVA SM and without strong detailed design and the implementation of offsite infrastructure, the farmer's water needs cannot be met.
- The traditional irrigation infrastructure in the Souss Valley dates back to the 1990s for most of it. Pumping equipment is insufficient to ensure sufficient water withdrawals due to the irregular flow of the oued Souss, the depleting water levels from sustained pumping, and poor maintenance of the existing infrastructure.
- The project whose design will be supported through this PPF grant will provide reliable and equitable access to water to farmers, and support them in accessing improved irrigation technologies and knowledge.
- The improved and equitable water service, coupled with improved irrigation technologies that can be adopted as a consequence, would allow farmers to use water more effectively (responding better to crop requirements in terms of water and nutrients through more precise irrigation pattern) and efficiently (reducing evaporation and percolation losses), thus increasing yields and productivity and ultimately improving income and farmers' livelihood.
- Morocco has committed to reducing its GHG emissions by 42 % below business-as-usual (BAU) levels by 2030. This commitment will only be made possible if Morocco gains access to new sources of financing and to additional support relative to that received in recent years. This commitment will lead to a total reduction of 527 million tons of carbon dioxide equivalent (Mt CO<sub>2</sub>e) between 2020 and 2030. The total cost to reach this goal is estimated at USD 50 billion, of which USD 24 billion would need to come from new climate finance mechanisms such as the GCF.
- Environmental sustainability of the project is characterized by the long-term management of aquifers through the reduction of groundwater usage over time. By making surface water available to farmers' on-demand, and considering that surface water is usually cheaper and of better quality than groundwater, the project is expected to reduce farmers' use of groundwater. This project will promote awareness activities on aquifer management among farmers and monitoring of groundwater usage by installing meters on a sample of wells prior to launching a voluntary metering program with farmers
- ORMVA SM needs GCF support now to avoid the predicted higher costs of adapting to climate change in the future. Failing to act now will result in higher costs from damage caused by extreme weather events and the additional costs of supporting higher numbers of poor households affected by lower agricultural production associated with erratic rainfall patterns and worsening conditions. Without effective intervention now, groundwater resources will see a damaging rise in salinity and risk wiping out Agricultural activity in the region.
- The project focuses on improving the prospects of the rural poor through the promotion of sustainable farming practices and more diverse income opportunities while providing capacity building for the farmers and their associations.

## D. Implementation Plan

### D.1 Implementation approach

Before the starting of implementation of the PPF grant, ADA and ORMVA SM will elaborate an agreement to demonstrate how implementation of the PPF grant will be conducted, and define the specific criteria and indicators for its monitoring and evaluation. The legal arrangement between ADA and ORMVA SM is a subsidiaries agreement based on Master Agreement signed between ADA and GCF. The agreement between ADA and ORMVA SM will include the following aspects:

- Conditions for disbursement: Before disbursement of the grant, ADA will ensure that ORMVA SM has satisfied all conditions for receiving grant funding including
  - o Financial capacities: Report of ORMVA SM based on its financial capacities;
  - o ORMVA SM will send the detailed Terms of References for each activity described in the PPF request in line with Moroccan Law and ADA procedures - the Terms of Reference will be checked by ADA team;
  - o Grant Execution Modalities; and
  - o Cost Breakdown of Activities in line with PPF request.

#### **Agency for Agricultural Development (ADA): National Accredited Entity**

Agency for Agricultural Development (ADA) is the National Accredited Entity. It is responsible to lead implementation of the PPF grant. The ORMVA SM is expected to be an executing entity of the underlying project and for PPF activities outlined in this request.

ADA is responsible for the overall management, implementation and supervision of each funded services in line with its own internal rules, policies and procedures, including administering and managing the use of GCF Proceeds (monitoring, evaluation and reporting responsibilities). ADA will be responsible for:

**Administration of the grant**

The Agency for Agricultural Development will be responsible for the administration of the Grant and will carry out such administration with the same degree of care used in the administration of its own funds, in accordance with: i) the GCF Operational Policies and Guidelines; and ii) ADA own standard practices and procedures.

**PPF and Project implementation**

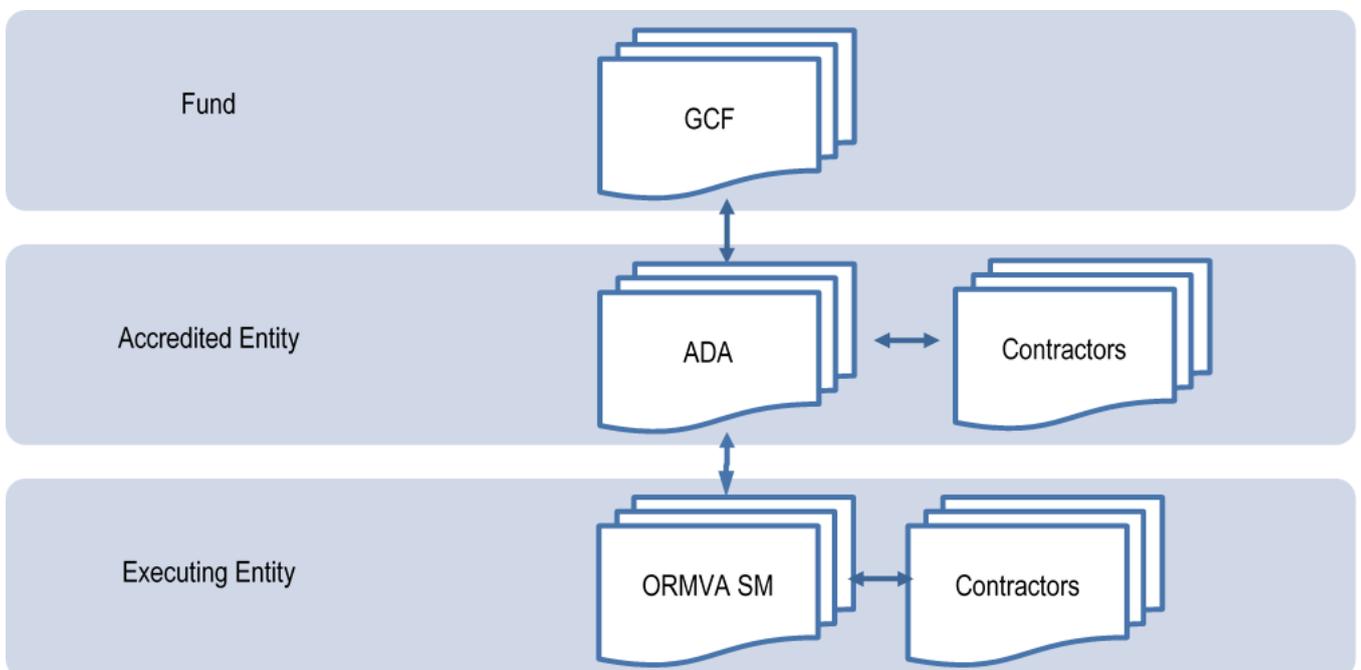
ADA will be responsible for the overall management of the PPF activities and the underlying project, including all financial, monitoring and reporting responsibilities. ADA will ensure that the project will be conducted in line with:

- GCF and ADA safeguards policies;
- GCF and ADA fiduciary criteria and policies;
- Check before starting project the indicators of monitoring and activities;
- Check the Environmental and Social Assessment will be conducted in accordance with GCF Standards and ADA policies and Moroccan law;
- Response to GCF's requests.

**ORMVA SM: Executing Entity**

The Executing Entity for the PPF activities and the underlying project is ORMVA SM. It will work under the supervision of the Directorate of Irrigation and Development of the Agricultural Area (DIAEA) of the Ministry of Agriculture, Maritime Fishing, Rural Development and Water and Forests (DIAEA: Direction de l'Irrigation et de l'Aménagement de l'Espace Agricole). ORMVA SM is fully responsible for project implementation and monitoring. ORMVA SM will have to assess through appropriate due diligence processes the integrity and capacity to implement the relevant Funded Activity. ORMVA SM will have to conduct, and implement activities of the project. ORMVA SM will be responsible for:

- Prepare the Terms of Reference of the feasibility studies of the project. The ToR will be addressed to ADA before contracting. The procedure to select the firm in charge of preparing the project will be done in accordance with national law and ADA procedures for contracting firms and consultants;
- Monitor the implementation of activities as described in the TOR;
- Elaborate the ESIA and ESMP, Gender Analysis and Gender Action Plan of the project;
- General principles.



**Tasks to be implemented by ORMVA SM for this PPF request**

**Activity 1. Feasibility study for designing the climate resilient and sustainable agriculture project (including two sub-activities):**

- Sub-activity 1.1: Developing an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley based on improved water management.
- Sub-activity 1.2: Reducing pressure on groundwater and strengthening the efficient use of surface water including implementing watershed management practices of the Souss Valley.

**Activity 2. Preparation of the ESIA and ESMP, as well as the Gender Analysis and Gender Action Plan**

- ESIA and ESMP;
- Gender Analysis and Gender Action Plan.

**Activity 3. Development of a Financial Model and Economic Analysis of costs and benefits.**

**Activity 4. Development of Project Management Plan and Funding Proposal.**

**Feasibility studies and design phase team**

The team carrying out the activities aforementioned will comprise the following members:

Activity	Members of Team
Activity 1: Feasibility Study of project	<ul style="list-style-type: none"> <li>• Project Manager: Management of studies, task planning and coordination with the Executing Entity and DIAEA.</li> <li>• Civil Engineer: The design of hydraulic structures in civil engineering;</li> <li>• Forest Engineer: Study of the forest management system at the level of the Watershed Souss Valley.</li> <li>• Water management and hydro Engineer (Rural Engineering): Design of the layout and analysis of the technical variants (Optimization of the network and valorization of the water).</li> <li>• Technicians: Technicians will be in charge of:               <ul style="list-style-type: none"> <li>○ The collection of basic technical data, data on the baseline situation in the project area. The team of technicians will be divided into two groups, given the extent of the project area and the deadlines.</li> <li>○ The team of technicians consists of:                   <ul style="list-style-type: none"> <li>▪ 2 Rural Engineering Technicians.</li> <li>▪ 3 technicians (investigation and communication) who will be in charge of communication and collecting data for the baseline situation.</li> </ul> </li> </ul> </li> </ul>
Activity 2: Environmental and Social Impact Assessment, ESMP, Gender Analysis and Gender Action Plan	<p>Environmentalist: She (He) will be responsible for conducting the ESIA and ESMP</p> <p>Gender Specialist: She (He) will be responsible for leading the Gender Analysis and Gender Action Plan.</p>
Activity 3: Development of a Financial Model and Economic Analysis	<p>Financial and Economist Specialist: Responsible for Economic and Financial aspects.</p> <p>Agro Economist Specialist: Studies of current and future costs and modes of agricultural valorization.</p>
Activity 4: Project Management Plan and Funding Proposal	<p>Agro-Economist Engineer: responsible for preparing the Funding Proposal and PMP</p> <p>M&amp;E Specialist: Ensure M&amp;E indicators, baseline situation, assumptions</p> <p>Water Engineer: Check and provide costs details on project design.</p>

**D.2 Implementation schedule**

The expected implementation period is 12 months:

Activities	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Activity 1: Conduct a feasibility study of an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley Deliverable: Feasibility study	x	x	x	x	x	x						
Activity 2. Preparation of an Environmental and Social Impact Assessment, ESMP, Gender Analysis and Gender Action Plan. Deliverable: Environmental and Social Impact Assessment, ESMP, Gender Analysis and Gender Action Plan							x	x				
Activity 3 Development of a Financial Model and Economic Analysis of costs and benefits Deliverable: Financial Model and Economic Analysis of costs and benefits									x	x	x	x
Activity 4 Draft a Project Management Plan and Funding Proposal Deliverable: Project Management Plan and Funding Proposal									x	x	x	x

### D.3 Procurement Plan

All procurement will be in accordance with ADA's rules, policies and procedures on procurement. The ORMVA SM, under the guidance of ADA, will competitively procure services consistent with ADA's procurement rules and regulations. The terms of reference of the consultants will be developed by ORMVA SM under the guidance of ADA to include the tasks outlined in the description of activities above. Items such as venues and travels for stakeholders' workshops to be organized will also be procured consistently with ADA's procurement rules and regulations. Information on the process and results of procurement to be undertaken will be included in the inception document where such information can be provided in advance.



### E. Financing Plan

#### **Cost breakdown :**

The estimated total cost is USD 717 407 including a contingency budget, which is 5% of the total cost. The estimated cost breakdown is as below:

Description	Cost (in USD)
Consultancy services	

Activity 1. Feasibility study of an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley	477 640
Activity 2. Preparation of an Environmental and Social Impact Assessment, ESMP, Gender Analysis and Gender Action Plan	74 920
Activity 3. Development of a Financial Model and Economic Analysis	62 048
Activity 4. Project Management Plan and Funding Proposal	65 304
<b>Sub-total</b>	<b>679 912</b>
Contingency (5%)	33 995
<b>Sub-total</b>	<b>713 907</b>
Audit	3 500
<b>TOTAL GENERAL</b>	<b>717 407</b>

**Disbursement plan**

In line with the Accreditation Master Agreement between the GCF and ADA, the disbursement will be made in two tranches (78% and then 22%). The first disbursement will consist of an upfront payment in the amount of USD 556 847 upon effectiveness of the legal agreement of this PPF. An interim progress report will be submitted at the end of month 6 with a copy of all completed technical studies, the project design team will also share the Monthly Progress Briefs to ORMVA SM and ADA with the GCF. The final payment in the amount of USD 126 565 will be made available upon submission of all technical studies financed by the PPF, a draft of the underlying funding proposal, the final narrative report and an audited financial report. The final narrative report and the audited financial will be submitted within 3 months of the expiration date of the legal agreement. A contingency allocation in the amount of USD 33 995 will only be disbursed upon submission by ADA of a separate disbursement request along with its justification.

A breakdown of the budget is provided in the following table, please refer to annex VIII detailing the budget cost breakdown:

Activity	Quantity	Average Unit cost (USD)	Duration	Total cost (USD)	Amount Requested from GCF (USD)	Year 1			
						Q3/2017		Q3/2018	
<b>Activity 1. Feasibility study of an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley</b>									
Local consultants	4	480	104	199 680					
Local technicians	5	288	104	149 760					
Travel	9	250	56	126 000					
Training & Workshop	1	1100	2	2 200					
<b>Sub-total 1</b>				<b>477 640</b>	<b>477 640</b>	<b>372 559</b>		<b>105 081</b>	
<b>Activity 2. Preparation of an Environmental and Social Impact Assessment, ESMP, Gender Analysis and Gender Action Plan</b>									
Local consultants	2	480	52	49 920					
Travel	2	250	28	14 000					
Training & Workshop	10(*)	1 100	1	11 000					
<b>Sub-total 2</b>				<b>74 920</b>	<b>74 920</b>	<b>58 438</b>		<b>16 482</b>	
<b>Activity 3. Development of a Financial Model and Economic Analysis</b>									

Local consultants	2	462	52	48,048					
Travel	2	250	28	14,000					
<b>Sub-total 3</b>				<b>62 048</b>	<b>62 048</b>	<b>48 397</b>		<b>13 651</b>	
<b>Activity 4. Project Management Plan and Funding Proposal</b>									
Local consultants	3	462	39	54 054					
Travel	3	250	15	11 250					
<b>Sub-total 4</b>				<b>65 304</b>	<b>65 304</b>	<b>50 937</b>		<b>14 367</b>	
<b>TOTAL 1</b>				<b>679 912</b>	<b>679 912</b>	<b>530 331</b>		<b>149 581</b>	
<b>Contingency</b>		<b>5%</b>		<b>33 995</b>	<b>33 955</b>	<b>26 516</b>		<b>7 479</b>	
<b>TOTAL 2</b>				<b>713 907</b>	<b>713 907</b>	<b>556 847</b>		<b>157 060</b>	
Audit	1			3 500	3 500			3 500	
<b>Grand total</b>				<b>717 407</b>	<b>717 407</b>	<b>556 847</b>		<b>160 560</b>	

(\*): The 10 workshop meetings will be organized in 2 workshops per planning unit (start-up workshop and restitution workshop). It is expected to program five territorial planning units for the good conduct of the project on the scale of the Souss valley. The project is targeting 10 000 farmers and they are organized on 5 administrative districts which local authorities should be informed before each workshop for helping and inviting concerned farmers in each district.

(\*\*): Audit: USD 3 500

#### F. Risk and Mitigation measures

No major risks identified. However, this will be reviewed during the inception phase.

If a Concept Note has not been submitted for the underlying project for which the Project Preparation Grant is being requested, kindly complete the following sections.

Project / Program Information	
Project / program title	Development of an integrated, sustainable and resilient agricultural project to climate change in the Souss Valley.
Country (ies) / region	MOROCCO
Mitigation / adaptation focus	Mitigation <input type="checkbox"/> Adaptation <input type="checkbox"/> Cross-cutting <input checked="" type="checkbox"/>
Results areas	<i>Please list here the options from Annex - Table 1 that apply to this project/program</i>
Project / program description (including objectives)	
<p><i>Please describe briefly (up to 1 or 1.5 pages) the background, objectives, components and main activities of the proposed project/program</i></p> <p>With annual renewable water resources totaling 22,000 million cubic meters (Mm<sup>3</sup>), corresponding to 730 m<sup>3</sup>/inhabitant, Morocco is a water stressed country according to the definition of the United Nations (the threshold is 1,000 m<sup>3</sup>/inhabitant). Morocco is divided into nine hydrological basins with large differences in specific discharge. Surface water resources are unevenly distributed in the territory, with the three basins of Loukkos, Sebou/Saïss and l'Oum Rbiaâ alone constituting 71 per cent of national water resources.</p> <p>Recent concerns about water shortages that will be exacerbated by climate change forecasts have driven on-going water reforms to mobilize unconventional sources of water. New seawater desalination plants and wastewater treatment plants under construction are expected to provide an additional 725 Mm<sup>3</sup> of water per year. The ambitious Morocco Green Plan, which aims at doubling the agriculture sector's value-added and creating 1.5 million jobs by 2020, includes water conservation measures. Additionally, the National Plan for Saving Water in Irrigation promotes more productive water use by introducing efficient irrigation technologies (mainly drip irrigation) on 555,000 ha of the country's irrigated land by 2020.</p> <p>Agriculture is central to Morocco's economy, as evidenced by the strong correlation between GDP and agriculture GDP. Over the 2014 agricultural campaign, thanks to favorable weather, the sector represented 15.6 per cent of GDP, contributing the most to the country's overall growth. The agricultural sector represents a critical feature of the country's demographic and socio-economic make up, generating 40 per cent of jobs nationwide, mostly in rural areas where the majority of the poor live. The sector is largely composed of small farmers mostly dedicated to low-value agriculture, but also counts a group of dynamic and well performing large farmers with state-of-the-art technologies that are well integrated into the national and international markets. In 2011, more than 60 per cent of women worked in the agriculture sector in Morocco, as compared to 32 per cent of men.</p> <p>In this context, the project will demonstrate a model of accelerated economic growth despite climate change. This will be achieved based on the principles of climate resilience and low carbon development that will include groundwater saving. Firstly, the project is designed to preserve groundwater and efficient use of surfacewater by more systematically using an efficient system of drip irrigation and to adapt to climate change. Secondly, the project will increase watershed management. Thirdly, the project will build the resilience of the Souss Valley's small agriculture sector, especially oliecutlure which is the principal crop in the valley.</p> <p>Building climate resilience into Souss Valley system will involve ensuring that underground water will be saved and small farmers will switch to surface water, which will contribute to erosion control and fight against silting. The viability of the hydraulic and drip irrigation system, as well as watershed management and groundwater management and are closely intertwined and must all succeed if Souss Valley and the surrounding area is to prosper sustainably in the face of climate change. All aspects of the watershed plan and development of irrigated perimeter will be included in the feasibility study.</p> <p>The project will include actions such as sustainable farmers practices, innovative system to reduce pressure on groundwater, watershed protection and groundwater management, new efficient and collective networks; localized irrigation system for farmers. Moreover, other actions are included to support and strengthen the capacity of farmers and local institutions to fully embrace sustainable farming practices.</p> <p>The project will focus on three key issues that are critical to enabling Souss' Region to achieve its development targets despite the reality of climate change, in way that is align with Morocco's Nationally Determined Contribution and National Water Plan, consistent with climate adaptation priorities, including climate-resilient agriculture: improved water supply: saving groundwater, watershed co-management and capacity building for sustainable farming practices. The project comprises these interlinked components:</p>	

- Component 1: Strengthen the climate resiliency by protecting and reducing pressure on groundwater of the Souss Valley and strengthen the efficient use of surface water, water supply and watershed co-management; and
- Component 2: Strengthening the deployment of climate resilient agriculture technologies and practices in the Souss Valley.

The activities detailed below will be conducted as part of two components mentioned above :

- Activities based on reducing pressure on groundwater and strengthening the efficient use of surface water of the Souss Valley by switching to efficient drip irrigation, as a sustainable innovative solution;
- Activities based on watershed management will be specified during the PPF implementation;
- Activities based on climate resilient sustainable agricultural models; and
- Activities and best practices to enhance sustainable farming practices and to promote watershed management.

The proposed project will demonstrate a model of accelerated economic growth based on the principles of climate resilience and low carbon development. It will do so by: i) strengthening climate resilience by preserving groundwater and switching to water surface by using an efficient system of drip irrigation, ii) increasing co-management of the natural forest and the watershed; and iii) building the resilience of the Souss Valley's small agriculture sector, especially olive culture which is the principal crop in the valley. Building climate resilience into the Souss Valley system will: i) ensure that underground water will be saved and small farmers will switch to surface water use, ii) contribute to erosion control and fight against silting. The viability of the hydraulic and drip irrigation system, as well as improved watershed management and groundwater management are closely intertwined. They must both be preserved if the Souss Valley and the surrounding areas are to prosper. All aspects of the watershed management plan and the integrated development of irrigated perimeters will be included in the feasibility study. The project will include actions such as sustainable farming practices; innovative systems to reduce pressure on groundwater; watershed protection and improved groundwater management; new efficient localized irrigation systems for farmers; supporting and strengthening the capacity of farmers and local institutions to fully embrace and adopt sustainable farming practices.

#### **Alignment with GCF Criteria<sup>2</sup>**

*Please provide a short summary of alignment of this project/program with GCF's investment criteria*

#### **Brief Rationale for GCF Involvement and Exit Strategy**

*Please provide a short summary explaining why the GCF contribution is critical for the project/program and how the project/program sustainability will be ensured in the long run (after the project/program is implemented with support from the GCF and other sources)*

Morocco is committed to reducing its GHG emissions by 42 % below business-as-usual (BAU) levels by 2030. This commitment will only be made possible if Morocco gains access to new sources of finance and to additional support relative to support received in recent years. This commitment leads to a total reduction of 527 million tons of carbon dioxide equivalent (Mt CO<sub>2e</sub>) between 2020 and 2030. The total cost to reach this goal is USD 50 billion, of which USD 24 billion would be conditional on international support made available through new climate finance mechanisms.

Taking into account, the needs of Morocco, its lack of financial resources and that the Kingdom is particularly vulnerable to the adverse effects of climate change, there is a strong case for GCF support.

Supporting the proposed program through the Project Preparation Facility (PPF) will demonstrate the fund's commitment to enabling developing countries, such as Morocco, that have demonstrated high levels of commitment, ownership, capability and fiduciary management to manage their own country (Reduced by 42% GHG below BAU levels by 2030). In this regard, the ORMVA SM and ADA would like to

submit a Funding Proposal in the coming months to the Board of the GCF, for the “Integrated and sustainable agricultural model in Souss Valley”, however the studies described in this PPF application are required.

Moreover, a delay in support will allow the development of carbon intensive practices and and the intensification of pumping of groundwater making it more difficult to adopt low carbon systems at a later stage.

ORMVA SM has mobilized the majority of its financial resources for the first phase to the modernization of traditional irrigation system in the region; characterized as a priority for adaptation to climate change.

FDA funding is the main financing tool to achieve the modernization objectives. This fund will help farmers to adapt to climate change by shifting groundwater use to surface water and integrate watershed management as a sustainable model in Souss Valley. However, the funding of offsite infrastructure is supported by ORMVA SM and without a strong detailed design and implementing offsite infrastructure, the farmer’s water needs cannot be met.

Obsolescence of irrigation infrastructure: Most of the traditional irrigation infrastructure in the Souss Valley dates back to the 1990s. Pumping equipment is insufficient to ensure sufficient water withdrawals due to the irregular flow of the oued Souss, the depleting water levels from sustained pumping, and the poor maintenance of the existing infrastructure.

The project will contribute to provide reliable and fair access to water to farmers, and their support in accessing improved irrigation technologies and knowledge.

The water balance in the Souss Valley is negative and characterized by the scarcity of water:

- The decrease of the groundwater piezometric level as a result of rainfall shortages are estimated 1 to 2 meters/ year;
- Losses of irrigation water under the current system are estimated at .50 Mm<sup>3</sup> / year for project’s area;
- The average current water demand for agriculture is estimated at 6,000 m<sup>3</sup> / ha/ year.

#### *The exit strategy*

The project sustainability will primarily depend on the improvement of the farmers, AUEA and local institutions (CMV, ORMVA SM, etc.) capacities to maintain equipment that will be installed which is ensured by the project capacity building measures. The ORMVA SM interventions on an ongoing basis, as irrigation management structure in the region and the commitment of the Moroccan government to encourage water conservation among farmers, are additional pledges for sustainability project achievements. Government commitment to the water economy and agriculture development policies has been constantly high over the last years. Assuming that the implementation of the PMV, the National Irrigation Water Saving Program (PNEEI) and the National Water Strategy will continue at the current positive rate, the following aspects will play a role in the sustainability of the project:

The commitment of the MAPM and the ORMVA SM towards the inclusion of environmental aspects in the implementation of the project and to ensure the good state of the irrigation network.

The ability to promote small farmers' participation, and their commitment, in the long-term, to the sustainability of the water resources and their ecosystem. With reference to this point, there has been an increasing effort to develop methodologies to bring the project design and implementation closer to the farmers, as evidenced by a de-concentration process of the MAPM as well as by an enhanced sharing of information on Pillar II Projects with beneficiaries.

The improved and the fair water service, coupled with improved irrigation technologies that can be adopted as a consequence, would allow farmers to use water more effectively (better responding to the crop requirements in water and nutrients through a more precise irrigation scheduling) and efficiently (reducing evaporation and percolation losses), thus increasing yields and productivity and ultimately improving income and farmers’ livelihood.

Also, the individualization of the water service (individual irrigation intake at farm level) would make water metering more transparent and encourage farmers to pay their water bill. The finances of the Water User Association (AUEA) would improve, allowing for adequate budgeting of the Operations and Management of irrigation networks, and thus ensuring long-term sustainability. In parallel, farmers would reduce the use of groundwater in favor of the cheaper and better quality surface water.

This project aims to preserve water resources and groundwater resources by rationalizing the use of water for irrigation and reducing the losses in irrigation networks; resulting in significant savings totaling up to 50 million m<sup>3</sup>/year through efficient systems of surface water use and reducing pressure on groundwater. On the other hand, the project aims to increase beneficiaries' to adapt to climate change.

Also the project can promote awareness activities on aquifer management among farmers and monitoring of groundwater abstraction by installing meters on a sample of wells prior voluntary agreement with farmers.

The ability to reshape the subsidy system in an environmentally-friendly way: The MAPM and MEF have already launched the revision of the Agricultural Development Fund (FDA), the Moroccan government principal agricultural subsidy instrument, with a view to align support measures with the strategic direction of the PMV. A further step needs to be taken to promote activities that mitigate the potential negative impacts of agricultural practices or that enhance their potential positive impacts. Encouraging signs already have been observed in this sense over the last year, especially with the implementation of the Social and Integrated Agriculture project in Souss region.

### Financing/Cost Information

Details on financing sources:

Funding Source	Amount (Million USD)	Financial Instrument (Equity, loan, guarantee, grant)	Tenor	Pricing	Seniority
GCF financing	45	100% of Amount ( Grant)	( ) years	%	<a href="#">Options</a>
Co-financing from AE			( ) years	%	<a href="#">Options</a>
Other (please specify name of institution)	5	100% of Amount (Grant – Government budget)	( ) years	%	<a href="#">Options</a>
<b>TOTAL PROJECT FINANCING = Total project cost</b>	<b>50</b>				

### Table 1. Results Areas

*Which of the following targeted results areas does the proposed project/program address?*

Reduced emissions from:

- Energy access and power generation  
(E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
- Low emission transport  
(E.g. high-speed rail, rapid bus system, etc.)
- Buildings, cities, industries and appliances  
(E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
- Forestry and land use  
(E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)

Increased resilience of:

- Most vulnerable people and communities  
(E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)
- Health and well-being, and food and water security  
(E.g. climate-resilient crops, efficient irrigation systems, etc.)
- Infrastructure and built environment  
(E.g. sea walls, resilient road networks, etc.)
- Ecosystems and ecosystem services  
(E.g. ecosystem conservation and management, ecotourism, etc.)

**Table 2. Investment Criteria Guidance Notes**

The following guidance note may help to present the potential of the Project/Program to achieve the Fund's six investment criteria.

<p>D.1. Climate impact potential</p> <p><i>[Potential to achieve the GCF's objectives and results]</i></p>	<p><i>Specify the climate mitigation and/or adaptation impact. Provide specific values for the below indicators and any other relevant indicators and values, including those from the Fund's <u>Performance Measurement Frameworks</u>.</i></p> <ul style="list-style-type: none"> <li>- Total tons of CO<sub>2</sub> eq to be avoided or reduced per year ;</li> <li>- Expected total number of direct and indirect beneficiaries and number of beneficiaries relative to total population (e.g. total lives to be saved from disruption due to climate-related disasters).</li> </ul> <p><u>Potential impact :</u></p> <ul style="list-style-type: none"> <li>- More efficiency surface water resource estimated to 120 Mm<sup>3</sup> / year ;</li> <li>- Reduce pressure on the water table at 1 meter / year, a gain of 50 million m<sup>3</sup> / year in 2020 ;</li> <li>- Avoid an estimated loss of irrigation water to 50 million m<sup>3</sup> / year ;</li> <li>- Contribute to the achievement of the objective of PNEEI at a rate of (50 million m<sup>3</sup> / year from 2.4 billion m<sup>3</sup> / year ;</li> <li>- Contribute to stop salinization of groundwater in the Souss Valley ;</li> <li>- Develop sustainable farmer's best practices for groundwater and watershed management.</li> </ul>
<p>D.2. Paradigm shift potential</p> <p><i>[Potential to catalyze impact beyond a one-off project or program investment]</i></p>	<p><i>Provide the estimates and details of the below and specify other relevant factors.</i></p> <ul style="list-style-type: none"> <li>- Scaling up in others regions suffering from lack of water resources and negative water balance ;</li> <li>- Scaling up in oasis areas (40% of the national territory of Morocco) ;</li> <li>- Development of new green growth models of agriculture based on integrated and sustainable agricultural practices to adapt to climate change ;</li> <li>- Watershed and groundwater management are two fundamental concepts that will be introduced for promoting sustainable business models to succeed in areas with water stress such as the Souss Valley ;</li> <li>- Project will contribute to reducing pressure on groundwater resources and to enhance the farmers' best practices while preparing them to adapt to climate change in the Souss valley ;</li> <li>- Develop an innovative and efficient model to preserve surface water resources ;</li> <li>- Contribute to watershed management and soil protection ;</li> <li>- Contribute to developing a sustainable agriculturat model in the Argan Biosphere Reserve.</li> </ul>

<p>D.3. Sustainable development potential <i>[Potential to provide wider development co-benefits]</i></p>	<p><i>Provide the estimates of economic, social and environmental co-benefits. Examples include the following:</i></p> <ul style="list-style-type: none"> <li>- The project covers an estimated land area at 20 237 ha and will directly impact nearly 10 000 farmers, out of which 8 800 farmers will benefit from improved localized irrigation schemes. The total population indirectly benefitting from the measures in the mid to long term will reach almost 90 000 persons;</li> <li>- This project also aims to preserve water resources by rationalizing the use of water for irrigation and reduce losses in irrigation networks resulting in a significant savings totaling close to 50 million m<sup>3</sup>/year;</li> <li>- The project also aims to improve the income of rural populations and strengthening the capacity of local institutions as they contribute to protecting their local environment;</li> <li>- To project will contribute to save groundwater resources (up to 50Mm<sup>3</sup>/year); through efficient systems of surface water use and reducing pressure on groundwater;</li> <li>- Safeguard and ensure agricultural activity in a sustainable manner;</li> <li>- Improve beneficiaries' income and their resilience in the face of climate change.</li> </ul> <p>The project will include actions such as: promoting sustainable farming practices, innovative systems to reduce pressure on groundwater, watershed protection and groundwater management, new efficient collective networks; localized drip irrigation systems, supporting and strengthening the capacity of farmers and local institutions to fully embrace sustainable farming practices.</p>
<p>D.4. Needs of recipient <i>[Vulnerability to climate change and financing needs of the recipients]</i></p>	<p><i>Describe the scale and intensity of vulnerability of the country and beneficiary groups and elaborate how the project/program addresses the issues. Examples of the issues include the following:</i></p> <p>The water balance in the sous valley is negative and characterized by the scarcity of water :</p> <ul style="list-style-type: none"> <li>- The decrease of the groundwater level such a result of rainfall shortages are estimated 1 to 2 meters/ year;</li> <li>- Losses of irrigation water under the current system are estimated at 50 Mm<sup>3</sup>/year for project's area;</li> <li>- The average current demand for agriculture is estimated at 6 000 m<sup>3</sup>/ha/year.</li> </ul>
<p>D.5. Country ownership <i>[Beneficiary country ownership of project or program and capacity to implement the proposed activities]</i></p>	<p><i>Provide details of the below and specify other relevant factors.</i></p> <ul style="list-style-type: none"> <li>• <i>Coherence and alignment with the country's national climate strategy and priorities in mitigation or adaptation</i></li> </ul> <p>The project is aligned with Nationally Determined Contribution (NDC) of Morocco that presented to the United Nations Framework Convention on Climate Change (UNFCCC) and taking steps to preserve and reduce pressure on groundwater resources is one of many projects that will help Morocco close the gap in achieving its NDC. Also, the project is in line with:</p> <ul style="list-style-type: none"> <li>- The Morocco Green Plan (PMV) aims to double the agriculture sectors value-added and create 1.5 million jobs by 2020, this transforming the sector into a stable source of growth, competitiveness, and broad-based economic development;</li> <li>- The National Program for Saving Water in Irrigation (PNEEI) that promotes more productive water use by introducing more efficient irrigation technologies and systems.</li> </ul> <ul style="list-style-type: none"> <li>• <i>Brief description of executing entities (e.g. local developers, partners and service providers) along with the roles they will play</i></li> </ul> <p>The project will be implemented by ORMVA SM. It is a Public Institution with its legal status and financial autonomy. It was established by the Royal Decree No. 2.70.157 of 6 Châabane 1390 (8 October 1970).</p> <p>Under the Ministry of Agriculture's tutelage, the ORMVA SM is responsible for the government's agricultural policy implementation in its area in terms of hydro-agricultural development, management and maintenance of irrigation equipment, contribution to agricultural development and supporting rural development.</p>

	<p>The ORMVA SM currently manages more than 50,000 hectares of drip irrigation systems and has good technical and managerial capacity to implement large irrigation development and modernization projects.</p> <p>Principal projects managed by ORMVA SM :</p> <ul style="list-style-type: none"> <li>• Elguerdane project: Project of Public-private partnership for the irrigation of the agricultural zone of Elguerdane on 10,000 ha of which the number of farms totaled approximately 700 farms. The project, with an investment amounting to 987 million DHS, was commissioned in 2009 and managed by a private operator on a contractual basis vis-à-vis the government and beneficiaries, organized with association of Agricultural Water users.</li> <li>• PMH III Project: Project funded by KFW, for the rehabilitation and modernization of irrigation networks of small and medium hydraulics traditional irrigated perimeters on an area of 7,650 ha (2850 ha of mountain and 4,800 ha of plains) in favor of 30,000 beneficiaries organized in 45 AUEA (Association of Agricultural Water users). The project cost amounts to 500 million DHS.</li> <li>• National Program for Water Saving: Project financed by the EIB, consisting of the modernization and adaptation of irrigation equipment in the Souss Upstream irrigated perimeters on 6,130 ha, in order to ensure improved performance equipment, the water saving and its valuation, and improving the farmers' incomes. The project cost was 100 Million DHS.</li> <li>• Irrigation water desalination project for the irrigation of the area of Chtouka on 13,600 ha, with a desalted water volume of 60 million m<sup>3</sup>. This project will provide irrigation to supplement the other two resources (dam and water), aims to safeguard the Chtouka groundwater and the maintenance and development of agricultural activity in this area. The project, which is scheduled to start in 2016 and whose investment cost is around 2.5 billion DHS will be carried out as a public-private partnership.</li> <li>• Service of Water: It consists of maintenance and rehabilitation of irrigation facilities and the distribution and billing of water for irrigation in irrigated areas managed by ORMVA SM. The annual budget mobilized to provide this service is around 70 Million DHS (70% for pumping energy costs). It should be noted that the associations networking is highly developed in the action area of the ORMVA SM. There are currently more than 400 AUEA.</li> <li>• <i>Stakeholder engagement process and feedback received from civil society organizations and other relevant stakeholders</i></li> </ul>
<p>D.6. Effectiveness and efficiency <i>[Economic and financial soundness and effectiveness of the proposed activities]</i></p>	<p><i>Provide details of the below and specify other relevant factors (i.e. debt service coverage ratio), if available.</i></p> <ul style="list-style-type: none"> <li>• Estimated cost per t CO<sub>2</sub> eq (total investment cost/expected lifetime emission reductions):</li> <li>• Co-financing ratio (total amount of the Fund's investment as percentage of project) ;will specified on PPF report</li> <li>• Economic and financial rate of return : will specified on PPF report <ul style="list-style-type: none"> <li>- With the Fund's support;</li> <li>- Without the Fund's support.</li> </ul> </li> </ul> <p>The feasibility study will provide the details on the impact of the project.</p>

## ANNEX 1 : DRAFT TERMS OF REFERENCE PROJECT

### “INTEGRATED, SUSTAINABLE AND RESILIENT PROJECT TO CLIMATE CHANGE IN SOUSS VALLEY”

#### 1. STUDY OBJECTIVES

In summary - the specific objectives of the study are to:

- Develop an integrated project for a sustainable model for agriculture based on efficient water management in the Souss Valley including surface water management, drip irrigation systems in order to reduce pressure on groundwater resources in the area while providing a sustainable and resilient agricultural model to climate change;
- Develop a water management system for a sustainable model of agriculture using different technological strategies suitable for application in the Souss Valley;
- Merge and coordinate different strategies in the region (Morocco Green Plan, PNEEI,) to optimize and to integrate sustainable, green and resilient rural models for agriculture;
- Provide relevant financial and economic information on the project components for input to the economic and financial evaluation of the project's performance;
- Communities and stakeholders consultation.

The first task will be to identify different activities, sub activities and partners by project component through community consultation in the Souss valley.

#### 2. SPECIFIC TASKS

The Consultant(s) will conduct the following tasks:

- *He (she) will conduct different meetings with the relevant partners of ORMVA SM in the region which include tasks such as :*
  - o Analyzing the action plan of Hydraulic basin Agency of Souss Massa in the Souss Valley. Identifying the relevant actions. while tying them into an integrated project ;
  - o Analyzing the action plan of the Haut Commissariat aux Eaux et Forêts et la Lutte contre la Désertification (HCEFLCD) in the region. program and how it can protect the Argan Biosphere and reserve;
  - o Reviewing the Adaptation and mitigation action plan for the region and how the project can potentially improve overall sustainability.
- He (she) will conduct meetings and workshop with stakeholders and AUJA and provide a :
  - o Description of each component;
  - o Description of activities by component and sub-activities of project;
  - o Identify action plan for each relevant partner in the Souss Valley;
  - o Identify clearly relevant activities by component and how beneficiaries will contribute to achieving the project's expected goals.

At this stage, an overview of different strategies will be developed at the territorial level and how to integrate them to reduce pressure on groundwater and the the water resources scarcity in the area while developing a sustainable and resilient agricultural model to scale up in similar regions affected by climate change.

The formulation of the project will be based on a participative approach and will detail activities by component to develop during the activity 1 of the PPF.

#### 3. METHODOLOGY

The consultant team should formulate a work plan that allows for the following consultation with all key relevant stakeholders (such as ORMVA SM, ABH SM, Region of Souss Massa :

- Community consultation throughout the process;
- Partners consultation throughout the process;
- Description of activities and design of an innovative project based on water security and saving underground water of Souss;

- Identification of key stakeholders and ORMVA SM's partners.

#### **4. TEAM COMPOSITION AND REQUIRED EXPERTISE**

The team should comprise the following key team members:

- Project Manager: Experienced in coordinating and delivering large integrated projects, with experience in the developing country and climate finance and GCF criteria. This individual will be the lead member of the team and the primary client contact;
- Engineer expert/forest engineer with the relevant experience in design of integrated projects and programs and watershed.

This is an important project of national priority. Only a team of the highest quality consultant candidates will be considered. A minimum of 10 years relevant professional experience and nationally recognized qualifications/degrees are required for the key team members. Relevant experience in the Souss Valley with projects relating to mitigation and adaptation to climate change is preferred.

#### **5. REPORTING REQUIREMENTS**

The consultant will report directly to the ADA and ORMVA SM Project Manager. Other key contacts and stakeholders will include ABH SM, HCEFLCD, ANDZOA, the local community and any other relevant sector specialists.

#### **6. WORK PLAN AND TIMETABLE**

The consultant will need to familiarize her/himself with all aspects of the proposed project interventions as well as the context in which it will operate. The consultant is expected to review the relevant program documents, national strategies in the region and other sector documents (to be provided by the ORMVA SM and ADA) prior to starting the fieldwork.

The work is expected to take place over a maximum 1,5 month

- Stage 1 – data collection and consultations (briefing, consultations, studies, research, surveys, analysis) – 1 week. Client and stakeholder sign off - 1 week.
- Stage 2 – Final proposal of project (Activities and sub-activities are defined, stakeholders and project partners are defined) - 2 weeks. Client and stakeholders sign off – 1 week
- Completion – 1,5 Month at the latest.

#### **7. DELIVERABLES**

The Consultant(s) will be responsible for the following final deliverables as a minimum:

- Final integrated project in Souss Valley with a description of activities, sub-activities, stakeholders' consultations, relevant partners.

## ANNEX II: DRAFT TERMS OF REFERENCES OF THE PROJECT

### 1. STUDY OBJECTIVES

#### Activity 2. Delivery of technical feasibility study and design for drip irrigation, watershed management and agriculture

This phase consist on:

- Delivery of feasibility study of the project in the Souss Valley;
- Climate resilient sustainable agriculture feasibility study.

The objectives of this study are:

- Develop the feasibility study of drip irrigation and watershed management;
- Undertake the technical feasibility and design phase of the project;
- Provide relevant financial and economic information on the project components for input to the economic and financial evaluation of the project;
- Develop the management plan to protect groundwater, define sustainable farming practices in the Sous Valley.

### 2. METHODOLOGY AND TASKS

The Assignment will be carried out by a core team of consultants/ consulting company in coordination with ORMVA SM and ADA. The suggested method for consultants and the task components are suggested below.

#### 2.1. Develop a feasibility study for management of drip irrigation and mobilization of surface water and watershed management as ways to adapt to climate change.

The consultant will analyze the water and soil management system in the Souss valley. she/he will need to list the actual water management system, watershed co-management and soil protection. The consultant will conduct the necessary tasks and provide:

- An analysis of the impact of groundwater extraction on resilience to climate change and options for mitigating this impact;
- An analysis of how more efficient irrigation systems can increase resilience to climate change;
- An inventory of existing irrigation systems and water infrastructure on farms: irrigation system, pumping, storage, distribution, flow control measurement. This inventory will include the description of the infrastructure historically used for irrigation as well as the infrastructure recently built directly or indirectly for irrigation in the Souss Valley ;
- Evaluate the management system for soil fertilization; Crop rotations, hedge and windbreak installations, terraces, gabions or other soil erosion control systems, etc.;
- Provide detail on how farms are equipped and how they manage their soils, and how farmers are prepared to change their current practices;
- Provide an inventory of existing and planned water sources: chemical and biological water quality, seasonal fluctuations in water quality and quantity, and monitoring of water policies and practices;
- Analyze the current and future water resources mode for agriculture in the Souss Valley on the relevant criteria: efficiency of water consumption, types of crops and their water needs, irrigation system, land use, etc. ;
- Evaluate the water balance in the Souss Valley and identify the strengths and weaknesses of the current mode of water system management and how to design an efficient and innovative approach for mobilizing surface water.

#### Preliminary Project Design

The Preliminary Project Design (PPD) should include a sustainable and innovative project to mobilize efficient management of surface water resources, reduce pressure on groundwater and sustainable watershed management including:

- Design criteria and main technical, social and environmental data ;
- Schematic design of innovative installations for mobilization of surface waters and design for protecting the watershed ;

- The technical specifications and a management plan for each component will be established on the basis of a technical-economic comparison of the different variants studied.

The consultant will study different ways to preserve groundwater and reduce pressure and to mobilize surface water for a sustainable and integrated agricultural model in the Souss Valley and has to provide the project feasibility details.

## **2.2. Climate resilient sustainable agriculture feasibility study**

### **Vulnerability and climate change analysis**

This activity will undertake the vulnerability and risk mapping assessment for current and future agriculture production in the Souss Valley. It will:

- Collect historical climate data relevant for the area ;
- Collect current agricultural production data for the area and analyses the historical effects of climate variability on different crops production (and if possible quality) ;
- Undertake a literature review of the potential response functions linking climate and agricultural production and quality;
- Review the latest future climate projections for Souss based on water resources and temperatures in the context of climate change, and provide relevant metrics linked to the response functions for assessing the future risks of climate change.

### **Adaptation assessment**

This task will develop a short-list of potential adaptation options to address the risks of current and future climate change. The consultant will evaluate and prioritize area to adapt to climate change based on water resources and climate changes in the Souss Valley. The tasks will include:

- A diagnostic of the existing land use and the potential options for enhancing climate resilience of agricultural systems in the Souss Valley;
- Discussion with stakeholders and farmers and producers and the sectors to propose options with highest potential;
- An assessment of the timing and phasing of these options;
- To undertake technical review and feasibility assessment;
- To review the potential barriers to adaptation options.

### **Prioritization**

This task will entail the identification of a short-listed set of programmatic components for the project, to be taken forward for full design and implementation. This should prioritize interventions in Souss Valley. The consultant will:

- Combine this information in a multi-criteria analysis that considers the urgency, practicality and feasibility of options, as well as the distributional and gender dimensions of the options;
- Discuss potential options with project partners and other stakeholders;
- Undertake consultation and planning. This task will comprise a stakeholder analysis with key implementation partners and local groups, to ensure suitable locations are chosen for the interventions;
- To develop a costed M&E framework.

At the end of this task, the project will have developed a techno-economic agricultural resilience plan and have a detailed implementation plan.

## **2.3. Climate Resilient farming practices, Groundwater Management and Watershed Protection**

The project will develop a sustainable model for reducing pressure on groundwater by using an innovative and efficient system of irrigation based on surface water. The project will contribute to limit pumping on groundwater for irrigation. The project will propose to enhance a sustainable farming practices. The project will also aim to provide measures that will protect the watershed in Souss Valley by implementing an innovative protection system against soil erosion.

To reinforce these objectives, this component will design and implement a sustainable water usage scheme between farmers and ORMVA SM to preserve groundwater, promote sustainable farming practices, stabilize slopes and introduce and promote erosion protection of watersheds while contributing other benefits such as carbon sequestration, biodiversity, and direct and indirect ecosystem benefits.

The consultant will conduct a feasibility study of this component by producing an action plan to:

- Develop a groundwater protection charter for the short, mid and long term.
- Develop a Co-management plan;
- Develop feasibility study for innovative solutions to protect the watershed through smart solutions that address slope stabilization and erosion protection.

This information will provide key input to the GCF funding proposal and should be consistent with GCF guidance for funding requests.

#### 2.4. For all components

- Environmental and social safeguards: A separate Environmental and Social Impact Assessment (ESIA) study as well as gender involvement will be undertaken as part of another component. The consultant should, however, be in close coordination with the consultants identified for this component and if possible ensure that site visits can be done jointly. The ESIA will undertake environmental and social safeguards, as appropriate for the activities planned (under Morocco Law and guidance and aligned with GCF safeguards)
- Costed proposal: The task will draft costed work plan for the relevant interventions and the project as a whole. It will need to:
  - Estimate the individual activities associated with delivering each of the preferred options;
  - Produce unit cost estimates for each component of each option;
  - Estimate the aggregated cost per unit, taking account scale.
- Provide the total cost of the project: This will involve working with the economic analysis and financial modeling teams to produce information as set out in the methodology for the work plan (see the economic analysis of project costs and benefits, as well as and financial modelling).
- Economic analysis input: The study will generate the information needed to support the economic analysis, following the guidance and requests set out in the accompanying terms of reference. This will involve working with the economic analysis and financial modeling team. It will produce information as set out in the methodology for the work plan. It will also need to provide relevant information to allow the Value for Money analysis.
- Risk assessment: This task will undertake a risk assessment for the project and how these can be mitigated and managed.
- Work plan: The information above will be used to compile a work schedule, detailed work plan, identifying the phasing and costing of the project components, with key milestones, indicators, outputs and cost breakdown. This will involve working with the economic analysis and financial modeling team. It will produce information as set out in the methodology for the work plan (see the economic and financial). This work plan will be discussed with the key stakeholders. Following comments a final work plan will be developed. The work plan will align to the information requested in the GCF application form.
- M&E plan: This task will provide an overall monitoring and evaluation plan for the project, including baseline studies and framework, in line with GCF requirements.

It will also produce documentation of the activities and steps above, to provide a learning component, for action planning and early mainstreaming. This should be shared through a workshop to ensure information dissemination in the sector.

### 3. TEAM COMPOSITION AND REQUIRED EXPERTISE

The team should be comprised of the following key team members:

- Project Manager: Management of studies, task planning and coordination with the implementing entity (ORMVA SM);
- Civil Engineer : The design of hydraulic structures in civil engineering;
- Forest Engineer: Study of the forest management system at the level of the valley of the souss watershed.
- Water management and hydro Engineer (Rural Engineering): Design of the layout and analysis of the technical variants (Optimization of the network and valorization of the water).
- Technicians will be in charge of:
  - o The collection of basic technical data, data on the baseline situation in the project area. The team of technicians will be divided into two groups, given the extent of the project area and the deadlines.
  - o The team of technicians consists of :

- 2 Rural Engineering Technicians ;
- 3 technicians (investigation and communication) who will be in charge of communicating and collecting data for the baseline situation.

This is an important project of national priority. Only a team of the highest quality consultant candidates will be considered. A minimum of 10 years professional experience and relevant recognized qualifications/degrees are required for the key team members. Relevant experience of projects in Souss Massa is preferred.

#### **4. REPORTING REQUIREMENTS**

The consultant will report directly to the ORMVA SM and ADA Project Manager Leader. Other key contacts and stakeholders will include HCEFLCD, ABH SM, local's community and any other relevant sector specialists.

#### **5. WORK PLAN AND TIMETABLE**

The consultant will need to familiarize her/himself with all aspects of the proposed program interventions as well as the context in which it will operate. The Consultant is expected to review the relevant program documents and other sector or country specific available materials (to be provided by the Design Team Leader) prior to starting the fieldwork.

The work is expected to take place over a maximum 4,5 month period :

- Stage 1 - Inception (briefing, consultation, studies, research, surveys, analysis) - 3 weeks. Client and stakeholder sign off - 1 week.
- Stage 2 - Feasibility (initial designs and strategy options) – 12 weeks. Client and stakeholder sign off - 2 weeks

#### **6. DELIVERABLES**

The Consultant(s) will be responsible for the following final deliverables as a minimum:

- An inception phase report and work plan ;
- Preliminary Project Design (PPD) of drip irrigation and mobilization of surface water of Issen and Souss Valley
- A detail design phase report for the components of the project with a descriptive and analytical report which contains :
  - A detail of the technical feasibility study for project; Schedule covering the duration of the project with budget and work plan
  - Arrangements for program governance, management, operating and reporting procedures;
  - Relevant financial and economic information on the project components for input to the economic and financial evaluation of the project;
  - The list of stakeholders consulted.

## ANNEX III: DRAFT ENVIRONMENTAL SOCIAL IMPACT ASSESSMENT TERMS OF REFERENCE

### 1. OBJECTIVES OF THE ASSIGNMENT

The objective of the assignment is to assist ORMVA SM and ADA to develop an Environmental Social Impact Assessment (ESIA) to ensure that there are sufficient safeguards and that the project is implemented in an environmentally and socially sustainable manner and in full compliance with Morocco's and the GCF's environmental and social safeguards.

The specific objectives are: (i) to assess the potential environmental and social impacts of the project in Souss Valley, whether positive or negative, and propose mitigation measures which will effectively address the impacts; and (ii) to inform the program preparation process of the potential impacts of different alternatives, and relevant mitigation measures (including implementation requirements).

### 2. PROJECT COMPONENTS

The project will be run under two components.

- Component 1 protect and reduce pressure on groundwater of Souss and strengthen efficient mobilization of surface water and watershed co-management ;
- Component 2 : Develop climate resilient agriculture in the Souss Valley;

### 3. SCOPE OF ASSIGNMENT

The present terms of reference were designed to guide the study for ESIA of the four components of the project. The present study will consist of collecting and analyzing available data using appropriate techniques to achieve the goals of this consultancy. It will come up with realistic proposals and recommendations after consultations with beneficiaries and stakeholders, ORMVA SM's partners, other local authorities and all persons involved in program activity.

The ESIA study team will carry out environmental and social assessment and planning to support the project's activities and will:

- Analyze interventions proposed for each of the proposed components within and around the sites of the Souss Valley;
- Minimize potential adverse social and environmental impacts;
- Assess social, environmental and climate change effects/impacts related to the proposed project and propose mitigation/adaptation measures;
- Conduct a comprehensive impact assessment of program components in the various Souss Valley sites.
- Conduct extensive consultations with various project teams and other relevant stakeholders to obtain information and inform the different parties of ongoing project activities ;
- Propose measures to minimize the risk of social and environmental impacts.

The ESIA study team will also provide an environmental and social management plan (ESMP) that:

- prescribes other mitigation measures needed to ensure long-term project sustainability, including institutional capacity building for environmental social management at all levels, public safety measures during design, construction and operational phases of the project and,
- Outlines indicators and sets up a monitoring project to track agricultural and environmental and social performance of the target sites and implementation of the mitigation measures for the refinement of future management action as required including an estimate of the costs associated with the ESMP.

To carry out this study, the selected consultant will conduct assessment of all relevant types of environmental and social adverse impacts on physical and/or human environments. This includes, but is not limited to:

- Community Health, security and safety;
- Effects on Biodiversity including Natural Habitats;
- Change in land use;
- Soils and terrain;
- Water sources including wetlands;

- Vegetation;
- Flora and fauna;
- Physical cultural resources and heritage;
- Socio-economic resources including livelihood of people;
- Vulnerable people particularly aged, women and children;
- Indigenous peoples, if applicable.

### 3.1. Legislative Requirements of ESIA

Requirements for ESIA include identification of relevant legislations and guidelines (National law n°12-03, GCF criteria and standards safeguards policies, as well as broader international considerations) in line with Environmental and Social Impact Assessment for ADA and ORMVA SM.

### 3.2. Review of Baseline Data

Assemble, evaluate and present baseline data on the relevant environmental characteristics of the Program area. Include information on any changes anticipated before the program commences. The consultant will need to provide the following information:

- Physical environment: geology, topography, soils, water resources and climate ;
- Biological environment: flora; fauna; rare or endangered species; sensitive habitats, including parks or preserves, significant natural sites, etc.; species of commercial importance; and species with potential to become nuisances, vectors or dangerous ;
- Socio-economic environment (include both present and projected where appropriate): population; present land use; planned development activities; community structure; employment; distribution of income, goods and services; recreation; public health; cultural properties ;
- Analysis of interactions likely to occur with all activities in the vicinity including associated facilities and cumulative impacts on the environment.

### 3.3. Description of the project

Detailed project description covering the area of influence (spatial and temporal boundaries), location, layout, different activities related to the project:

- Project size and land requirement ;
- Description of all activities associated with all development stages from conception to closing, staffing and employment related to each phase of the program components.

### 3.4. Public consultation

The consultant will propose, for ORMVA SM approval, through project of consulting the public during the development of the detailed ESIA study. The purpose of this consultation program will be to assist ORMVA SM to inform all interested parties about the program and to solicit their views about it. Specifically, the Consultant will propose an effective, comprehensive public consultation strategy which includes at least:

- A list of stakeholders or audiences to be consulted;
- Methods for reaching these stakeholders/audiences;
- The scheduling of consultation activities; and how the consultation efforts will be analyzed, reported and used.

The consultant shall provide evidence of public consultation including but not limited to communities, signed list of participants, photos and outcome of consultations. The consultations should be conducted for these program sites.

After consultations are conducted, key points should be incorporated into the draft ESIA/ESMP reports. ESIA/ESMPs should, in turn provide recommendations to the program design.

### 3.5. Impacts prediction and analysis

This will consist of identifying and describing adverse impacts as well as social and environmental risks associated with the execution of the proposed project.

### 3.6. Analysis of alternatives:

Describe alternatives that were examined in the course of developing the proposed project and identify other alternatives which would achieve the same objectives. The concept of alternatives extends to siting, design, technology selection, construction techniques and phasing, and operating and maintenance procedures. Compare alternatives in terms of potential environmental and social impacts, capital and operating costs, suitability under local conditions, and institutional, training, and monitoring requirements.

To the extent possible, quantify the costs and benefits of each alternative, incorporating the estimated costs of any associated mitigating measures.

Include the “no project” alternative, in order to demonstrate what would reasonably be expected to occur to environmental and social conditions in the foreseeable future, based on existing ongoing development, land use, and regulatory practices and other relevant forces.

### 3.7. Mitigation Measures

Recommend feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels and enhance positive impacts.

Provide a detailed description for appropriate reduction and compensatory measures as well as the design and the description of equipment and operational procedures (considered relevant) to respond to those impacts or to avoid or reduce the risks with the cost associated.

Describe the precise roles and responsibilities of different actors to be involved in effective implementation of the proposed mitigation measures.

Explain how the program would comply with the requirements (including consultation) of the GCF’s Environmental and Social Safeguards and Assessment Policy.

### 3.8. Environmental Social Management Plan (ESMP):

Prepare an Environmental and Social Management Plan (ESMP) including proposed work programs, budget estimates, schedules, staffing and training requirements, and other necessary support services to implement the mitigating measures.

The Environmental and Social Management Plan includes the following components:

- Mitigation: The ESMP will be presented in tabular form and covers all anticipated significant adverse impacts, mitigation measures, implementation schedule and highlights the responsibility of people and institution involved as well as the costs required.
- Monitoring: The monitoring section of ESMP, presented in tabular form, provides a specific description and technical details of monitoring measures including the parameters to be measured, methods to be used, frequency of measurements, responsibility of different actors involved in effective implementation of the proposed mitigation measures especially at lower level and an estimation of the cost of the implementation of the proposed mitigation measures.

## 4. REPORTING

### a. Reporting requirements

The report will be based on the above terms of reference and will be submitted to ORMVA SM an ADA in one printed copy, along with an electronic copy on CD, for evaluation and approval. The report will be presented to the public during consultative sessions involving relevant stakeholders for their views on the report. The ESIA and ESMP will be published on the ADA website 2 months before starting the project (ADA is accredited on Category B )

The following format is suggested for the ESIA report

#### Executive summary

This concisely discusses significant findings and recommended actions.

##### Introduction:

- Project background
- Objectives of the study
- Methodology

##### Policy, legal, and administrative framework

This part discusses the policy, legal, and administrative framework within which the Executing Entity is carried out. This should include both national (Low n°12-03) and international legislations (GCF's Criteria on Environmental and Social Policy).

#### **Baseline data**

This section assesses the dimensions of the study area and describes relevant physical, biological, and socio-economic conditions, including any changes anticipated before the program commences. It also takes into account current and proposed development activities within the program area but not directly connected to the project. Data should be relevant to decisions about program location, design, operation, or mitigatory measures. The section indicates the accuracy, reliability, and sources of the data.

#### **Program description.**

This part concisely describes the proposed program activities and its geographic, ecological, social, and temporal context, including any offsite investments that may be required (e.g., dedicated pipelines, access roads, water supply, housing, and raw material and product storage facilities). It provides detailed information on the following:

- Location of the study area and description of the current use of the location, program objectives and size;
- Detailed description of the project, extent in time and space.

Description of activities related to all implementation stages from the inception, staffing and employment related to different stages of the project;

#### **Analysis of alternatives**

This section systematically compares feasible alternatives to the proposed program site, technology, design, and operation--including the "without project" situation--in terms of their potential environmental social impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements (where applicable). For each of the alternatives, quantifies the environmental impacts to the extent possible, and attaches economic values where feasible.

#### **Environmental and Social Impacts Analysis**

This part predicts and assesses the project's likely positive and negative impacts, in quantitative terms to the extent possible. It explores opportunities for environmental enhancement, identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions, and specifies topics that do not require further attention. The impact analysis will also include climate change impact and mitigation/adaptation measures.

The impact is assessed by:

- Nature (positive/negative, direct/indirect),
- Magnitude (severe, moderate, low),
- Extent/location (area/volume covered, distribution),
- Timing (during construction, operation etc, immediate, delayed),
- Duration (short term/long term, intermittent/continuous),
- Reversibility/irreversibility,
- Likelihood (probability, uncertainty),
- Significance (local, regional, global).

For each identified impact, the consultant shall propose mitigation measures and at the end of this chapter a summarized table should be established.

#### **Environmental Social Management Plan (ESMP) and Monitoring Plan:**

This section includes two components: Environmental Social Management Plan (ESMP) and Monitoring plan (MP). The ESMP and MP should be presented in tabular format.

- (i) **ESMP:** for each component (planning phase, construction phase and operation phase) an Environmental Social Management Plan is present and should include and not limited to:
  - Activities,
  - Adverse impacts of the subproject,

- Proposed mitigation measures,
- Implementation schedule,
- Responsibility of people and institution involved,
- Occurrence/incidence,
- Estimate of the costs required.

(ii) **Monitoring Plan :**

- Activities,
- Parameters to be measured,
- Indicators,
- Method used to measure the parameter,
- Frequency of measurements,
- Responsibility of people and institution involved,
- Estimate of the costs required.

**Conclusions and Recommendations**

The report should also include all information necessary to the program review such as lists of data sources, program background reports and studies, and any other relevant information to which the developer/consultant's attention should be directed. It should provide also detailed designs/plans of construction, the water canalization and waste water treatment systems, etc.

**References**

These are written materials both published and unpublished used in the study preparation.

**Appendices**

- List of ESIA report preparers –individuals and organizations,
- Tables, maps presenting the relevant data referred to or summarized in the main text.

**5. REPORT PRESENTATION AND DEADLINES**

Draft report of the ESIA will be presented within 2 months. ORMVA SM and ADA will have two weeks to check the document and request some modifications on it. The modifications to be made on the document will be submitted to the consultant in writing and must be integrated during the editing of the final version. The final version of ESIA report will be presented within 15 calendar days after submitting the comments to the consultant. ORMVA SM will have 5 working days to check the documents. The final draft ESIA report will be sent to GCF for review and request some modifications on it, if any. The consultant will have 5 days calendar to incorporate all comments from GCF.

While conducting this assignment, the consultant will be requested to present to the client a monthly progress report. However, the client may request the consultant at any time to present any desired clarification about the progress of the assignment when it is determined to be necessary.

**6. QUALIFICATIONS AND EXPERIENCE REQUIRED**

**6.1. Qualifications and experience required for the consultant**

The consultant to be qualified for this study will have a vast experience in consultancy services with at least 2 references in Environmental Impact Assessment studies related irrigation infrastructure water management and other public infrastructures.

**6.2. Qualifications and experience required for the key personnel**

To realize this assignment, the selected consultant will recruit competent and qualified personnel with proven experience in similar services. Key personnel needed for this study by **the consultant** will have the minimum qualifications below:

- Team Leader with minimum Engineer Degree in Environmental or Socio-economique Science or related fields and with a background in soil and water management for the Assessment of Impact on the Environment,
- Specialist in socio-economic or related fields with minimum Engineer Degree to evaluate potential impacts of the program

activities on socio-economic conditions of the population in the study areas.

The key personnel must have the following minimum experience:

- The Environmental Specialist (Team leader) for Environmental Impact Assessment (E.I.A): Experience in environmental studies: 10 years; specific experience: 5 references in Environmental Impact Assessment.
- The Specialist in socio-economic or related fields: experience in the domain of social studies: 10 years; specific experience in Assessment of Impact of program activities.

## **7. DELIVERABLES**

The Consultant(s) will be responsible for the following final deliverables: Environmental and Social Impact Assessment and Environmental and Social Management Plan.

## ANNEX IV: GENDER ANALYSIS AND GENDER ACTION PLAN DRAFT TERMS OF REFERENCE

### 1. OBJECTIVES

The specific objectives of the gender analysis and gender action plan are to:

- Examine the roles, rights and needs of men and women, including vulnerable groups of society such as female-headed households, widows and people living below the poverty line, in the context of agricultural development with a focus on irrigation activities in Morocco, in order to serve as a practical tool for identifying opportunities and entry points for promoting gender equality in the project.
- Improve the extent to which the program design is informed by a thorough understanding of gender roles, power relations and a disaggregation of women's and men's specific interests, needs, and priorities;
- Provide recommendations on how women can participate equally and actively alongside men, and can gain maximum benefit from program interventions and how the program can contribute to the Government's gender equality agenda; and
- Develop appropriate gender sensitive indicators that can be integrated into the program framework.

The Consultant will:

- In Souss Valley, gather information on gender roles and the distribution of tasks, activities, and rewards associated with the division of labor and the relative positions of women and men in terms of representation and influence as well as access to and control over resources;
- Map out women's current role(s) in relevant value chains in agriculture, socio-economic activities;
- Identify current gender-differentiated access to existing income-generation and business opportunities, finance and capacity development and advise on how the program can support increased access for women to program supported income-generation and business opportunities, finance and capacity development;
- Explain how climate change affects women and men from the target group in different ways, including their ability to recover from climate change impacts, and any opportunities that climate change might provide for greater gender equality and women's empowerment;
- Assess the different implications of planned project interventions for women and men and advise on how project objectives can incorporate a gender dimension as well as identify activities that include:
  - o Actions to ensure that the needs, interests and concerns of women as well as men are mainstreamed through all components of the project;
  - o Capacity strengthening requirements for women and vulnerable men so that they can effectively participate in green growth job creation and business opportunities;
  - o Gender sensitive approaches for specific activities that address gender inequalities in all project components and contribute to greater gender equality;
  - o Measures to increase awareness of gender inequalities and support women's full participation in decision-making and technical activities associated with climate adaptation and mitigation.
- Provide recommendations on how changes in gender relations can be monitored and evaluated using gender-sensitive indicators including, developing appropriate targets for male/female participation in program activities;
- Assess the capacity of institutions to address gender issues that are related to climate change and provide recommendations on how the institutional arrangements of implementing organisations can support gender equality;
- Use the information above to suggest additional activities to be included in the work plan and budget, indicators and targets for the logframe, identifying the phasing and costing of additional inputs.

The target group for this study is the women and men living in Souss Valley (Targeted zone of project) and relevant stakeholders.

### **Gender Assessment**

The Consultant will conduct a Gender Assessment of the Project:

- Compile and present disaggregated data on irrigation user's types of economic activities, commercial versus subsistence farming, incomes and expenditures including estimates of income per hectare for different types of farmers, asset ownership (agricultural land in specific), average expenditures for essential goods and healthcare, educational levels, profile and geographic distribution of poverty, occurrence of water related diseases, people living with disabilities, and other data needed to identify respective needs and concerns of different disadvantaged groups and/or those with less voice, such as women, to be addressed in the design, implementation, and monitoring and evaluation of the Project, with the data disaggregated by sex where possible. This data will provide insights about to what extent farmers depend on irrigation and the potential for improvements.
- Define the decision-making process for water use, as well as women's representation.
- Review the agricultural water distribution and irrigation patterns, women's participation in the decision-making process, how the information on irrigation turns is equally accessible to men and women farmers, whether physical strength is required to handle it (which in turn would require technology adaptation, degree of knowledge and training to meet women's needs), whether all irrigators can directly request water for irrigation or use it only when it is their turn and, finally, in case of water shortages, how is the available water shared between users. As for irrigation patterns, how much time do men and women respectively dedicate to irrigating the field (breakdown by type of irrigation).
- Identify the needs and challenges women farmers face in operating irrigation equipment, as well as the level of knowledge with regards to efficient production and water use. Identify current levels of access to existing training and capacity building activities, additional training needs of women and men farmers and staff in irrigation management and associated practices, for instance in installation and repair of irrigation infrastructure.
- Provide inputs from the above gender assessment tasks into the development of the GCF application documents on request from ADA, in order to ensure that gender issues are covered in line with the GCF's requirements and best international practice.

## 2. METHODOLOGY

The Assignment will be carried out by a core team of consultants in coordination with ORMVA SM.

The gender analysis should be conducted using participatory research methods and obtain qualitative information as well as quantitative data disaggregated by gender. The following research methods are proposed but the Consultant may suggest modifications as necessary.

- Review of relevant documents including: National Gender Policies, program documentation, demographic surveys, social and poverty analyses, agriculture, forestry, employment and climate change documentation;
- Conduct focus group discussions activities and with women farmers and (separately) men's farmer groups, women's groups, and community leaders and community women and men in the target Souss Valley;
- Hold discussions with staff of other ministries, such as Conseil National des Droits de l'Homme (CNDH) and Ministry of Social Affairs and Family (Ministère des affaires sociales et de la famille);
- Hold discussions with private sector companies and NGOs and associations working in the target area and agencies.

The consultant will work with a local Gender expert.

## 3. EXPERTISE REQUIRED

The consultant should have:

- A post-graduate degree in social sciences or another relevant field,
- More than Five years' experience in conducting gender analysis and social research studies,
- Knowledge and experience on rural livelihoods projects,
- Strong communication skills (both written and verbal in French and English),
- Ability to work in a team and the ability to liaise with many different groups at different levels such as policy makers, grass-root women's organizations, fieldworkers, technical experts, and

- Cultural sensitivity and respect.

#### 4. REPORTING REQUIREMENTS

The consultant(s) will report to ADA and ORMVA SM.

The Gender specialist shall be responsible for overall delivery of the gender assignment. He (She) will be responsible for producing the final gender report.

The Gender specialist will coordinate with Environmental and Social Specialist to manage in the same time the mission on the targeted area of project.

#### 5. WORK PLAN AND TIMETABLE

The consultant will need to familiarize her/himself with all aspects of the proposed project interventions as well as the context in which it will operate. The Consultant is expected to review the relevant project documents, and other sector-

The work is expected to take place over 1 month:

Documentation review and data analysis	2 days
Field visits and interviews with stakeholders, beneficiaries and respondents	5 days
Gender Analysis and Gender Action Plan	15 days

#### 6. DELIVERABLES

The Consultant will:

- Prepare a descriptive and analytical report which contains:
  - a summary of the key findings, with appropriate options and recommendations and specific measures to be included in the proposed project,
  - the list of stakeholders consulted (principles of choice, role ascription, date of consultation),
  - a description of the consultation techniques (tailored specifically per target group).
- Present the Gender Analysis and Gender Action Plan of the project in response to the role, rights and need of men and women, including vulnerable groups of society such as female-headed households, widows and people living below the poverty line. Also the gender action plan builds on the gender assessment and includes gender-responsive activities, gender-performance indicators, timelines and responsibilities.

## ANNEX V: TERMS OF REFERENCE OF ECONOMIC AND FINANCIAL FEASIBILITY STUDY

### 1. STUDY OBJECTIVES

The specific objectives of the study are to:

- To evaluate the economic and financial feasibility of the project and drawing on cost and benefit information collected by the technical feasibility studies. This will require close integration to work with the consultants for technical feasibility studies. The evaluation should also identify the distributional costs and benefits of the project ;
- To prepare a detailed Financial Model (FM), including the costs of each component of the program (with a breakdown by activities and sub-activities) for the project as a whole, drawing on the cost and programming information from the feasibility studies, and collating the information on project and external finance and funding modalities ;
- To provide inputs to help the PMU work components and their role in developing the implementation manual for the project.

### Requirements

The Consultant(s) will conduct the following tasks:

- To develop a method for undertaking the economic, financial analysis that is consistent with the information needed for the GCF application and discuss and agree this with Accredited Entity and Executing Entity (ORMVA SM).
- To undertake an economic and financial feasibility assessment for the Project as a whole (IRR,...). This is expected to include a cost-benefit analysis, including non-market values (where possible), and to follow the methodology proposed in this ToR.
- To describe the financial elements of the subprojects and the Project so as to be consistent with the GCF application process :
  - o An integrated financial model that includes a projection covering the period from financial closing through final maturity of the proposed GCF financing with detailed assumptions and rationale; and a sensitivity analysis of critical elements of the project/program;
  - o A description of how the choice of financial instrument(s) will overcome barriers and achieve project objectives, and leverage public and/or private finance;
  - o A breakdown of cost estimates for total project costs and GCF financing by sub-component in local and foreign currency and a currency hedging mechanism;
  - o A breakdown of cost/budget by expenditure type (project staff and consultants, travel, goods, works, services, etc.) and disbursement schedule in project/program confirmation (term sheet).
- To provide information on co-financing, leveraging and mobilized long-term investments (mitigation only) consistent with the GCF application process
  - o To estimate the expected volume of finance to be leveraged by the proposed program and as a result of the GCF's financing, disaggregated by public and private sources ;
  - o To provide the co-financing ratio (total amount of co-financing divided by the GCF's investment in the project/program) and/or the potential to catalyze indirect/long-term low emission investment.
- To provide information on financial availability consistent with the GCF application form :
  - o To specify the expected economic and financial rate of return with and without the Fund's support, based on the analysis conducted; and describe financial viability in the long run beyond the Fund intervention;
  - o To provide economic and financial justification (both qualitative and quantitative) with a reference to the financial structure proposed, consistent with the GCF application form.
- To provide input to the PMU team and their development of the implementation manual, in providing relevant information of use for the financial accounting, disbursement methods and auditing, consistent with the GCF application form.
- To collect supplementary data where necessary for the Economic and financial feasibility if any.
- To produce a report containing the Economic and financial feasibility of the project.

- To provide information in a format and following the relevant guidance for sections of the GCF application template.
- To prepare XLS documents for project, with calculations of IRR, Economic and Financial feasibility.

## 2. METHODOLOGY

The Consultant may suggest its methodology to evaluate the Economic and Financial feasibility study. The consultant will conduct an ex-ante methodology (With and without project) based on the economics and financial costs and benefits generated by the project. Economic IRR and Economic NPV of the project, with and without financing are the result of the Economic and financial feasibility study.

A separate Financial Model (FM) should be developed for the project. The Consultant will use information from the technical feasibility teams to build a financial model. The Financial model should indicate the sources and uses of finance (GCF finance, co-financing) the modality of finance (grant,) expenditure flows and timetable. This task is expected to be undertaken in consultation with ORMVA SM and ADA and use information from the technical studies.

The Financial model will need to show: sources of finance; financial conditions attached to each source of finance (duration, times of disbursement, etc); Expenditure items in project (Staff, Investment costs, Equipment, Overheads, Operating costs,). The model will need to break down expenditure items by funding sources.

In addition to the model, qualitative work will need to contain specific information pertaining the use of GCF funds and relevant for the GCF application process/forms, as follows:

- A description of how the choice of financial instrument(s) will overcome barriers and achieve project objectives, and leverage public and/or private finance.
- A breakdown of cost estimates for total project costs and GCF financing by sub-component in local and foreign currency and a currency hedging mechanism.
- A breakdown of cost/budget by expenditure type (project staff and consultants, travel, goods, works, services, etc.) and disbursement schedule in project/program confirmation (term sheet).
- To estimate the expected volume of finance to be leveraged by the proposed program and as a result of the GCF's financing, disaggregated by public and private sources (E.6.5 in GCF application).
- To provide the co-financing ratio (total amount of co-financing divided by the GCF's investment in the project/program) and/or the potential to catalyze indirect/long-term low emission investment.
- To provide information on financial availability.
- To specify the expected economic and financial rate of return with and without the Fund's support, based on the analysis conducted; and describe financial viability in the long run beyond the Fund intervention.
- To provide financial justification (both qualitative and quantitative) for the grant that GCF provides, with a reference to the financial structure proposed.
- To describe the sub-activities financial management and procurement processes, including financial accounting, disbursement methods and auditing.

The financial model will need to include details of all financial arrangements agreed or to be agreed with third parties for the realisation of the sub-activities, including time of disbursements, financing conditions.

## 3. TEAM COMPOSITION AND REQUIRED EXPERTISE

The team should comprise the following key team roles (team members can combine roles if suitably qualified):

- Financial and Economist Specialist
- Agro Economist Specialist

The team leader should have the following expertise:

- Economics and/or finance advanced degree
- At least 10 year-experience.

- Past experience in cost-benefit analysis, financial planning assessment applied to investment projects, projects that are submitted for GCF or Others donors.
- Excellent communication and team-working skills.

#### **4. REPORTING REQUIREMENTS**

The consultant(s) will report to the ORMVA SM and ADA.

#### **5. WORK PLAN AND TIMETABLE**

The consultant will need to familiarize her/himself with all aspects of the proposed program interventions as well as the context in which it will operate. The Consultant is expected to review the relevant program documents, and other sector- or country specific available materials (to be provided by the ORMVA SM) prior to starting the fieldwork.

The work is expected to take place over the duration of the overall project components, so that the task aligns with the technical feasibility studies.

The final report must be completed during 2 months after signature of its contract signature with ORMVA SM.

#### **6. DELIVERABLES**

The Consultant(s) will be responsible for the following deliverables:

- An initial methodology report, 1 week after contract signature.
- A provisoire economic and financial feasibility study 1 month after signature. The report will contains:
  - An Economic and Financial Analysis for project;
  - Excel Document for Financial Model and annexes.

The final report and documents should be produced by the end its duration (less than 12 months after contact signature).

## ANNEX VI: DEVELOPMENT OF PROJECT MANAGEMENT PLAN AND FUNDING PROPOSAL TERMS OF REFERENCE

### 1. OBJECTIVES

The specific objectives of the assignment are to:

- Review existing ORMVA SM operating procedures for managing project and program in Souss Massa Region ;
- In consultation with key stakeholders including ADA and GCF, the Consultant will prepare a detailed Project Management Plan (PMP) that will include among others:
  - Outline of **objectives and a project description**
  - Detailed description of the **institutional arrangement for project delivery** including an organogram, composition of the steering committee, the PMU and specific roles and responsibilities the PMU and key partners responsible for delivery of the sub-projects within the project , supervision of contractors and documentation and reporting standards, the division of responsibility between the PMU and the firms delivering the sub-projects within the project as well as the use of call down consultants
- To develop the funding proposal for submitting to the GCF il line with their criteria and template form in the relevant sections namely :
  - Project / program summary,
  - Financing / cost information,
  - Detailed project / program description,
  - Rationale for GCF involvement,
  - Expected performance against investment criteria,
  - Risk assessment and management,
  - Results monitoring and reporting.
- To develop a strong arguments for each section and to match each section with different reports (feasibility studies, economic and financial feasibility studies, Environmental and Social Impact Assessment, ...) ;
- To describe how the choice of financial instruments will overcome barriers and achieve project objectives and leverage public and other private finance;
- To provide an overview of market;
- To describe relevant national, sub-national NDC including existing national and sector policies and strategies ;
- To describe the baseline scenario, climate vulnerability baseline, key barriers and outcomes and the impact that project will aim to achieve in improving the baseline scenario;
- To describe project activities and link between each relevant activities and how ORMVA SM will implemented each activity;
- To demonstrate background information on Executing entity (ORMVA SM), its capacities to manage project and Accredited entity (ADA) and how Executing entity and Accredited Entity will support the projectproject in terms of equity investment, management, operations, production and marketing;
- To describe and provide details of government licenses or permits required for implementing and operating the project, the issuing authority and the expected date of issue if applicable;
- To describe in detail the governance structure of the project including the organization structure, role and responsibilities of the project, the institutional arrangement for project delivery including an organogram, composition of the steering committee, the PMU and specific roles and responsibilities the PMU and key partners responsible for delivery of the sub-projects within the project, supervision of contractors and documentation and reporting standards, the division of responsibility between the PMU and the firms delivering the sub-projects within the program as well as the use of call down consultants;

- To provide a timetable of project implementation in line with the feasibility study,
- To specify with the GCF involvement is critical for the project in consideration of other alternatives,
- To explain the exit strategy and how the project sustainability will be ensured in the long run, after the project is implemented with support from the GCF and other sources, taking into consideration the long-term financial viability as demonstrated in the economic and financial feasibility with relevant a description of strategies for longer term maintenance of physical assets if applicable;
- To specify the potential impact of the project (mitigation and adaptation) and how it will contribute to the achievement of the GCF objectives and result areas;
- To explain the paradigm shift of the project, degree to which the proposed activities can catalyze impact beyond a one off project investment; especially to demonstrate and to describe how project expected:
  - Contribution to global low-carbon and climate resilient development pathways could be scaled up and replicated;
  - Creation and strengthening for knowledge and learning;
  - Creation of an enabling environment by introducing innovative funding scheme as initial public offering; and
  - Contribution to regulate framework and policies.
- To explain the sustainable development and environmental, social and economic co-benefits including gender sensitive development impact ;
- To describe the baseline situation and scenario and the outcomes and impact that the project will aim to achieve ;
- To describe how the project contributes to country's identified priorities for low-emission and climate-resilient development, and the degree to which the activity is supported by a country's enabling policy and institutional framework, or includes policy or institutional changes;
- To describe the steps taken to ensure country ownership, including the engagement with NDAs on the funding proposal and multistakeholders engagement and consultations that were conducted during the preparation of the project;
- To describe key efficiency and effectiveness indicators of project;
- To describe the main outcomes of the environment and social impact assessment and specify ESMP for project as developed in the ESIA and ESMP in line with Environmental and social Safeguard principles of GCF :
  - PS1: Assessment and management of environmental and social risks and impacts
  - PS2: Labor and working conditions
  - PS3: Resource efficiency and pollution prevention
  - PS4: Community health, safety and security
  - PS5: Land acquisition and involuntary resettlement
  - PS6: Biodiversity conservation and sustainable management of living natural resources
  - PS7: Indigenous peoples
  - PS8: Cultural heritage
- To describe the Financial Management and Procurement;
- To analyze and describe financial, technical and operational, social and environmental and others risks that might prevent the project objectives from being achieved and how to mitigate its during different implementations phases;
- To specify the logic framework in accordance with the GCF's Performance Measurement Framework under the Results Management Framework;
- To describe arrangements for monitoring, reporting and Evaluation and how the interim / mid-term and
- To prepare a detailed Project Implementation Manual (PIM) that will include among others:
  - Outline of objectives and a project description;
  - Outline the institutional setup of the project;

- Define the main principles and approaches during implementation;
- Define the principles and systems of project management for implementation including an organogram, staffing complements, composition of the steering committee, the PMU and specific roles and responsibilities the PMU and key partners responsible for delivery of the sub-projects within the project, supervision of contractors and documentation and reporting standards;
- Identify relevant external organizations that the PMU will work with;
- Define a division of responsibility between the PMU and the firms delivering the sub- projects within the project;
- Outline the project implementation process including the use of call down consultants under framework contracts, partner organisations;
- Outline the financial management procedures including organisation of bank account and statements, procurement and accounting procedures/documentation, audit, Procurement Plan, Tendering procedures, Submission of requests for payment, eligibility of expenditure etc., prepare templates for procurement including long lead items, locally produced materials, material reception and positive ID procedures etc.;
- Outline the project reporting including procedure for preparation and submission of project Progress Reports, Content of the Project Progress Reports, prepare template for meeting minutes, monthly report, gateway review etc.;
- Outline of Project closure procedures, Retention of documents, Exit strategy, ownership of project results;
- Define the main principles and approaches of Monitoring and Evaluation (M&E) and knowledge management including a work plan and budget, reporting, mid-term and final reviews and audits as well as determine specific procedures for data capture and management, metrics for data analysis; and reporting requirements;
- Define the expected environmental and social impacts and develop a system for tracking and mitigating.
- Outline the coordination arrangements including identifying potential barriers to coordination and developing actions and strategies to facilitate coordination, describing an appropriate mechanism to ensure effective organization and management of projects and sub-components, joint work plan development and management, reporting and decision making structures, information sharing and management, follow up and follow through on coordination decisions, and effective communications (meetings, progress tracking, etc.);
- Outline quality assurance/control and oversight procedures to ensure the highest professional standards in delivering outputs as well as cost effectiveness and efficiency;
- Submission of requests for payment, eligibility of expenditure etc.;
- Outline the project reporting including procedure for preparation and submission of Project Progress Reports, Content of the Project Progress Reports, prepare template for meeting minutes, monthly report, gateway review etc.;
- Outline of Risk register and risk tracking and mitigation to be maintained throughout the project;
- Formulate a lesson sharing mechanism to ensure cross learning;
- Define the main principles and approaches of M&E and knowledge management including a work plan and budget, reporting, mid-term and final reviews and audits as well as determine specific procedures for data capture and management, metrics for data analysis; and reporting requirements;
- Define the expected environmental and social impacts and develop a system for tracking and mitigating;
- Prepare a Logistics plan - prepare a clear development plan covering infrastructure provision, construction activities and phasing of all elements of the work;
- Develop a Key Task Tracker - formulate tool to ensure that all key tasks are tracked and fully coordinated.
- Assess capacity needs ORMVA SM and ORMVA SM's partners with respect to adopting and applying all aspects of the PMP during implementation and prepare a capacity development plan if necessary;
- Propose additional activities where needed to be included in the work plan and budget, indicators and targets for the logframe, identifying the phasing and costing of additional inputs;

- Prepare funding proposal of the project in line with CGF criteria.

All key members of the design team will be involved over the entire design period, coordinated by Design Coordinator. The PMP will be attached to the Full Proposal, to be submitted to the GCF Board Meeting.

## 2. METHODOLOGY

The Assignment will be carried out by a professional consultant that conducted similar mission to develop Project Management Plan to submit to the GCF in coordination with ORMVA SM and ADA.

The following methods are proposed but the Consultant may suggest modifications as necessary:

- Review relevant documents,
- Conduct interviews and discussions with ADA and ORMVA SM to develop a strong Project Management Plan to be added on the funding proposal.;

## 3. EXPERTISE REQUIRED

The project team should include:

- Agro-Economist Engineer
- M&E Specialist
- Water Engineer

The consultant team should have:

- An extensive successful track record in designing and writing large scale project proposals for funding to multilateral environment funds, such as the GCF, Global Environment Facility, Adaptation Fund, Climate Investment Fund or others,
- A relevant experience with GCF standards and at least conducted similar mission to develop Project Management Plan,
- An advanced degree and experience as project management, business studies, finance or another relevant field,
- More than ten years' experience in project management,
- Knowledge and experience on procurement and accounting procedures,
- Knowledge and experience on M&E and management systems,
- Familiarity with ESIA processes, and
- Strong communication skills.

## 4. REPORTING REQUIREMENTS

The consultant will report to ORMVA SM and ADA. The Consultant shall be responsible for overall delivery of the funding proposal i.e. the key outputs from program design and evaluation and producing the final PMP. This will include coordinating and managing inputs from other team members as needed.

## 5. WORK PLAN AND TIMETABLE

The consultant will need to familiarise her/himself with all aspects of the proposed project interventions and components as well as the context in which it will operate.

The work is expected to take place over 4 months:

- |  |          |
|--|----------|
| - Documentation review and data analysis       | 1 week   |
| - Interviews with key respondents              | 1 week   |
| - Project Management Plan and Funding Proposal | 10 weeks |

The work must be completed by the end of Month 12.

## 6. DELIVERABLES

The Consultant will:

- Prepare a high quality professional and user friendly funding proposal;
- Assist ADA and ORMVA SM to respond with GCF.

The project Management Plan and Funding Proposal should be presented in a format developed by GCF.

ANNEX VII: COSTBREAKDOWN

Details	Assumptions	Unit (USD/DAY)	QUANTITE (DAYS)	Total Cost (USD)
<b>Activity 1: Feasibility study of an integrated, sustainable and resilient agricultural project to climat change in the sous Valley</b>				
Project Manager		480	104	49 920
Civil Engineer		480	104	49 920
Forest Engineer		480	104	49 920
Water management and hydro Engineer		480	104	49 920
<b>Total local consultant</b>				<b>199 680,00</b>
Rural Engineering Technicians		288	104	29 952
Rural Engineering Technicians		288	104	29 952
Investigation and communication Technician		288	104	29 952
Investigation and communication Technician		288	104	29 952
Investigation and communication Technician		288	104	29 952
<b>Total technician</b>				<b>149 760,00</b>
Travel_Project Manager <sup>3</sup>	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 4 days per month during 6 months	250	24	6 000
Travel_Civil Engineer <sup>4</sup>	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 6 days per month during 6months	250	35	8 750
Travel_Forest Engineer <sup>5</sup>	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 6 days per month during 6 months	250	35	8 750

<sup>3</sup> Tasks: Meeting with stakeholders, beneficiaries. Kick off meeting with all partners, field visite and identification of majors' constraints and needs. 4 days per month.

<sup>4</sup> Tasks: field visit, identification of constraints and needs, meeting with stakeholders and AUEA. 6 days per month. Diagnostic of hydraulic structures, data collection of network drip irrigation

<sup>5</sup> Tasks: Field visit, Meeting with stakeholders land use, forest management practices, constraints and need on forest permieter. 6 days per month

Travel_ Water management and hydro Engineer <sup>6</sup>	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 6 days per month during 6 months	250	35	8 750
Travel_ Rural Engineering Technicians <sup>7</sup>	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 12 days per month during 6 months	250	75	18 750
Travel_ Rural Engineering Technicians <sup>8</sup>	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 12 days per month during 6 months	250	75	18 750
Travel_ Investigation and communication Technician	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 12 days per month during 6 months	250	75	18 750
Travel_ Investigation and communication Technician	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 12 days per month during 6 months	250	75	18 750
Travel_ Investigation and communication Technician	*USD 250 a day including (40 Perdiem, 110 Gazoil and 100 for travel) * Average 12days per month during 6 months	250	75	18 750
<b>Total Travel</b>				<b>126 000</b>
<b>Workshop</b>		<b>1 100</b>	<b>2,00</b>	<b>2 200</b>
<b>Sub-total 1</b>	-	-		<b>477 640</b>
<b>Activity 2: Preparation of an ESIA, ESMP, Gender Analysis and Gender Action Plan</b>				
Environmentalist		480	52	24960
Gender Specialist		480	52	24960
<b>Total local consultant</b>				<b>49 920</b>

<sup>6</sup> Tasks: Field visit, diagnostic of irrigation system, data collection of constraints and needs, Consultation and meeting with AUEA and Stakeholders and beneficiaries, 6 days per month

<sup>7</sup> Tasks: Data collection, Land use data, Field visit, meeting with stakeholders and survey. 12 days per month

<sup>8</sup> Tasks: Data collection, Socio-economic and survey with beneficiaries, public awareness, an average of 12 days per month

Travel_Environmental <sup>9</sup>	*USD 250 a day including (40 Peridem, 110 Gazoil and 100 for travel) * Average 14 days per month during 2 months	250	28	7000
Travel_Gender Specialist <sup>10</sup>	*USD 250 a day including (40 Peridem, 110 Gazoil and 100 for travel) * Average 14 days per month during 2 months	250	28	7000
<b>TOTAL TRAVEL</b>				<b>14 000</b>
<b>Workshop</b>		<b>1 100</b>	<b>10</b>	<b>11 000</b>
<b>Sub-total 2</b>	-	-		<b>74 920</b>
<b><u>Activity 3 Development of a Financial Model and Economic Analysis</u></b>				
Financial and Economist Specialist		462	52	24024
Agro Economist Specialist		462	52	24024
<b>Total local consultant</b>				<b>48 048</b>
Travel_Financial and Economist Specialist <sup>11</sup>	*USD 250 a day including (40 Peridem, 110 Gazoil and 100 for travel) * Average 7 days per month during 4 months	250	28	7000
Travel_Agro Economist Specialist <sup>12</sup>	*USD 250 a day including (40 Peridem, 110 Gazoil and 100 for travel) * Average 7 days per month during 4 months	250	28	7000
<b>TOTAL TRAVEL</b>				<b>14 000</b>
<b>Sub-total 3</b>	-	-		<b>62 048</b>
<b><u>Activity 4 Project Management Plan and Funding Proposal</u></b>				

<sup>9</sup> Tasks: Meeting with stakeholders, explanation of project activities, identification of environmental risks, impact and mitigation solutions in accordance with stakeholders and beneficiaries, an average of 14 days per month during 2 months. All stakeholders will be consulted

<sup>10</sup> Tasks: Meeting with stakeholders, field visit, identification of social risks, needs, social impact and mitigation solutions in accordance with stakeholders and beneficiaries, an average of 14 days per month during 2 months. All stakeholders will be consulted

<sup>11</sup> Tasks: Field visit, kick off meeting, economic and financial data collection, survey. 7 Days per month

<sup>12</sup> Tasks: Field visit, land usage, data collection based on investigations with beneficiaries and stakeholders, agro-economic data collection and survey. 7 days per month.

Agro-Economist		462	39	18018
M&E Specialist		462	39	18018
Water Engineer		462	39	18018
<b>Total local consultant</b>				<b>54 054,00</b>
Travel_ Agro-Economist	*USD 250 a day including (40 Peridem, 110 Gazoil and 100 for travel) * Average 4 days during 4 months	250	15	3750
Travel_ M&E Specialist	*USD 250 a day including (40 Peridem, 110 Gazoil and 100 for travel) * Average 4days during 4 months	250	15	3750
Travel_ Water Engineer	*USD 250 a day including (40 Peridem, 110 Gazoil and 100 for travel) * Average 4 days during 4 months	250	15	3750
<b>(Travel)</b>				<b>11 250</b>
<b>Sub-total 4</b>	-	-		<b>65 304</b>
<b>TOTAL 1</b>				<b>679 912</b>
Contingency (up to 5%)		%	5	33995
<b>TOTAL 2</b>				<b>713 907</b>
<b>Audit report</b>			<b>1</b>	<b>3 500</b>
<b>TOTAL</b>				<b>717 407</b>

**ANNEX VIII: EXPERTS INTERVENTION DETAILED PLAN**

**Activity 1: Delivery of technical feasibility study and design for drip irrigation, watershed management and agriculture**

	Experts	Project Manager		Civil Engineer		2 Rural Engineering Technicians		
	Intervention area	Intervention frequency	number of days	Intervention frequency	number of days	Intervention frequency	number of days	
<b>1. Inventory and diagnosis of existing hydro-agricultural facilities and delimitation of study areas</b>	<b>40 perimeters (20 237 ha)</b>							
Working meetings with administrative departments in charge of hydro-agricultural facilities (DIAEA, ORMVASM, ABH, etc.)		coordination meeting	4		3		4	
Baseline data gathering of perimeters irrigation systems					4		18	
Workshops with the federation of agricultural water users' associations, farmers and other professional organizations involved in the perimeter's facilities management					8		8	
Field visits and study areas delineation								
Inventory of existing irrigation infrastructure by perimeter					0,5 day/perimeter	20	3,5 days/perimeter	120
Irrigation systems management (operation, maintenance, payment collection, etc.)								
<b>Total number of days of field intervention</b>			<b>4</b>		<b>35</b>		<b>150</b>	

	Experts	Project Manager		3 investigation and communication Technicians	
	Intervention area	Intervention frequency	number of days	Intervention frequency	number of days
<b>2. Analysis of agricultural development systems and technics in terms of sustainability</b>	<b>40 perimeters (20 237 ha)</b>				

Working meetings with the administrative and agricultural services (ORMVASM, Federation of farmers, etc.)		coordination meeting	2		7
Workshop with farmers, professional agriculture organizations (PAO), etc.			8		18
Diagnosis surveys implementation on agricultural development situation par perimeter and their evolutions			2	5 days/perimeter	200
Differents agricultural development systems characterization by perimeter					
Diagnosis of the structure and functioning of agricultural professional organizations					
<b>Total number of days of field intervention</b>			<b>12</b>		<b>225</b>

	Experts	Project Manager		Water management and hydro Engineer		
	Intervention area	Intervention frequency	number of days	Intervention frequency	number of days	
<b>3. Analysis and diagnosis of water resources</b>	<b>40 perimeters (20 237 ha)</b>					
Working meetings with local administrative and agricultural services (ABH, ORMVASM, etc.)		coordination meeting	4		7	
Participation in workshops with farmers, OPA, etc.					8	
Field visits and inventory of water resources (surface, underground, etc.)					0,5 day/perimeter	20
Available hydrological data gathering						
Well /water drilling data collection (depth, piezometric level, water quality, etc.)						
<b>Total number of days of field intervention</b>			<b>4</b>		<b>35</b>	

	Experts	Project Manager		Forest Engineer	
	Intervention area	Intervention frequency	number of days	Intervention frequency	number of days

<b>4. Soil resources analysis and diagnosis in relation to forest biodiversity</b>	<b>40 perimeters (20 237 ha)</b>				
Working meetings with main actors involved in soil and biodiversity protection (HCEFLCD, ANDZOA, etc.)		coordination meeting	4		4
Participation in workshops with farmers, OPA, etc.					8
Available soil data gathering					3
Field visits and soil characterization					
Field visits and characterization of soil resource management outside and inside the forest area				0,5 day/perimeter	20
Delineation of forest areas used for agriculture and not with their soil characteristics to be restored					
<b>Total number of days of field intervention</b>		<b>0</b>	<b>4</b>	<b>0</b>	<b>35</b>

<b>Activity 1: Delivery of technical feasibility study and design for drip irrigation, watershed management and agriculture</b>	<b>Intervention area</b>	<b>Project Manager</b>	<b>Civil Engineer</b>	<b>Forest Engineer</b>	<b>Water management and hydro Engineer</b>	<b>Rural Engineering Technicians</b>	<b>Investigation and communication Technicians</b>
1. Inventory and diagnosis of existing hydro-agricultural facilities and delineation of study areas	<b>40 perimeter (20 237 ha)</b>	4	35	-	-	150	-
2. Analysis of agricultural development systems and technics in terms of sustainability		12	-	-	-	-	225
3. Analysis and diagnosis of water resources		4	-	-	35	-	-
4. Soil resources diagnosis in relation to forest biodiversity		4	-	35	-	-	-
<b>Total number of days of field intervention</b>		<b>24</b>	<b>35</b>	<b>35</b>	<b>35</b>	<b>150</b>	<b>225</b>
<b>Number of experts mobilized</b>		<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Total number of field intervention per expert</b>		<b>24</b>	<b>35</b>	<b>35</b>	<b>35</b>	<b>75</b>	<b>75</b>